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Care and management in Urology oncology:

The tangible effects of COVID-19 in Latin American countries

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Boletín del colegio Mexicano de UROLOGÍA

Suplemento I, 2021

CONTENIDO

1 **Editorial**
Erick Sierra-Díaz

2 **La pandemia uro-oncológica Latinoamericana dentro de la pandemia sanitaria, económica y social del COVID-19**
Ana María Autrán-Gómez, Alejandro Rodríguez, Ignacio López-Caballero

4 **Tendencias en procedimientos endourológicos durante la pandemia por COVID-19: experiencia en el Houston Methodist Hospital**
Natalia Hernández, Thaiphi H. Luu, Mónica Morgan, Julie N. Stewart, Ricardo R. González

11 **Repercusiones de la pandemia por COVID-19 en los procedimientos endourológicos en América Latina**
Miguel González-Domínguez, Gonzalo Vitagliano, Edgar Beltrán, Miriam Petit-Acosta, Seiichi Fuziwara-Ruíz

17 **Función de la cirugía robótica en el área de urología oncológica durante la pandemia por COVID-19**
Alejandro Rodríguez

23 **Desafíos de la urología funcional durante la pandemia por COVID-19 en México y América Latina**
Immer Noyola-Ávila, Grisel Hernández-Martínez, Rafael Sandoval-Gómez, Sergio Durán-Ortíz, Patricia Castro-Nuñez, Jorge Moreno-Palacios

29 **Atención de neoplasias urológicas durante la pandemia por COVID-19: de la experiencia cubana a las recomendaciones internacionales**
Tania González-León, Edgar Algarin-Villalón, Adolfo García-García, Maykel Quintana-Rodríguez, Isabel García-Morales

36 **Recursos para la implementación de la telemedicina en uro-oncología: consejos para su uso y optimización**
Álvaro Yebes, Diego M. Carrión, Carlos Toribio-Vázquez, Mario Álvarez-Maestro, Alfredo Aguilera-Bazán, Luis Martínez-Piñeiro

44 **Cáncer de próstata en la era del COVID-19: ¿Qué debemos saber desde la perspectiva oncológica?**
Homero Fuentes-de la Peña, Jesús Salas-Ochoa, David Ramírez-Viramontes, Emilio Olloqui-Salas, Eduardo Estrada-Vázquez

50 **Gestión de la información y de las redes sociales en la era del COVID-19: beneficios y riesgos**
Óscar D. Guzmán-Aguilar, Carolina Jiménez-Santillán, Diana C. Rojas-Ramírez

55 **Efecto de la pandemia en la salud mental del personal de salud**
Daniel Fernando Fernández-López, Juan Ricardo Cabrera-Rios, Herney Andrés García-Perdomo

60 **Atención de pacientes con neoplasias urológicas en Uruguay: realidad y perspectiva durante la pandemia por COVID-19**
Federico López, Noelia Silveyra, Ignacio Cardozo-Gabriel Krygier, Levin Martínez

CONTENTS

1 **Editorial**
Erick Sierra-Díaz

2 **The uro-oncologic Latin American pandemic within the health, economic and social pandemic of COVID-19**
Ana María Autrán-Gómez, Alejandro Rodríguez, Ignacio López-Caballero

4 **Trends in endourological procedures during the COVID-19 pandemic: *The Houston Methodist Hospital experience***
Natalia Hernández, Thaiphi H. Luu, Mónica Morgan, Julie N. Stewart, Ricardo R. González

11 **The impact of the COVID-19 pandemic on endourological care in Latin America**
Miguel González-Domínguez, Gonzalo Vitagliano, Edgar Beltrán, Miriam Petit-Acosta, Seiichi Fuziwara-Ruíz

17 **The role of robotic assisted surgery in urology oncology during COVID-19 pandemic**
Alejandro Rodríguez

23 **Functional urology challenges during the COVID-19 pandemic in Mexico and Latin America**
Immer Noyola-Ávila, Grisel Hernández-Martínez, Rafael Sandoval-Gómez, Sergio Durán-Ortíz, Patricia Castro-Nuñez, Jorge Moreno-Palacios

29 **Uro-oncological care during COVID-19: From the Cuban experience to international recommendations**
Tania González-León, Edgar Algarin-Villalón, Adolfo García-García, Maykel Quintana-Rodríguez, Isabel García-Morales

36 **Acquired resources for the implementation of telemedicine in uro-oncology: Tips for its use and optimization**
Álvaro Yebes, Diego M. Carrión, Carlos Toribio-Vázquez, Mario Álvarez-Maestro, Alfredo Aguilera-Bazán, Luis Martínez-Piñeiro

44 **Prostate cancer in the COVID-19 era: What should we know from an oncologist's perspective?**
Homero Fuentes-de la Peña, Jesús Salas-Ochoa, David Ramírez-Viramontes, Emilio Olloqui-Salas, Eduardo Estrada-Vázquez

50 **Information management and social networks during the COVID-19 era: Benefits and risks**
Óscar D. Guzmán-Aguilar, Carolina Jiménez-Santillán, Diana C. Rojas-Ramírez

55 **Effect of the pandemic on the mental health of health personnel**
Daniel Fernando Fernández-López, Juan Ricardo Cabrera-Rios, Herney Andrés García-Perdomo

60 **Uro-oncological patient care in Uruguay: Reality and perspective during COVID-19 pandemic**
Federico López, Noelia Silveyra, Ignacio Cardozo-Gabriel Krygier, Levin Martínez

68 **Estrategias para la reactivación de la urología durante la pandemia por COVID-19**
Beatriz Gutiérrez-Hidalgo, Juan Gómez-Rivas, Irene de la Parra, Roser Vives-Dilme, Lorena Fernández-Montarroso, Jesús Moreno-Sierra

75 **Efecto y recomendaciones ante la pandemia por COVID-19 en urología pediátrica en Latinoamérica**
Sebastián B. Tobia-González, Francisco Javier González-Ledón

82 **¿Que significa la pandemia COVID-19 para los residentes de Urología?**
Elena Seguí-Moya, Leonardo Tortolero-Blanco

94 **Pacientes con neoplasias urológicas y la vacuna contra el SARS-CoV-2**
Moisés Rodríguez-Socarrás, Juan Gómez-Rivas, Ana María Autrán-Gómez

100 **Cáncer de próstata local durante la pandemia de COVID-19: revisión actual**
Ricardo Antonio González-Pérez, Daniel Parra-Acevedo, Edgar Verdín-Correa, Sergio Contreras-Martínez, Erick Sierra-Díaz

104 **¿Cómo ha modificado la asistencia en pacientes con neoplasias urológicas en Chile durante la pandemia por COVID-19?**
Nicolás Sáez-Cortez, Sebastián Iñiguez-Robles, Diego Henríquez-Montoya, Juan Carlos Román-Sobarzo, Andrés Vega-Ávalos, Nivia Morales-Ángulo, Tomás Olmedo-Barros

113 **Tratamiento de pacientes con cáncer en México durante la pandemia: evidencia de un sistema maltratado y golpeado**
Hugo A. Manzanilla-García, Ana María Autrán-Gómez

119 **Cambios en el tratamiento y seguimiento de pacientes con cáncer de vejiga durante la pandemia por SARS-CoV-2**
Israel Presteguín-Rosas, Ángel Arreola-Hernández, Ignacio López-Caballero, Aranza Suárez-Ortega

123 **Efectos notorios del COVID-19 en Europa: atención y tratamiento en pacientes con neoplasias urológicas**
Francesco Esperto, Francesco Prata, Deanesi Noemí, Cacciatore Loris, Francesco Tedesco, Roberto Mario Scarpa, Ana María Autrán-Gómez, Rocco Papalia

131 **Repercusiones en la atención de pacientes con neoplasias urológicas durante la pandemia por COVID-19**
Félix Santaella-Torres, Jorge Francisco Herrera-Viveros, Manuel Alejandro Torres-Paniagua, Itzel Rigel Sánchez-Ruvalcaba, Edgar Beltrán-Suárez

141 **Urología en Bolivia durante la pandemia por COVID-19**
Marcelo Torrico-de la Reza, Yercin Mamani-Ortiz, Ana María Autrán-Gómez

149 **Cáncer testicular durante la pandemia por COVID-19: del diagnóstico al tratamiento (puntos a considerer)**
Cristobal Díaz-Gómez, Edgar I. Bravo-Castro, María F. Chein-Vázquez, José Gadu Campos-Salcedo

68 **Strategies to reactivate urological activity during COVID-19 pandemic**
Beatriz Gutiérrez-Hidalgo, Juan Gómez-Rivas, Irene de la Parra, Roser Vives-Dilme, Lorena Fernández-Montarroso, Jesús Moreno-Sierra

75 **Impact and recommendations in the face of the COVID-19 pandemic in Latin American Pediatric Urology**
Sebastián B. Tobia-González, Francisco Javier González-Ledón

82 **What has the COVID-19 pandemic meant for urology residency training?**
Elena Seguí-Moya, Leonardo Tortolero-Blanco

94 **The uro-oncology patient and vaccination against SARS-CoV-2**
Moisés Rodríguez-Socarrás, Juan Gómez-Rivas, Ana María Autrán-Gómez

100 **Localized prostate cancer in the COVID-19 era: A current review**
Ricardo Antonio González-Pérez, Daniel Parra-Acevedo, Edgar Verdín-Correa, Sergio Contreras-Martínez, Erick Sierra-Díaz

104 **How has modified the assistance of uro-oncological patient in Chile during COVID-19 era?**
Nicolás Sáez-Cortez, Sebastián Iñiguez-Robles, Diego Henríquez-Montoya, Juan Carlos Román-Sobarzo, Andrés Vega-Ávalos, Nivia Morales-Ángulo, Tomás Olmedo-Barros

113 **Management of oncology patient´s in Mexico during the COVID-19 pandemic: Evidence of a battered and beaten system**
Hugo A. Manzanilla-García, Ana María Autrán-Gómez

119 **Changes in bladder cancer management and follow up during SARS-CoV-2 pandemic**
Israel Presteguín-Rosas, Ángel Arreola-Hernández, Ignacio López-Caballero, Aranza Suárez-Ortega

123 **The tangible effects of COVID-19 in Europe: Care and management in urologic oncology patients**
Francesco Esperto, Francesco Prata, Deanesi Noemí, Cacciatore Loris, Francesco Tedesco, Roberto Mario Scarpa, Ana María Autrán-Gómez, Rocco Papalia

131 **Impact on the uro-oncological patient´s care in times of COVID-19 pandemic**
Félix Santaella-Torres, Jorge Francisco Herrera-Viveros, Manuel Alejandro Torres-Paniagua, Itzel Rigel Sánchez-Ruvalcaba, Edgar Beltrán-Suárez

141 **Urology in Bolivia in times of COVID-19**
Marcelo Torrico-de la Reza, Yercin Mamani-Ortiz, Ana María Autrán-Gómez

149 **Testicular cancer in the COVID-19 era: From diagnosis to treatment (points to consider)**
Cristobal Díaz-Gómez, Edgar I. Bravo-Castro, María F. Chein-Vázquez, José Gadu Campos-Salcedo

SPECIAL CONTENT

Urologic cancer during the COVID-19 pandemic in Panama: An expert opinion.
Ramón Rodríguez-Lay

Legislation and Legal Framework for oncology patients in Latin America.
Kenji López-Cuevas

Societies and associations of oncology patients: Support tools and mentoring.
Leticia Aguilar-Green, Mayra Galindo-Leal

Uro-Oncology practice in Peru: Challenges during COVID-19 Outbreak.
Alexis Alva-Pinto, Rubén Duin-Ortíz, Iván Aguilar-Marín

Editorial
Bol Col Mex Urol 2021; 36 (Supl. 1): 1.

Dear esteemed colleagues:

If we consider deeply for a moment the role that humanity plays in the history of the universe we could ponder if what we have done has been of our own free will, or if we take and transform it into something of our own desire. We have spent centuries trampling on what nature has provided us to live on. It leads me to think: What would happen if an audit were performed on our conduct? Most likely we would be declared guilty of the damage caused, however, our bounded rationality and pride cause us to deny our responsibilites. We have not realized that everything in nature has a cycle, including the very universe. Everything that is born, dies. Our own lives are as fleeting as a snap of the fingers when compared to the lifespan of the universe.

When we felt our strongest and most invencible, suddenly a microorganism appeared from nature's arsenal, killing in less than a year more than 2 million people. This has revealed just how fragile and small we are before the strength of the natural cycle.

The SARS-CoV-2 pandemic should make us review our position in the natural order, since we are probably not the dominant species on the planet. The facts are before us. Our way of life has changed completely and abruptly. We have denied ourselves the warm embrace of our loved ones, and worse still, we have lost the freedom of breathing without a mask, since this can mean the difference between life and death. And of course, the changes in our professional practices have been disrupted to a lesser extent, and quite probably, we miss what we used to enjoy in our work, which is to perform it without fear of getting sick.

Upon reflection I would like to present with great pleasure the supplement that is titled: "The Tangible Effects of COVID-19 in Latin American Countries: Care and Management in Urologic Oncology", that has been prepared in collaboration with the American Confederation of Urology (CAU). Several Urology colleagues from different countries in Latin America and Europe have participated in this supplement, and they show how the pandemic that originated from SARS-CoV-2 has affected care for those patients suffering from oncological disease in the field of Urology.

I am grateful for the tremendous effort of all of the authors, and I hope that the readers enjoy this excellent international collaboration.

Erick Sierra Díaz

Editor in Chief Boletín del Colegio Mexicano de Urología

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Correspondence
Erick Sierra Díaz
erksland@hotmail.com
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Editorial
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The uro-oncologic Latin American pandemic within the health, economic and social pandemic of COVID-19.

La pandemia uro-oncológica Latinoamericana dentro de la pandemia sanitaria, económica y social del COVID-19

Ana María Autrán-Gómez,[1] Alejandro Rodríguez,[2] Ignacio López-Caballero[3]

Since the declaration of the pandemic Outbreak in March 2020 by the World Health Organization (OMS) authorities. The world has been transformed, we have lived and are living indescribable health, economic and political situations. As of today, April 28th 2021, a total of 149,011,839 confirmed cases have been reported worldwide with around 3,140,790 deaths.[1]

Health Systems worldwide have been collapsed, with a shortage of medical supplies, medicines, surgical spaces and a shortage of health personnel, which has suffered the hardest damage in terms of physical and mental health. All this coupled with a slow global reaction by governments to the pandemic.

Indisputably, the care and assitance of uro-oncologic patients has been affected in a very pronounced way. Since the beginning of the pandemic Outbreak, some Urological Societies around the world have reacted to establish guidelines that have allowed orienting the urological community in terms of diagnosis, treatment and follow-up of uro oncology patients, unfortunately these have to be re-adapted and individualized, based on the availability of resources and health strategies in each country.

Without a doubt, Latin America has been one of the most affected continents, where Brazil tops the list with more than 395,022 deaths followed by Mexico with 215,547 and where fragmented and fragile Health Systems have had to prioritize the care and assitance of COVID-19 patients, leaving cancer patients on the back.[1]

The different Latin American Urology services have reacted to this by reorganizing their activities and facilities, and prioritizing the care of the Uro Oncological patients, during the first wave of the pandemic, implementing new technological strategies, platforms for Teleconsultation in the follow-up etc.[2] Likewise, urological research has been

[1] Director of the Research office Confederación Americana de Urología.
[2] General Secretary of Confederación Americana de Urología.
[3] President of Colegio Mexicano de Urología.

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Correspondence
Ana María Autrán Gómez
anamaria87@hotmail.com

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affected, where patients included in clinical trials have delayed their treatment and follow-up during the first months of the pandemic, since it was not clear how to manage them. Currently, guidelines have been implemented that allow us to direct cancer and non-cancer patients in clinical trials.[3]

The principal question is: *What is the reality of our Uro Oncological patients in Latin America?*

Today we are faced with: *1)* Lack of strategies and real consensus for the diagnosis, treatment and follow-up of our patients, in our Latin American countries, during the COVID-19 Pandemic, it is sometimes difficult to adapt the published Uro Oncology Guidelines reactions to our environment, since the infrastructure, availability and accessibility of materials and medicines is Limited. *2)* Shortage and inequality in accessibility to Oncological treatments: Let us cite as an example Mexico, where Oncological pathology is the 3rd cause of death and where deaths from cancer have doubled in the last 20 years from 4,000 deaths in 1990 to 8,900 in 2019.[4] Always in México, in terms of accessibility to a National Health System, only the 50% of the population does not have any type of social security, which is is a "Disparity of access". For approximately two years in Mexico, there has not been a National Popular Insurance Program, which provided medicines to Mexican cancer patients, instead the INSABI (Health Institute for Well-being) has been created, which does not have technical protocols for cancer care, lack of government budgets, etc. *3)* Provision and accessibility to an approved and protocolized COVID-19 Vaccination System: Latin America is facing a shortage and disorganization of a vaccination system against COVID-19, which hinders the safety and prioritization of Uro Oncology patients. All this reality can be transferred to the Fragmented Health Systems of all Latin America.

Therefore, in Latin America, we require Universal Health Systems in which they provide the appropriate conditions in terms of infrastructure, availability of access to technology for oncological drugs for the adequate care and assistance of our uro-oncological patients and new opportunities for development of Uro-Oncological Research and training for all Urologists in Latin America.

In this way, the Confederación Americana de Urologia (CAU) and the Colegio Mexicano de Urologia, have created this supplement entitled: *"Care and Management in Urologic Oncology: The Tangible effects of COVID-19 in Latin American Countries"* which consists of 25 manuscripts that gather the strategies, accessibility and obstacles in the diagnosis, treatment and follow-up of the Uro Oncological patient in Latin America, manuscripts from Mexico, Cuba, Panama, USA, Bolivia, Chile, Argentina, Uruguay, Spain, France, and Italy show our reality.

"Let's transform this great Health, Social and Economic Pandemic into a source of opportunity for human growth"

REFERENCES

1. http://www.Jhonhopkinscoronavirusresourcescenterhome
2. Autran-Gomez AM, Tobia I, Castillejos-Molina R, Rodríguez-Covarrubias F, et al. Exploring Urological Experience in the COVID-19 Outbreak: American Confederationn of Urology (CAU) Survey. Int Braz J Urol. 2020; 46 (Suppl 1): 156-164. https://doi.org/10.1590/S1677-5538.IBJU.2020.S119
3. Teh J, O'Connor E, Coles-Black J, Lawrentschuk N. Clinical trials in urological oncology: COVID-19 and the potential need for a new perspective. World J Urol. 2020; 4: 1-3. https://doi.org/10.1007/s00345-020-
4. http://www.ElPais by Carlos Salinas 4 Feb 2021.

Original Article
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Trends in endourological procedures during the COVID-19 pandemic: The Houston Methodist Hospital experience.

Tendencias en procedimientos endourológicos durante la pandemia por COVID-19: experiencia en el *Houston Methodist Hospital*

Natalia Hernández, Thaiphi H. Luu, Mónica Morgan, Julie N. Stewart, Ricardo R. González

Abstract

OBJECTIVE: To describe endourological procedural trends in response to surges of the COVID-19 pandemic.

MATERIALS AND METHODS: A descriptive study of the CPT codes for endourological procedures from March 2020 to January 2021 were retrieved including operating room and in-office settings. Monthly case volumes during the pandemic were compared to average monthly case volumes over the 12 months prior to the pandemic. Surges during the pandemic were defined by county-specific metrics including hospitalization and COVID-19 positivity rates.

RESULTS: Procedures were dramatically reduced during the first COVID-19 surge mainly reducing benign prostatic hyperplasia (BPH) procedures by over 80%. Transurethral resection of bladder tumor (TURBT) and ureteroscopy (URS)/stent procedures were reduced by a 55% and 34%, respectively. Case volume rebounded in the following months. In the subsequent surges, endourological procedures were less impacted, and procedures associated with stone disease increased. BPH surgeries in the hospital were reduced during surges whereas minimally invasive surgical therapies (MIST) remained steady after the initial surge.

CONCLUSIONS: The trends reflected an adaptive response with a deferment in more elective procedures like BPH surgeries during COVID-19 surges; rebounds in monthly BPH surgical procedures followed the transient stoppage during a surge. Office-based MIST less affected compared to BPH surgeries in the hospital setting, likely resulting in conservation of hospital resources during surges. Given the more clinically urgent nature of obstructive stone disease and bladder cancer, URS/stent cases and TURBT were less affected.

KEYWORDS: COVID-19 pandemic; Metrics; Hospitalization; Benign prostatic hyperplasia; Transurethral resection; Bladder tumor; Ureteroscopy; Stent procedure; Minimally invasive surgical.

Resumen

OBJETIVO: Describir las tendencias en procedimientos endourológicos en respuesta a la pandemia por COVID-19.

MATERIALES Y MÉTODOS: Estudio descriptivo, del que se obtuvieron los códigos de procedimientos endourológicos efectuados de marzo de 2020 a enero de 2021 por urólogos del *Houston Methodist Hospital*. Se analizaron los procedimientos llevados a cabo en el quirófano y el consultorio con anestesia local. La tendencia en los casos mensuales durante la pandemia se compararon con las tendencias mensuales de los 12 meses previos.

RESULTADOS: Durante la pandemia por COVID-19 disminuyeron los procedimientos endourológicos. En el primer brote disminuyeron en 80% las cirugías para hiperplasia prostática benigna. Las resecciones transuretrales de tumores de vejiga y procedimien-

Houston Methodist Hospital, Houston, Texas.

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Correspondence
Ricardo González
RRGonzalez@houstonmethodist.org

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tos para urolitiasis obstructiva se vieron menos afectados y disminuyeron 55 y 34%, respectivamente. Los procedimientos para hiperplasia prostática benigna, realizados en el quirófano, disminuyeron durante cada brote, mientras que los procedimientos de mínima invasión efectuados en el consultorio se mantuvieron estables después del primer brote.

CONCLUSIONES: Las tendencias en los procedimientos endourológicos demuestran una respuesta adaptativa, con reducción de cirugías electivas en el primer brote, seguidas por un aumento en estos casos después de cada brote. Los procedimientos de mínima invasión para hiperplasia prostática benigna efectuados en el consultorio se estabilizaron a lo largo del año. Debido a la urgencia por urolitiasis obstructiva, la frecuencia de ureteroscopias y la colocación de *stents* ureterales permanecieron estables.

PALABRAS CLAVE: Pandemia por COVID-19; tendencias; hospitalización; hiperplasia prostática benigna; resección transuretral; tumores de vejiga; ureteroscopia; urolitiasis obstructiva; cirugía de mínima invasión.

INTRODUCTION

The Houston Methodist Hospital system is a large organization of eight hospitals with 2541 operating beds within the Houston metropolitan area of over 7 million residents.[1] The main location within this system, Houston Methodist Hospital is located at the Texas Medical Center (TMC), which is the largest medical center in the world with over 10 million health encounters annually. There are 19 full-time faculty urologists at the Houston Methodist Hospital who actively perform endourological procedures.

The COVID-19 pandemic was characterized by the World Health Organization on January 12 2020 after the global spread infection due to severe acute respiratory syndrome coronavirus (SARS-CoV-2).[2] Houston Methodist Hospital has been active since the beginning of this pandemic developing new technologies and researching novel treatments for this previously unknown virus and its devastating health effects. In March 28, Houston Methodist Hospital was the first hospital in the United States of America to transfuse convalescent plasma collected from recovered patient from COVID-19 to patients with severe COVID-10 infection. Initial results reported that by day 14 post-transfusion 76% of the patients had improved.[3] This laid the ground for widespread use of this treatment option all over the nation. In their most recent publication in November 2020,316 patients have been enrolled in this unique clinical trial with effective results reducing mortality.[4]

In March 2020, increasing number of COVID-19 in the state of Texas enforced a temporary lockdown to control the spread of this disease. The Texas Medical Center created a planning protocol with three phases based on Intensive Care Unit (ICU) beds. Due to an initially low availability of COVID-19 testing capabilities, the need to optimize ICU bed availability, personal protective equipment (PPE) and health care workforce and staffing, the decision was made to shut down the operating rooms and all elective surgeries were cancelled. After the decrease in initial cases in county cases, elective surgeries could resume. Testing capability for COVID-19 became more readily available, and a structured response plan was developed for any ensuing surge. Following the Texas Governor mandate, hospitals were allowed to continue elective surgeries as long as they ensured a 15% bed capacity available for COVID-19 patients. This led to the second event of elective cases getting cancelled in June 2020, where there was a surge in cases and bed capacity, staff and resource optimization was needed. The third event, also driven by bed capacity was in January 2021, with third surge in COVID-19 cases by the end of December 2020, the TMC and Houston Methodist operating room committee decided in order to optimize bed and staff availability a shut down the operating rooms for three weeks was necessary.

The purpose of this study was to analyze trends in endourological surgeries during the pandemic surges. Given that surgeries for obstructing urinary stone disease generally are more likely to be clinically urgent compared to surgeries for bladder outlet obstruction due to BPH, the trends between monthly cases for these was compared. Authors hypothesize that the more elective surgeries for BPH were more likely to decline relative to those for urinary stone disease.

MATERIALS AND METHODS

Pandemic response strategy:

We reviewed the protocol for surgery case type prioritization during pandemic surges for the Houston Methodist Hospital system. Prioritization by case type and classification of "elective" and "urgent" were analyzed and applied to the type of endourological procedures performed. This was heavily influenced by previously published guidelines and recommendations.[5,6,7,8]

"Surges" during the pandemic were defined by county-specific metrics including hospitalization and COVID-19 positivity rates.[9]

Classification of surgery type:

Endourological procedures were sorted by condition (e.g. stone disease, BPH) and clustered by treatment setting (e.g. BPH surgeries performed in hospital versus BPH MIST procedures done in-office under local anesthesia). **Table 1**

Procedural trend analysis:

CPT codes for endourological procedures from March 2020 until January 2021 were retrieved for Houston Methodist Hospital facilities. Only the procedures performed by the full-time faculty within the Houston Methodist Hospital system were included. CPT codes that were utilized are listed in **Table 2**. The number of monthly endourology procedures performed by 19 faculty were compiled. The average number of monthly procedures in the year preceding the pandemic (March 2020 to January 2021) was calculated and used as a benchmark with which to compare monthly variance of each procedure during the pandemic. The relationship between the pandemic surges and the monthly variance from baseline was described.

RESULTS

Analysis of protocol changes during surges:

For the first operating room shutdown in March and April 2020 (Surge 1), endourology cases were carefully reviewed by a designated urology committee and patients with obstructing ureteral stones with evidence of acute kidney

Table 1. Classification of surgery

Urological Condition	Associated Procedures	Procedure setting
Urinary stone	Ureteroscopy, laser lithotripsy, stone manipulation, ureteral stent placement	Hospital
Bladder cancer	Transurethral resection of bladder tumor (TURBT)	Hospital
Benign prostatic hyperplasia with or without urinary retention "BPH surgery"	Transurethral resection of prostate (TURP), photoselective vaporization of prostate (PVP), anatomic endoscopic enucleation of prostate (AEEP), Aquablation, robotic simple prostatectomy (RASP)	Hospital
Benign prostatic hyperplasia with or without urinary retention "MIST"	Prostatic urethral lift procedure (Urolift), convective water vapor ablation of the prostate (Rezum).	In-Office

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injury, fever, intractable pain, nausea or vomiting were authorized to proceed for ureteroscopy, ureteral stent placement, or extracorporeal shockwave lithotripsy (ESWL). In order to limit health care resources, several measures were suggested. Urologists were encouraged to consolidate related stone procedures in one surgery if possible. Increased use of ureteral stents with strings to facilitate in-office removal were recommended. Use of a ureteral stent with ESWL cases treating larger stone burdens was proposed in order to prevent complications like steinstrasse ureteral obstruction.

In July 2020 (Surge 2), there was an increase in COVID-19 cases (i.e. positivity rate) without overutilization of bed capacity. The availability of hospital beds did not require a mandatory cessation of elective surgery, but surgeons were encouraged to triage and stratify necessity of surgical intervention in light of rising COVID-19 cases.

In December 2021, the highest number of COVID-19 cases started (Surge 3). This forced the TMC and the Houston Methodist System to mandate a second shut down of the Operating Rooms in January 2021 in order to maintain bed capacity for the incoming surge of COVID-19 patients. All elective cases were cancelled. The OR committee at Houston Methodist Hospital released a new set of guidelines for Urological procedures. For endourological procedures, most cases for obstructing stones were allowed, including ureteroscopy, percutaneous nephrolithotomy (PCNL), and ESWL. Additionally, during this second shutdown, benign prostatic hyperplasia (BPH) cases in men who were in catheter-dependent urinary retention or with gross hematuria were authorized to proceed. When patients had their prostate surgery, faculty would discharge patients home the same day with a catheter. Patients were taught how to remove their own catheters at home early on postoperative day 1, and/or home health nursing resources were utilized when available. In order to optimize bed capacity and nursing resources, endourological procedures were encouraged to be performed as an outpatient when possible. There was no mandatory interruption of in-office BPH MIST procedures during any surge.

Procedural variance during the pandemic:

After analyzing the volume of cases during the pandemic, there was a modest decrease in cases across all endourological procedures. The total number of URS/stent, TURBT, and BPH surgeries during the COVID-19 pandemic were 1425, 399, and 582 compared to 1486, 429, and 665 over the same time period 1 year prior, respectively (Figure 1). The first surge in 3/2020-4/2020 accounted for the largest decrease in volume. Over 80% of both inpatient and outpatient BPH procedures were reduced during this time. There was a lesser reduction in the URS/stent and TURBT groups, -34.2% and -55.5%, respectively. Case volume rebounded sharply over the following 2 months and have steadied since then (Figure 2). The surges in 7/2020 and 1/2021 did not resulted in as steep as a decline in cases as the first surge. In fact, TURBT procedures were performed more often in these months when compared to the prior year, up to +49%. The was a dichotomy in how BPH procedures were affected by the pandemic. BPH surgeries performed in the hospital setting with anesthesia were decreased during each surge while in-office MIST procedures under local anesthesia were less affected, especially in the latter two surges. BPH surgery had a percentage change in volume of -82.1%, -16.5%, and -47.5% during the surges. This was compared to -83.7%, +30.2%, and -7.7% with MIST procedures. **Table 2 and 3, Figure 1 and 2**

DISCUSSION

Many lessons were learned during this pandemic at our large academic hospital system, includ-

Table 2. CPT codes for endourology procedures

Type	Procedure	Codes procedures
INDEX	Stent	52332
INDEX	URS	52352, 52353, 52356
INDEX	TURBT	52204, 52214, 52224, 52234, 52235, 52240
MIST	Urolift	52441, 52442
MIST	Rezum	53854
SURGERY	TURP	52601
SURGERY	PVP	52648
SURGERY	AEEP	52649
SURGERY	Aquablation	0421T
SURGERY	Robotic simple prostatectomy	55866

Table 3. Change in surgical volume during COVID-19 surges (n)

	3-2020 (4)-2020	07-2020	01-2021
URS-stent	-34.2% (173)	-7.2% (122)	+10.3% (145)
TURBT	-55.5% (34)	+49% (57)	+28.1% (49)
BPH surgery	-82.1% (15)	-16.5% (35)	-47.5% (22)
MIST	-83.7% (6)	+30.2% (24)	-7.7% (17)

ing preparedness and delegating a special operating room committee to assist triaging the cases to optimize and prioritize PPE, bed capacity and the health care workforce. Resilience and adaptability were gained as we learned to quickly develop a telemedicine platform that allowed us to triage urological conditions and prioritize conditions that needed surgical intervention. After reviewing our operating room protocols, we were able to adapt our practice and continue to provide excellent care to patients in the community.

The COVID-19 pandemic put a tremendous strain on the resources required to both conduct surgical cases and manage patients perioperatively. The halting of OR cases had a profound impact on patients, physicians, and trainees. The total number of endourological procedures at the onset of the pandemic was markedly reduced. Elective surgeries were particularly effected, as we saw in our hospital system with an over 80% reduction of BPH procedures. This type of decrease in surgical volume was not uncommon and was seen in hospital systems across the country.[10]

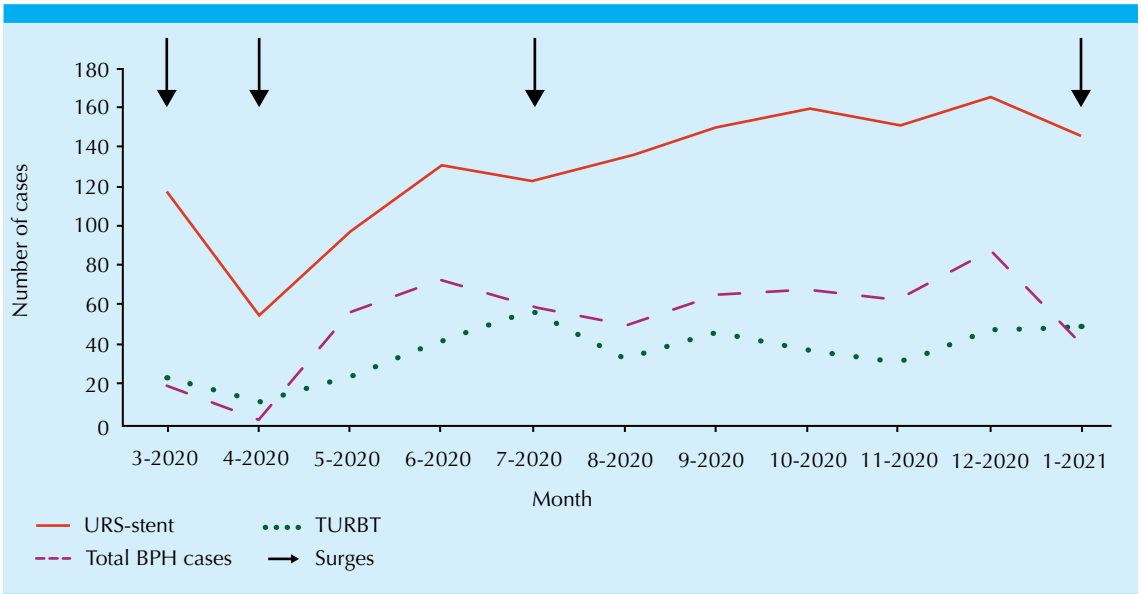

Figure 1. Surgical volume during the COVID-19 pandemic.

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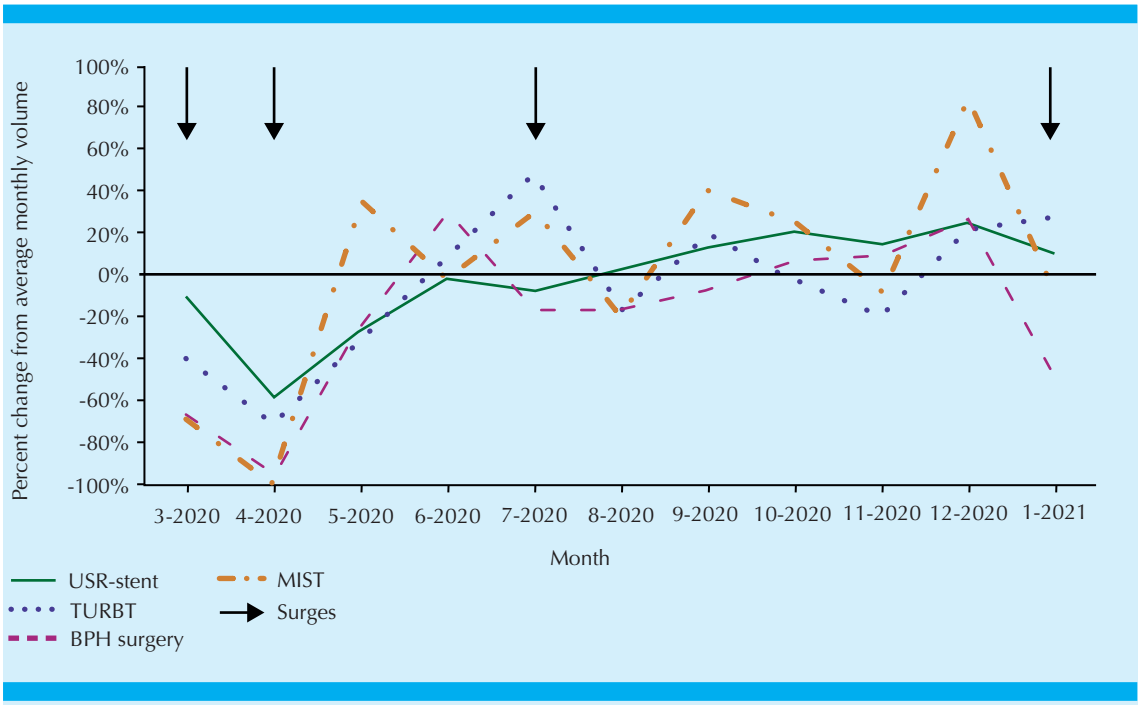

Figure 2. Change in surgical volume during the COVID-19 pandemic.

During the second and third pandemic surges, allowing BPH surgeries for patients with urinary retention or hematuria was accompanied by a more robust postoperative education pathway to decrease the number of hospitalizations after these procedures. With adequate education and preoperatory counseling, these procedures were able to be safely performed with same day discharge.

Not surprisingly, the rates of MIST in-office BPH procedures remained stable. This is of great importance, as urologists have these techniques handy and provide a great option for patients with BPH under local anesthesia. The prevents the need for systemic anesthesia and utilization of hospital resources. Further studies are indicated to see whether MIST procedures were more likely to be offered to patients whom traditionally would have been treated with surgery under pre-pandemic conditions.

While an analysis of the COVID pandemic on medical education is beyond the scope of this study, decreases in case volume undoubtedly impacted urology resident education. In order to continue to provide urological education for our residents, our program developed different strategies. All didactic and academic sessions were quickly transitioned to virtual meetings. Involvement in telemedicine clinics was incorporated. There has been a dramatic increase in collaborations with other hospitals in Texas and all over the United States with virtual lectures from national and international experts.[11] Many of these changes are likely to endure and evolve as we emerge from this trying pandemic.

CONCLUSIONS

The trends reflected an adaptive response with a deferment in more elective procedures like BPH surgeries during COVID-19 surges; re-

bounds in monthly BPH surgical procedures followed the transient stoppage during a surge. Office-based MIST less affected compared to BPH surgeries in the hospital setting, likely resulting in conservation of hospital resources during surges. Given the more clinically urgent nature of obstructive stone disease and bladder cancer, URS/stent cases and TURBT were less affected.

REFERENCES

1. Facts and Statistics. Houston Methodist Hospital. https://www.houstonmethodist.org/newsroom/facts-statistics/
2. Chen Y, Liu Q, Gui D. Emerging coronaviruses: Genome structure, replication, and pathogenesis. J Med Virol. 2020; 92: 418-423. https://doi.org/10.1002/jmv.25681
3. Salazar E, Perez K, Ashraf M, Chen J, et al. Treatment of coronavirus disease 2019 (COVID-19) patients with convalescent plasma. Am J Pathol. 2020; 190: 1680-1690. https://doi.org/10.1016/j.ajpath.2020.05.014
4. Salazar E, Christensen P, Graviss E, Nguyen D, et al. Treatment of coronavirus disease 2019 patients with convalescent plasma reveals a signal of significantly decreased mortality. Am J Pathol. 2020;190:2290-2303. https://doi.org/10.1016/j.ajpath.2020.08.001
5. Stensland K, Morgan T, Moinzadeh A, Lee C, et al. Considerations in the triage of urologic surgeries during the COVID-19 pandemic. Eur Urol. 2020; 77: 663-666. https://doi.org/10.1016/j.eururo.2020.03.027
6. Ferreira R, McGrath M, Wang Y, Sener A, et al. How to prioritize urological surgeries during epidemics: Lessons learned from the Toronto SARS outbreak in 2003. Can Urol Assoc J. 2020; 14: 159-160. https://doi.org/10.5489/cuaj.6551
7. Kutikov A, Weinberg D, Edelman M, Horwitz E, et al. A war on two fronts: Cancer care in the time of COVID-19. Ann Intern Med. 2020: 172: 756-758. https://doi.org/10.7326/M20-1133
8. Goldman H, Haber H. Recommendations for tiered stratification of urological surgery urgency in the COVID-19 era. J Urol. 2020; 204: 11-13. https://doi.org/10.1097/JU.0000000000001067
9. Harris County/City of Houston COVID-19 Data Tracking. Harris County Public Health. https://covid-harriscounty.hub.arcgis.com/
10. Lewicki P, Basourakos S, Al Awamlh B, Wu X, et al. Estimating the impact of COVID-19 on urology: Data from a large nationwide cohort. Eur Urol Open Sci 2021; 25: 52-56. https://doi.org/10.1016/j.euros.2021.01.006
11. Cacciamani G, Shah M, Wesley Y, Abreu A, et al. Impact of COVID-19 on the urology service in United States: perspectives and strategies to face a pandemic. Int Braz J Urol. 2020; 46: 207-214. https://doi.org/10.1590/S1677-5538.IBJU.2020.S126

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Original Article
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The impact of the COVID-19 pandemic on endourological care in Latin America.

Repercusiones de la pandemia por COVID-19 en los procedimientos endourológicos en América Latina

Miguel González-Domínguez,[1] Gonzalo Vitagliano,[2] Edgar Beltrán,[3] Miriam Petit-Acosta,[4] Seiichi Fuziwara-Ruíz[5]

Abstract

OBJECTIVE: Collects information on the impact of the COVID-19 pandemic in Latin America, specifically endourological surgeries.

MATERIALS AND METHDOS: During 2019 and 2020 a retrospective analysis of the records of endourological surgeries was carried out in the hospitals Aleman of Buenos Aires, the Medical Unit of High Specialty (UMAE) "La Raza" and the Hospital Espanol of Mexico City.

RESULTS: In UMAE La Raza, 36 versus 115 (-68.69%) percutaneous nephrolithototomies, 74 RIRS and URS were performed compared to 221 (-66.51%). The Hospital Español recorded, respectively, 125 *versus* 87 (+143%) URS, 55 *versus* 80 (-31.25%) RIRS, 72 *versus* 40 (+180%) TURP, 24 *versus* 10 (+240%) TURB, and 61 *versus* 27 (+225%) cystoscopies. A total of 746 endourological surgeries were made at the Hospital Aleman, of which 36.72% were RIRS and URS, 34.31% were oncological and 28.97% TURP.

CONCLUSIONS: COVID-19 affected the productivity of endourological surgeries, especially in public hospitals, which were converted for the care of patients with COVID-19, in addition to the referral of surgical cases and the fear of their users of exposure and contagion from going to these health centers. In private hospitals there was initially a decrease in surgeries, with subsequent regularization and even increase in the establishment and mastery of the management protocol of these patients.

KEYWORDS: COVID-19 pandemic; Latin America; Transurethral resection of prostate; Cystoscopies; Public hospitals.

Resumen

OBJETIVO: Recopilar información acerca de la repercusión de la pandemia por COVID-19 en los procedimientos endourológicos en América Latina.

MATERIALES Y MÉTODOS: Estudio retrospectivo de los registros de cirugías endourológicas efectuadas en los hospitales: Alemán en Buenos Aires, Unidad Médica de Alta Especialidad La Raza y Hospital Español en la Ciudad de México, durante los años 2019 y 2020.

RESULTADOS: En la UMAE La Raza se efectuaron 36 nefrolitotomías percutáneas *vs* 115 (-68.69%), y 74 *vs* 221 (-66.51%) nefro y ureterolitotripsias. El Hospital Español registró 125 *vs* 87 (+143%) ureterolitotripsias, 55 *vs* 80 (-31.25%%) nefrolitotripsias, 72 *vs* 40 (+180%) resecciones transuretrales de próstata (RTUP), 24 *vs* 10 (+240%) resecciones transuretrales de vejiga (RTUV) y 61 *vs* 27 (+225%) cistoscopias, respectivamente. En el Hospital Alemán se llevaron a cabo 746 cirugías endourológicas, de las que 36.7% correspondieron a nefro y ureterolitotripsias, 34.31% fueron oncológicas y 28.97% resecciones transuretrales de próstata.

CONCLUSIONES: El COVID-19 afectó la productividad de cirugías endourológicas, especialmente en los hospitales públicos, que se reconvirtieron en instituciones de atención especial de pacientes con COVID-19, además del envío de casos quirúrgicos y sospechosos de exposición y contagio por acudir a estos centros de salud. En los hospitales privados disminuyeron, inicialmente, las cirugías, con posterior regularización, incluso incremento al instaurar y dominar el protocolo de tratamiento de los pacientes.

PALABRAS CLAVE: Pandemia por COVID-19; América Latina; resección transuretral de próstata; cistoscopias; hospitales públicos.

[1] Urology Department Chairman at Hospital Espanol in Mexico City, Mexico.
[2] Urology Department Chairman at Hospital Alemán in Buenos Aires, Argentina.
[3] Endourology Chief at UMAE La Raza in Mexico City, Mexico.
[4] Urologist at Hospital Espanol in Mexico City, Mexico.
[5] Uro-oncologist at Centro Médico Nacional Siglo XXI, Mexico City.

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Correspondence
Miguel González Domínguez
miguelglzd@gmail.com

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INTRODUCTION

The COVID-19 epidemic was declared by the World Health Organization (WHO) an international public health emergency on 30 January 2020. Later, on March 11, 2020, the same body decided to characterize COVID-19 disease as a *pandemic*. From that moment on, health systems had to convert their services to focus physical and human efforts and resources to respond to a population that was now in demand of care for a completely new and unknown disease. This new condition forced to review the possible organs and systems affected: it was observed that the virus spike proteins showed great affinity for ECA2 receptors. Human cells expressing ECA2 can act as target cells for the development of SARS-CoV-2, with type II alveoal cells in the lung, heart, ileum and esophagus being the first research targets. In the urinary system, the kidneys have positive cells for ECA2, but in lower percentage, mainly in proximal convoluted tubules, approximately 4%, and in the bladder urothelium by 2.4%, so it was considered from the outset as a high risk of viral invasion.[1,2] This study collects information on the impact of this pandemic on the health reality of urology departments in Latin America, more specifically endourological surgeries in health systems of Argentina and Mexico.

MATERIALS AND METHODS

A retrospective analysis of the surgical records of patients undergoing endourological surgeries was performed by the urology departments of the hospitals Aleman in Buenos Aires, Medical Unit of High Specialty "La Raza" and Hospital Espanol in Mexico City, during 2019 and 2020. They were compared to assess the impact of the COVID-19 pandemic on surgical productivity.

RESULTS

Mexico

Initiating the analysis with the public sector, the UMAE (High Specialty Medical Unit) "La Raza" was taken as a reference. The urology department of the Specialty Hospital of the National Medical Center "La Raza", is a reference center for complex cases in the northern part of the capital of the country and 23 general hospitals, in addition to receiving patients from five different federal entities. Until November 2020 (**Table 1**), compared to 2019 in endourological surgeries, a total of 36 percutaneous nephrolithotomies *vs* 115 (-68.69%) were performed between first-time surgeries and second-looks, 27 of which were performed until March 30th and the rest over the course of the year. A total of 74 ureteroscopies (URS) and retrograde intrarenal surgery (RIRS), *vs* 221 (-66.51%). As for patients confirmed with COVID-19 whose surgeries could not be deferred, a total of eight patients were operated on, and in the case of patients with suspected COVID-19 a total of 6 cases were operated (**Table 1**). As can be seen, most patients suffered complicated infectious pathologies or severe bleeding secondary to complicated bladder tumors.

As for medical care in private centers, using as a reference the Hospital Espanol of Mexico City, a significant increase in most endourological elective surgeries were observed during 2020 compared to 2019, recording a total of 125 URS *vs* 87 (+143%), 55 RIRS vs 80 (-31.25%%), 72 TURP *vs* 40 (+180%), 24 TURB *vs* 10 (+240%) and 61 cystoscopies *vs* 27 (+225%). PCR for SARS-CoV-2 was made 48 hours before procedures if they are elective, or at the time of admission if they are emergencies.

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Table 1. Patients confirmed or suspected of COVID-19 infection who had surgery at UMAE "La Raza" during 2020

	Diagnostic	Surgery	COVID-19
1	Peri-renal hematoma abscessed by right renal trauma grade II	Exploratory lumbotomy	Suspected Case
2	Right kidney hematoma abscessed by lithiasis upper and lower third ureteral	Right exploratory lumbotomy	
3	Right scrotal abscess in a cystostomy carrier	Surgical cleaning and debridement	
4	Left peri-renal abscess, psoas abscess ipsilateral, and emphysematous cystitis	Left exploratory lumbotomy and nephrectomy	
5	Kidney hematoma abscessed	Right nephrectomy	
6	Bilateral scrotal abscess	Surgical cleaning and debridement	
1	Post operate of radical prostatectomy due prostate adenocarcinoma Gleason 6 (3 + 3)	Intravesical clot drainage	Confirmed Case
2	Right scrotal abscess in a catheter holder cystostomy	Scrotal abscess drainage	
3	Gross clot-forming intravesical hematuria due to bladder tumor	Clot evacuation transurethral resection of bladder tumor	
4	Right peri-renal abscess	Exploratory lumbotomy nephrectomy	
5	Gross clot-forming intravesical hematuria due to bladder tumor	Cystoscopy + evacuation of intravesical clot	
6	Right peri-renal abscess due to severe hydronephrosis	Right exploratory lumbotomy and nephrectomy	
7	Immediate surgical purperium and probable left urethral injury	Right exploratory lumbotomy and ureteral reimplantation	
8	Left xanthogranulomatous pyelonephritis with emphysematous cystitis	Left nephrectomy	

Argentina

At the Hospital Aleman in Buenos Aires, from February to June 2020, the average number of surgical patients on was 20 per month. Of these, approximately 60% were endourological emergencies (URS, catheter placement and urinary bypasses from nephrostomies), 25% oncological emergencies (radical cystectomies, nephrectomies in large renal masses and orchiectomies) and 15% emergencies from acute infravesical obstructions. During that time, the focus of our institution was aimed at preserving a high availability of beds sheltered from an even greater outbreak. **Table 2**

DISCUSSION

Mexico

COVID-19 began in Mexico on February 27, 2020. The first confirmed case was filed in Mexico City, and the first death from this disease happened on March 18,2020. Although specialized medical services, both public and private, began with a productivity hike during January and February of up to 14% compared to 2019, in March abruptly began the decline in their productivity. This health emergency caused public health care systems to collapse, being forced to refer patients from pathologies

other than COVID infection to private health care facilities.

Recommendations given by the Mexican Social Security Institute (IMSS) for the conversion of hospitals included, since March 2020, the cancellation of the external consultation in our hospital complex, as well as all diagnostic imaging procedures, and an almost complete reduction of scheduled surgical activity with selection of cases at high risk of complications, in addition to calling off elective surgeries of benign pathologies.[3] Elective surgical procedures were limited to those necessary to preserve life, limbs and organs. Urologists, as well as physicians of other specialties, were included in the COVID patient care groups, run by leading physicians, entering isolation areas arranged by the Hospital, with high protective measures, to assist in the care of confirmed patients or with high suspicion of COVID.

Table 2. Patients confirmed or suspected of COVID-19 infection who had surgery at UMAE "La Raza" during 2020

Month	HPB	Oncologist	Endouro/ lithiasis	Total
January 2020	3 (10.3%)	6 (20.6%)	20 (69.9%)	**29**
March 2020	4 (14.2%)	5 (17.8%)	19 (67.8%)	**28**
April 2020	1 (10%)	3 (30%)	6 (60%)	**10**
May 2020	2 (11.1%)	4 (22.2%)	12 (66.6%)	**18**
June 2020	3 (18.7%)	4 (25%)	9 (56.2%)	**16**
July 2020	9 (28.1%)	7 (21.8%)	16 (50%)	**32**
August 2020	17 (25.3%)	(25 (37.3%)	25 (37.3%)	**67**
September 2020	23 (24.2%)	41 (43.1%)	31 (32.6%)	**95**
October 2020	31 (30.3%)	36 (35.2%)	35 (34.3%)	**102**
November 2020	48 (40%)	36 (30%)	36 (30%)	**120**
December 2020	52 (36.1%)	55 (38.1%)	37 (25.7%)	**140**
January 2021	30 (33.7%)	31 (34.8%)	28 (31.4%)	**89**

Regarding endourology and care of urinary lithiasis, a review of international recommendations was carried out. The ones published by Stensland and collaborators, Kriegmair and collaborators,[4] and by the British Association of Urologist Surgeons on which patients should be priority: monorenal patients, with renal impairment, recently transplanted, with obstructive stones, bilateral lithiasis and infection, renal colic refractory to treatment, and to schedule patients with uncomplicated ureteral stones greater than 10 mm, renal obstruction by staghorn lithiasis, among others; even suggestions for the urologists to enter the operating room 20 minutes after airway is secured.[5]

In an epidemiological study carried out with a cut-off date of March 22, 2020, at the General Hospital of Mexico, a survey was used to determine the impact of our country's urological practice, yielding the following results: 66% of all hospitals had a protocol for pandemic care, 39% of physicians did not know of this protocol, and up to 80% of them continued their regular clinic.[6]

It is evident that the number of patients treated on a regular basis has decreased considerably in the public sector. The discrepancy between the two sectors of health is mainly due to the public sector focusing almost exclusively on the care of patients with COVID-19, converting hospitals and referring their non-COVID surgical patients to private centers, in addition to the decision of many patients to attend to private hospitals.

It is extremely important that all hospitals have a strict protocol for the surgical management of patients in COVID era. It is known that the false negative rate for PCR can range from 2% to 29%,[7] so we must act on the principle that every patient is a possible COVID carrier. In

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line with this, various surgical societies in Latin America, Europe and Asia-Pacific mention that the use of these preoperative tests is ideal, although they recognize their low availability and considerable rate of false negatives.

Deferral of surgeries is a measure that was based on the need to have more spaces and resources available to patients with COVID-19, and to prevent the nosocomial acquisition of SARS-CoV-2 in ordinary surgical patients and their possible perioperative complications. It also seeks to prevent infection from health workers not assigned to COVID areas. However, it is expected that in the next months there will be an increase on progression and complications in patients with benign pathologies, even with functional damage.[8,9]

Argentina

The onset of the pandemic in Argentina was delayed from other countries worldwide. This is largely explained by its geographical location coupled with early restrictive immigration measures. However, and similarly to all affected countries in the region, Argentina had a major impact during this pandemic. The Urology Service of the Hospital Aleman functions as a completely private entity which allowed to avoid the impact suffered by the public health system associated to the burden of COVID patients.

The decrease in urological patient care began to be reflected since February 2020, after all scheduled activity was discontinued and focused on emergency care. From February to June 2020, the average number of surgical patients was 20 per month. At the same time, all patients with suspected and diagnosed COVID-19 infection were hospitalized and isolated within the institution, not leaving space for scheduled activity. Upon reaching the peak of cases, around September, most cases were in home care, allowing us to gradually resume activity within our service. **Figure 1**

Surgical activity gradually grew, beginning to give higher priority to cancer patients who had suffered a delay in diagnosis and treatment. **Table 2**

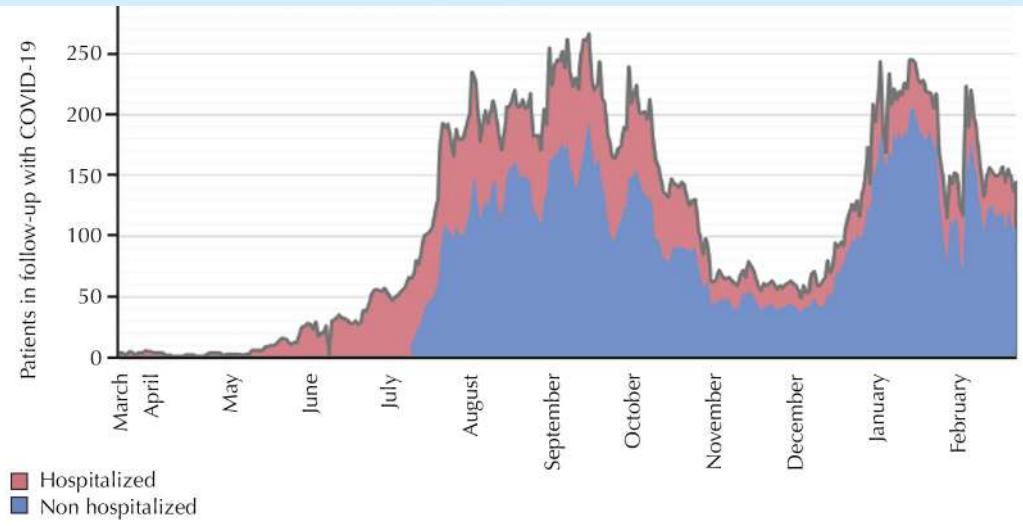

Figure 1. Monitoring of COVID-19 cases in Argentina (march 2020-february 2021)

Close to the last two months, our surgical rate was around 80% of the usual, having a total of 120 and 140 surgeries in the months of November and December, respectively. In January, the impact of the second wave decreased the number of surgeries again. However, we believe that the increased knowledge of the disease and the adaptation of the population to the new reality caused the surgical volume to remain above the values of the first wave.

CONCLUSIONS

COVID-19 affected the productivity of endourological surgeries, especially in public hospitals, as most were converted for patient care during the pandemic. Different behaviour was observed in private hospitals, in some countries such as Argentina, there was initially a decrease in cases, with a subsequent regularization in order to establish and master the management protocol for these patients. Compared to Mexico, in private hospitals there was also a sharp decline during the months of March to May, starting in June an increase in care due to the conversion of more than 90% of public hospitals to COVID centers and the referral of surgical cases from the public system, coupled with the fear of their users of exposure and contagion for going to these health centers.

REFERENCES

1. Wang W, Xu Y, Gao R, et al. Detection of SARS-CoV-2 in Different Types of Clinical Specimens. JAMA. 2020; 323 (18): 1843-1844. https://doi.org/10.1001/jama.2020.3786
2. Puliatti S, Eissa A, Eissa R, AMATO M, et al. COVID-19 and urology: a comprehensive review of the literature. BJU Int. 2020; 125 (6): E7-E14. https://doi.org/10.1111/bju.15071
3. Camacho-Aguilera JF, Pérez-Arredondo M, Aparicio-Mora RI. Pacientes quirúrgicos y COVID-19. Rev Med Inst Mex Seguro Soc. COVID-19. 2020. http://revistamedica.imss.gob.mx/editorial/index.php/revista_medica/article/view/3707
4. Kriegmair MC, Kowalewski KF, Lange B, Heininger A, et al. Urology in the corona-virus pandemic-a guideline 4/20. Urologe A. 2020; 59 (4): 442-449. https://doi.org/10.1007/s00120-020-01200-1
5. The British Association of Urological Surgeons: Website. Available at www.BAUS.org.uk/.
6. Pelayo-Nieto M, Linden-Castro E, Gómez-Alvarado MO, Bravo-Castro EI, et al. Has the COVID-19 pandemic impacted the practice of urology in Mexico? Rev Mex Urol. 2020; 80: 1-7. https://www.medigraphic.com/cgi-bin/new/resumenI.cgi?IDARTICULO=93073
7. COVID-19 and Surgery [Internet]. American College of Surgeons. 2021 https://www.facs.org/covid-19
8. Proietti S, Gaboardi F, Giusti G. Endourological Stone Management in the Era of the COVID-19. Eur Urol. 2020; 78 (2): 131-133. https://doi.org/10.1016/j.eururo.2020.03.042
9. Por la contingencia del COVID-19, crea IMSS repositorio multimedia para capacitación del personal de salud. Instituto Mexicano del Seguro Social. Gobierno de México. http://www.imss.gob.mx/prensa/archivo/202003/145

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The role of robotic assisted surgery in urology oncology during COVID-19 pandemic.

Función de la cirugía robótica en el área de urología oncológica durante la pandemia por COVID-19

Alejandro Rodríguez

Abstract

As cancer care and COVID-19 collide, patients and providers will face extremely difficult choices. Risks must be balanced carefully, public health strategies implemented thoroughly, and resources utilized wisely. Although most cancer care is not typically considered "elective", as resource constraints grow owing to supply chain issues, variations in geographic needs, and reallocation of medical infrastructure to care for infected patients, difficult tradeoffs will need to be made. This review will not only emphasis on the role, safety and advantages that robotic assisted surgery plays in the surgical management of urologic cancer cases, but will also summarize recommendations for the surgical intervention of urology cancers in which robotic surgery could have an important impact in favor of recovery time and management of appropriate allocation of limited health care resources in a time of global pandemic.

KEYWORDS: COVID-19; Public health; Resource; Elective; Robotic assisted surgery; Urology cancer; Pandemic.

Resumen

A medida que la atención del cáncer y el COVID-19 avanzan, los pacientes y los servicios de salud se enfrentan a decisiones extremadamente difíciles. Los riesgos deben equilibrarse cuidadosamente y las estrategias de salud pública requieren implementar fondos y recursos con prudencia. Aunque la mayor parte de la atención oncológica no suele considerarse "electiva" (mientras aumentan las limitaciones de los recursos, debido a problemas de la cadena de suministro), las variaciones en las necesidades geográficas y reasignación de la infraestructura médica para atender a los pacientes infectados supone decisiones difíciles. Esta revisión analiza la función, seguridad y ventajas de la cirugía asistida por robot en el tratamiento de pacientes con neoplasias urológicas, además de realizar recomendaciones para la intervención quirúrgica, donde la cirugía robótica pueda repercutir en la recuperación y gestión de los recursos de atención médica limitados en una época de pandemia mundial.

PALABRAS CLAVE: COVID-19; investigación; electiva; cirugía asistida por robot; neoplasias urológicas; pandemia.

General Secretary (CAU), Urology Associates of Rochester, Rochester General Hospital.

Rochester, New York, USA.

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Correspondence
Alejandro Rodríguez
alejandro.rodriguez2@rochesterregional.org

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INTRODUCTION

On March 11, 2020, the World Health Organization (WHO) declared the coronavirus disease (COVID-19), which is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a global pandemic. At the time of this writing, there are currently more than 113,076,707 million cases, 2,512,272 deaths, and 223 countries, areas or territories with active cases.[1]

With the spread of COVID-19 many hospitals froze all non-emergent surgical procedures out of safety concerns. The American College of Surgeons (ACS) and the Centers for Disease Control and Prevention (CDC) recommended cancel-

ling or postponing non-emergent surgeries since March 2020.[2,3] This move, although necessary for societal safety, impacted millions of lives. Since this cessation, surgical waiting lists continued to grow. During this period, hospital resources were depleted at many institutions and surgical staff and equipment were repurposed.

Fortunately, the swift implementation of "Telemedicine" in many countries allowed for office visits to continue during the high peak of the pandemic cases, either during the first or second wave of the disease; and will have a tremendous impact on the future of healthcare. Patients can be evaluated, assessed and counseled via telemedicine. This is extremely helpful because when non-emergent procedures resume, patients will have already fulfilled their pre-operative requirements. Recently, a study reported that 84.7% of patients wished for a "telemedicine" consultation, and it appears to be a real solution to offer contact-free continuity of care.[4]

Yet, the return to scheduling of non-emergency procedures poses other challenges. Surgeons, in addition to counseling and treating a patient, must also take other factors into consideration. We must now consider the availability of the medical staff and hospital resources, the transmission risk of COVID-19 to health-care workers and non-infected patients, and perioperative outcomes when triaging surgeries[5]. Hopefully, the availability of vaccines in many countries, will allow health care workers some immunity and protection against the virus. Some populations will still have not yet gained herd immunity by vaccination, and the risks of transmission of COVID-19 should be continuously addressed.

Widespread adoption of outpatient major surgical procedures should be considered whenever safe and feasible, utilizing risk predictors whenever available, for both outpatient and inpatient surgeries.[5] Once we have utilized ethical and effective triaging systems, we must also contemplate the surgical route for the procedure, a consideration not yet addressed in the available literature. All efforts should be made to utilize the surgical modality associated with the best patient outcomes while minimizing strain on already fragile health-care systems.

The impact of COVID-19 in patients with cancer is of concern. There is a need to understand better the effects of how COVID-19 can affect the outcomes of patients with active cancer, including the ability to continue with specific cancer treatments.[6]

Finally, for the management of urology oncology cases there are multiple national and international guidelines and recommendations for urologists to prioritize the provision of care. In a recent systematic review and meta-analysis, differences among the guidelines were found to be minimal.[7] In this review, we will focus on the role of robotic assisted surgery for urologic oncology cases during the COVID-19 pandemic.

Advantages and safety of robotics in the COVID and post-COVID era

The clinical advantages of the robotic surgical system have never been more important than during and following this pandemic. Surgeons must make every effort to minimize patient time spent inside the hospital, as this will always be a possible source of transmission. Laparotomy is associated with increased length of hospital stay, which places patients and health-care providers at unnecessarily high risk of COVID-19 transmission. It has been well established in the literature that minimally invasive surgery has lower cost, decreased postoperative recovery time, decreased immediate post-surgical pain, less analgesic use, decreased complications and decreased infection rates compared to laparotomy.[8] It is important to note that of the minimally invasive routes, robotic surgery has

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a lower likelihood of overnight admission when compared to conventional laparoscopy.[8]

Evidence suggests that experienced robotic surgeons have the lowest rates of operative complications, but that even novice robotic surgery is associated with fewer complications than laparotomy. By using a robotic surgical route, we can keep COVID-19 negative individuals away from high-risk areas. If testing is not available, then robotic surgery offers the quickest and most efficient way to perform non-emergent surgery with lower risk to personnel and quickly allowing patients to return home.Another risk to evaluate is the risk of transmission during surgery. It is well established that COVID-19 spreads via droplets and viral particles can also spread with aerosolizing procedures. With regard to surgery, there is some concern around aerosolizing of viral particles in the pneumoperitoneum and surgical plume, both of which are essential parts of minimally invasive surgery. To mitigate this theoretical risk, we can use closed-circuit surgical smoke systems. Both robotic assisted and traditional laparoscopy limit the intraabdominal aerosolization by surgical plume when compared to laparotomy by the sheer nature of the amount of open area to the surgical team. Additionally, the limited exposure to blood during minimally invasive technique, if any, is a decreased risk of exposure to any viral infection. Overall, minimally invasive techniques have a self-contained operative field with less (and possible no) spillage of fluids and tissues, significantly reducing risk to the operative staff.[8,9]

There are some key major advantages to robotic surgery over traditional laparoscopy, one being the number of personnel in a robotic operating room is less and the distance between the team members is more. In conventional laparoscopy, traditionally, the surgical team includes the surgeon, one assistant, a scrub technician and a circulating nurse. These members are in a close proximity to each other. With a robotic case, the surgeon console is separate from the robotic cart, providing more space between the team members. Additionally, with reduced port, robotic surgery major procedures can require even less assistants, meaning less overall exposure.

Despite very little evidence to support viral transmission through minimally invasive surgery, it is common sense to adopt measures that minimize any risk making modifications to surgical practice such as the use of smoke evacuation, lowering the pneumoperitoneum as low as possible and minimizing energy device usage among other measures to minimize operative staff exposure to aerosolized particles. Special attention must be paid when removing trocars at the end of a procedure, using suction to remove smoke and aerosol. Limit the smoke dispersal or spillage from trocars by lowering the pneumoperitoneum pressure. Usage of pressure-barrier insufflator systems that maintain a forced-gas pressure barrier at the proximal end of the trocar might be of benefit.[9]

An often-overlooked final dilemma hospitals and surgeons will likely encounter as non-emergent surgical procedures resume will be the impact of both the COVID pandemic and the global economic recession on health care. As businesses closed out of safety precautions for employees, it remains unknown what impact this will have on the availability of surgical instrumentation and operating room ancillary equipment in many countries around the globe.

Uro-oncology surgery during COVID-19 pandemic

With respect to the robotic assisted surgical management of urology oncology cases during the pandemic, we will address in this opportunity the management of prostate cancer, bladder cancer, renal cancer and adrenal tumors Specifically, due to the positive impact that the

robotic assisted approach can have in the rapid recovery of these patients.

In a systematic review and meta-analysis, indeed there was agreement on postponing treatments for low and intermediate-risk prostate cancer, as it is unlikely to result in clinical harm.[7] With respect to high risk and unfavorable intermediate risk PCa, it is a different situation. These patients pose a different challenge.

In normal circumstances they are already on a waiting list. The median waiting times have been reported at 91 days.[10] COVID-19 will force waiting list to become more congested. Some, studies report that the risk of adverse pathologic findings increased for intermediate risk cases if the intervention was delayed beyond 60 days and for high risk cases, if it was delayed beyond 30 days.[11] Others, report increased risk of adverse pathologic findings in high-risk cases, if intervention is delayed more than 60 days.[12] A Mayo Clinic study reported that there is an increased risk of biochemical recurrence if the intervention is delayed more than 6 months without neoadjuvant hormone therapy.[13] More recently, Ginsburg KB et al, reported on a retrospective review of 128,602 men that underwent radical prostatectomy. They analyzed data collected from the National Cancer Database from 2010 to 2016. There was no significant difference in the odds of: adverse pathology, upgrading, node positive disease or post radical prostatectomy secondary treatment between men treated with immediate radical prostatectomy versus any level of delay up to 12 months.[14]

With respect to high-risk PCa, the EAU guidelines recommended that surgery for high-risk PCa can be postponed until after the pandemic, depending on the local situation.[15] Goldman and Haber recommended that surgery can be delayed beyond 3 months,[16] and Kutikov et al,[17] recommended treatment before the end of 3 months. If treatment would be delayed significantly, as mentioned before, prescribing neoadjuvant androgen deprivation therapy in this situation is also an option.

In the case of muscle-invasive bladder cancer, several authors stated that radical cystectomy is non-deferrable and neoadjuvant chemotherapy can be omitted. Others suggested that neoadjuvant chemotherapy can be delayed for up to 6-8 weeks and cystectomy can be delayed for up to 10 weeks.[7]

The majority agree that a delay of < 3 months is acceptable for T1b-T2 renal tumors. Another concern is metastatic renal cell carcinoma. The EAU panel discussed that cytoreductive surgery is controversial irrespective of the pandemic.[7]

Finally, It is recommended that adrenal masses > 4 cm or functional, should be treated in < 1 month.[7] **Figures 1 to 3**

CONCLUSIONS

Robotic surgery plays an important role in the ability to continue providing excellent surgical care for patients throughout the world. Robotic

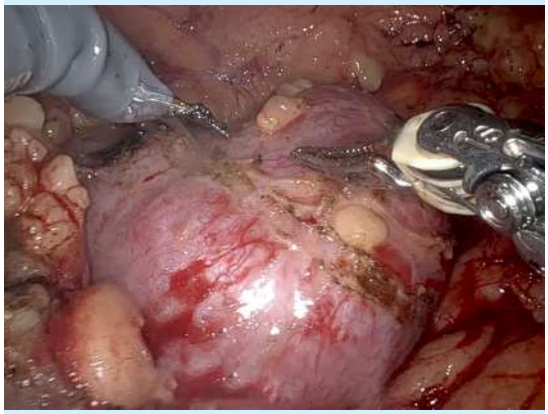

Figure 1. Robotic assisted left partial nephrectomy (5 cm tumor) in a patient with COVID-19.

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surgery decreases the length of stay for patients, thereby increasing the availability of beds for other hospital needs. The self-contained operative field, with smoke evacuations and low pneumoperitoneum pressures and minimizing use of energy devices, decreases the risk of potential viral transmission to the health-care staff. Additionally, robotic surgery allows for the staff and surgeon to be remote from the patient and from each other. The advantages of robotic assisted surgery combined with the use of appropriate PPE, provides a safe and much needed surgical management of urology oncology cases.

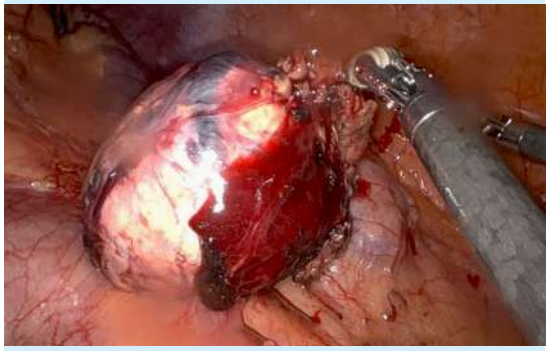

Figure 2. Robotic assisted left adrenalectomy (6 cm tumor) in a patient with COVID-19.

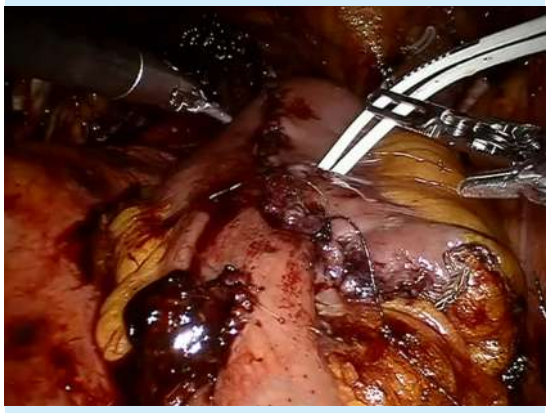

Figure 3. Robotic assisted radical cystectomy (Intracorporeal neobladder) in a patient with COVID-19.

REFERENCES

1. COVID-19 map: Johns Hopkins Coronavirus Resource Center. https://coronavirus.jhu.edu/map.html
2. COVID-19: guidance for triage of non-emergent surgical procedures. American College of Surgeons (ACS). www.facs.org/covid-19/clinical-guidance/triage
3. COVID-19: recommendations for management of elective surgical procedures. American College of Surgeons (ACS). www.facs.org/covid-19/clinical-guidance/elective-surgery
4. Boehm K, Ziewers S, Brandt MP, Sparwasser P, et al. Telemedicine online visits in urology during the COVID-19 pandemic-potential, risk factors and patient's perspective. Eur Urol 2020; 78 (1): 16-20. https://doi.org/10.1111/j.1442-2042.2012.03131.x
5. Prachand VN, Milner R, Angelos P, Posner MC, et al. Medically necessary, time-sensitive procedures: Scoring system to ethically and efficiently manage resource scarcity and provider risk during the Covid-19 pandemic. J Am Coll Surg. 2020; 231 (2): 281-288. https://doi.org/10.1016/j.jamcollsurg.2020.04.011
6. Kuderer NM, Choueiri TK, Shah DP, Shyr Y, et al. Clinical impact of COVID-19 on patients with cancer (CCC19): a cohort study. Lancet 2020; 395 (10241): 1907-1918. https://doi.org/10.1016/S0140-6736(20)31187-9
7. Heldwein FL, Loeb S, Wroclawski ML, Sridhar AN, et al. A systematic review on guidelines and recommendations for urology standard of care during the COVID-19 pandemic. Eur Urol Focus. 2020; 6 (5): 1070-1085. https://doi.org/10.1016/j.euf.2020.05.020
8. Moawad GN, Rahman S, Martino MA, Klebanoff JS. Robotic surgery during the COVID pandemic: why now and why for the future. J Robot Surgery. 2020; 14 (6): 917-920. https://doi.org/10.1007/s11701-020-01120-4
9. Zampolli HC, Rodriguez AR. Laparoscopic and robotic urology surgery during global pandemic COVID19. Int Braz J Urol. 2020; 46 (Suppl.1): 215-221. https://doi.org/10.1590/S1677-5538.IBJU.2020.S113
10. Siemen DR, Schulze KM, Mackillop WJ, Brundage MD, et al. A population-based study of the waiting times for prostatectomy in Ontario. Can J Urol 2005; 12 (2): 2568-74.
11. Berg WT, Danzig MR, Pak JS, Korets R, et al. Delay from biopsy to radical prostatectomy influences the rate of adverse pathologic outcomes. Prostate 2015; 75 (10): 1085-91. https://doi.org/10.1002/pros.22992
12. Meunier ME, Neuzillet Y, Radulescu C, Cherbonnier C, et al. Does the delay from prostate biopsy to radical prostatectomy influence the risk of biochemical recurrence? Prog Urol. 2018; 28 (1): 475-481. https://doi.org/10.1016/j.purol.2018.05.003
13. Westerman ME, Sharma V, Bailey GC, Boorjian SA, et al. Impact of time from biopsy to surgery on complications, functional and oncologic outcomes following radical pros-

tatectomy. Int Braz J Urol 2019; 45 (3): 468-477. https://doi.org/10.1590/S1677-5538.IBJU.2018.0196

14. Ginsburg KB, Curtis GL, Timar RE, George AK, Cher ML. Delayed radical prostatectomy is not associated with adverse oncologic outcomes: Implications for men experiencing surgical delay due to the COVID-19 Pandemic. J Urol 2020; 204 (4): 720-725. https://doi.org/10.1097/JU.0000000000001089
15. Ribal MJ, Cornford P, Briganti A, Knoll T, et al. EAU Guidelines Office Rapid Reaction Group: An organization-wide collaborative effort to adapt the EAU guidelines recommendations to the COVID-19 era. Eur Urol 2020; 78 (1): 21-28. https://uroweb.org/guideline/covid-19-recommendations/?type=archive
16. Goldman HB, Haber GP. Recommendations for tiered stratification of urologic surgery urgency in the COVID-19 era. J Urol 2020; 204 (1): 11-13. https://doi.org/10.1097/JU.0000000000001067
17. Kutikov A, Weinberg DS, Edelman MJ, Horwitz EM, et al. A war on two fronts: cancer care in the time of COVID-19. Ann Intern Med. 2020; 172 (11): 756-758. https://doi.org/10.7326/M20-1133

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Review article
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Functional urology challenges during the COVID-19 pandemic in Mexico and Latin America.

Desafíos de la urología funcional durante la pandemia por COVID-19 en México y América Latina

Immer Noyola-Ávila,[1] Grisel Hernández-Martínez,[2] Rafael Sandoval-Gómez,[3] Sergio Durán-Ortíz,[4] Patricia Castro-Nuñez,[1] Jorge Moreno-Palacios[1]

Abstract

COVID-19 pandemic has defied healthcare systems, it has impacted in a negative way the Urology services and specially the Functional Urology, nevertheless, this challenging situation leaded us to evolve and create strategies in order to persuade our patients benefit and prevent complications. The aim of this article is to review the standards on prioritization of urology practices that we should follow for patients with voiding dysfunctions, this short review means to provide useful recommendations for clinical practice. To sum up, SARS-CoV-2 impacted worldwide, adapting our resources and prioritizing our patients is the only way to keep urological care, further adjustments in budget and staff is still needed, classification of patients according to their pathologies associated to functional urology may help to prioritize their attention and preserve the quality of life of patients with voiding dysfunction.

KEYWORDS: COVID-19 pandemic; Urology; SARS-CoV-2; Budget; Attention; Preserve; Quality of life.

Resumen

La pandemia por COVID-19 ha sido un desafío para los sistemas de salud, debido al efecto negativo en los servicios de Urología, especialmente en la Urología funcional; sin embargo, esta situación tan desafiante nos ha llevado a evolucionar y crear estrategias para preservar el bienestar de los pacientes y prevenir complicaciones. El objetivo de este articulo es revisar los protocolos a seguir para priorizar la atención en pacientes con trastornos asociados con el proceso de micción. El SARS-CoV-2 ha tenido una repercusión mundial, adaptar los recursos y clasificar a los pacientes es una buena estrategia de atención en Urología. Se requieren diversos ajustes en el presupuesto y el personal de salud. La clasificación de los pacientes, de acuerdo con las enfermedades asociadas con la Urología funcional, pueden ayudar a priorizar y agilizar su atención, y de esta forma preservar la calidad de vida y mejorar su atención médica.

PALABRAS CLAVE: Pandemia por COVID-19; Urología; SARS-CoV-2; presupuesto; atención; preservar; calidad de vida.

[1] Urology Department, UMAE Hospital de Especialidades Centro Médico Nacional Siglo XXI, IMSS, Mexico City.
[2] Urology Department, Hospital Central Militar, SEDENA, Mexico City.
[3] Urogynecology Department, UMAE Ginecología y Obstetricia, IMSS, Mexico City.
[4] Neurourology Department, Instituto Nacional de Rehabilitación, Secretaría de Salud, Mexico City.

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Correspondence
Jorge Moreno Palacios
jorgemorenomd@gmail.com

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INTRODUCTION

The COVID-19 pandemic has challenged healthcare sector as no other disease in recent history, affecting worldwide and in different magnitudes for every country. In Mexico, more than 1,992,794 cases to mid-February 2021 have been diagnosed and as other Latin American countries the urban areas have concentrated the majority of cases. A worldwide poll reported that in hospitals who offer Urology services 78% of them treated COVID patients, were at least half of the staff were infected, 47% of Urologists were afraid of attending their working facilities, 30% had reduced their outpatient appointments and half of them decreased surgical interventions by 50% in order to prioritize COVID patients, thus happening more in hospitals who treat benign urological pathologies.[1]

Specifically, for Functional Urology services, it is reported a decrease in clinical attention for female urology and benign prostatic obstruction (BPO) by 89 and 81% respectively, also a decrease in Urodynamic studies by 87% and surgery events for BPO and female urology by 93 and 95% respectively.[2]

The aim of this article is to submit the impact of the COVID-19 pandemic on Functional Urology patients. In addition to share recommendations in order to prioritize medical attention with such conditions.

Female urology

Ever since the arrival of COVID-19 to our country, it became a challenge for the entire Social Security System. First and foremost, to provide the best medical attention to patients suffering this disease and second, to keep other healthcare areas working including Urology and Urogynecology. As a reference, prior to the beginning of the pandemic, our department (composed of 4 Urogynecologists and 1 Urologist) performed on a weekly basis, approximately 20 surgeries, 20 Urodynamic studies and between 75-90 medical appointments. Our hospital, being one of the largest public Obstetrics/Gynecology hospitals in Mexico City, meant the majority of Obstetric patients were referred here in order to transform local smaller general hospitals into COVID-only care facilities. As a direct consequence, medical appointments, elective Urologic and Urogynecologic surgeries, as well as all Urodynamic studies were cancelled in March 2020 leaving the department staff with less work during the initial COVID-19 outbreak and lockdown since they are considered not urgent.[3,4,5] A COVID exclusive floor and operating room were created to treat suspected infected patients, in an effort to minimize the risk of infection to other patients and Hospital staff.

At the beginning of June 2020, due to the demand of incontinence and pelvic floor consultations, Hospital authorities decided to restart activities of our Department with some special considerations: apart from the necessary personal protection measures (social distancing, face masks, shields and sanitizing), all patients undergoing elective surgery would be tested for COVID-19 a week before their procedures and performing urodynamic studies following the Bristol team recommendations.[2] The aforementioned, whilst not optimal, is the best achievable outcome given institutional budgetary reasons. Aside from patients with risk factors associated to negative COVID-19 tests (advanced age, comorbidities) who were initially excluded, the first group of patients to be considered for priority attention were those with bladder outlet obstruction (BOO) secondary to incontinence surgery in need of prosthetic mesh removal or Burch dismantling.[6,7] The second group were patients with pelvic organ prolapse and BOO. Both groups were considered a priority in order to prevent upper urinary tract dysfunction according to recent guidelines.[7] As every other teaching hospital in the world, we have a steady number of patients suffering from vesicovaginal fistulae with poor life quality due to associated symptoms in need of surgical repair. Contrary to specific recommendations to delay these procedures until the pandemic ends,[8] these patients were also considered a priority at the restart of elective surgeries[9] as long as the recommended period of time for optimal repair was achieved. For other specific urogynecologic surgeries, patients without voiding dysfunction could be delayed indefinitely.[8]

We have a number of patients with pelvic organ prolapse (POP) treated with pessaries, who prior to the pandemic outbreak had appointments every 3 months for follow-up and pessary cleaning. They kept the devices and were provided with warning signs such as bleeding or erosion.

The aforementioned resulted in a decreased productivity of approximately 50%. At the moment none of our department staff has been infected with COVID-19. We believe our pa-

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tients, whilst not suffering from life-threatening medical conditions and therefore not a medical priority during the pandemic, are eligible for treatment with the appropriate measures.

Neurourology

Attention to patients with neurogenic bladder and its complications has changed substantially, needing to prioritize their care, regarding the current pandemic situation. Consultation rooms usually reserved for Neurourology patients were occupied to handle the pandemic emergency in the majority of healthcare facilities, delaying urodynamic studies,[3] intermittent catheterization and surgical programming. Regarding several recommendations, such as those from the Confederación Americana de Urología upon surgical procedures, neurourology surgeries like intravesical application of botulinum toxin, cystolithotripsy, reconstructive surgery and neurostimulation were considered not urgent.[4]

Neurogenic bladder treatment for patients involved in traumatic events during this year and who were diagnosed with spinal cord injury has been delayed, remaining with an indwelling Foley catheter longer than usual, elevating their rate of associated infectious processes. Nevertheless, patients with neurogenic bladder complications, such as Foley catheter obstruction, urethral lesions due to intermittent catheterization and scrotal abscesses have been solved as a matter of urgency in the midst of this pandemic.

Neurourology has importantly modified its rehabilitation processes and treatment for neurogenic bladder. Recommendations made by the International Continence Society to treat these patients include:[5]

1) To delay all surgical procedures with neurourologic indications.
2) To restrict all face-to-face consultations.
3) To encourage telemedicine
4) To treat patients attending rehabilitation facilities for neurologic diseases with personal protection equipment protocols.
5) To reschedule all elective procedures in neurourologic patients.
6) To postpone urodynamic studies in hospitalized and ambulatory patients.

Urodynamic

Urodynamics are the most objective way to study lower urinary tract disfunction symptoms, and is supported by international standards for an adequate control quality.

Several guidelines have currently been published prioritizing medical procedures and suggesting measures in order to reduce person-to-person contact. Nevertheless, urodynamic studies imply close contact with patients, as well as coughing to verify quality control or the loss of stress and being a potential risk for contagion. Therefore, we must ask: What can we do for urodynamic studies in this situation? To prioritize tests.

Just as priority criteria have been created for surgical procedures, this format could be used in order to prioritize urodynamic studies:[2]

Priority 1: There is still no clear identifiable indication to perform urodynamics as a priority.

Priority 2: Risk of deteriorating the upper urinary tract in patients who due to some preexisting condition require urinary diversion, and thus prevent late complications as well as high costs to health system.

Priority 3: Patients with permanent urinary diversion of undetermined cause, pelvic organ prolapses, bilateral hydronephrosis, whose study allows an early intervention as soon as the pandemic allows it.

How to carry out a Urodynamic study during pandemic time, without affecting its quality control?[2]

1) By categorizing the patient's priority.

2) To do an adequate clinical evaluation prior to the study to obtain as much information as possible and to plan the event to decrease its completion time.[2]

3) Both healthcare staff and patients must use personal protective equipment given that placing of any catheter means a high-risk moment during the procedure.

4) To keep a safe distance, from 1.5 to 2 meters. Should urinary leak need visualization, have adequate visual access between the flowmeter and the patient.

5) Quality control: coughing, as guidelines set, may produce air suspended particles, needing to be kept to a minimum while wearing a facemask. To replace coughing by Valsalva maneuver or even by gentle external pressure on the abdomen, to push against a closed glottis or to clear throat.

6) Stress test: in this case, coughing is required. Patients must wear a facemask and face shield at all time, while coughing to an empty space with proper coughing etiquette: to an elbow or a tissue.

Urodynamics, although not a priority assessment, is necessary for the control and prevention of ulterior complications, so we must adapt to this new current world situation without losing quality control and good practices that allow an adequate assessment.

Overactive bladder and benign prostatic obstruction

Unfortunately, overactive bladder (OAB) is located at the last place on the algorithms for Emergency services,[4] surgical treatment and even office attention,[1,5] according to world recommendations for it is not a primary cause of mortality. Nevertheless, a year after the pandemic outbreak, diseases have evolved unto their most preoccupying and rare complications to date; such as post-transplant patients suffering vesicoureteral reflux due to OAB. That is why attention in said patients must not be delayed.

Currently, the Associação Portuguesa de Urologia (APU) and the Polish Urological Association (PUA) issued recommendations upon decreasing contact risk, facing the pandemic on patients during their second phase of neuromodulation surgery.[9] At our hospital (COVID and non-COVID) we have carried them out in an ambulatory manner, such is the case of patients with a first phase of neurostimulation surgery whose second phase could not be delayed due to elevated risk of neuroinfection. Thus, optimizing hospital and budgetary resources.

In the same way, initial recommendations regarding BPO were issued indicating the suspension of non-urgent surgeries. More recently, it was recommended a delay of 12 weeks[11] or 4 months.[8] There even was an increase in cases whose first urological assessment was a urinary sepsis secondary to BPO or obstructive uropathy.[12] To this, we must add treatment difficulties for limited specialty services[13] resources and patients carrying suprapubic or urethral catheters already awaiting long-delayed treatment previous to the pandemic outbreak. **Figure 1**

The extension of the pandemic has forced us to treat COVID and non-COVID patients simultaneously, needing a proper surgical planning for specifically neurourological patients for when the pandemic is over. It is needed to incorporate neurourological patients to treatment algorithms and to integrate them in lesser extent than neoplastic conditions considering

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comorbidities (endangering to organ or function, patients awaiting kidney transplant, patients with history of sepsis secondary to any neurourological condition and requirements for urethral catheters or nephrostomies) and to perform their surgical procedures in an ambulatory manner following the proper security protocols and delaying active COVID patients. **Table 1**

CONCLUSIONS

The praxis of functional urology has seen its diagnosis and management protocols postponed due to this pandemic, which has undoubtedly decreased their quality of life due to receiving immediate healthcare. During the reopening of health services, it will be necessary to carry out

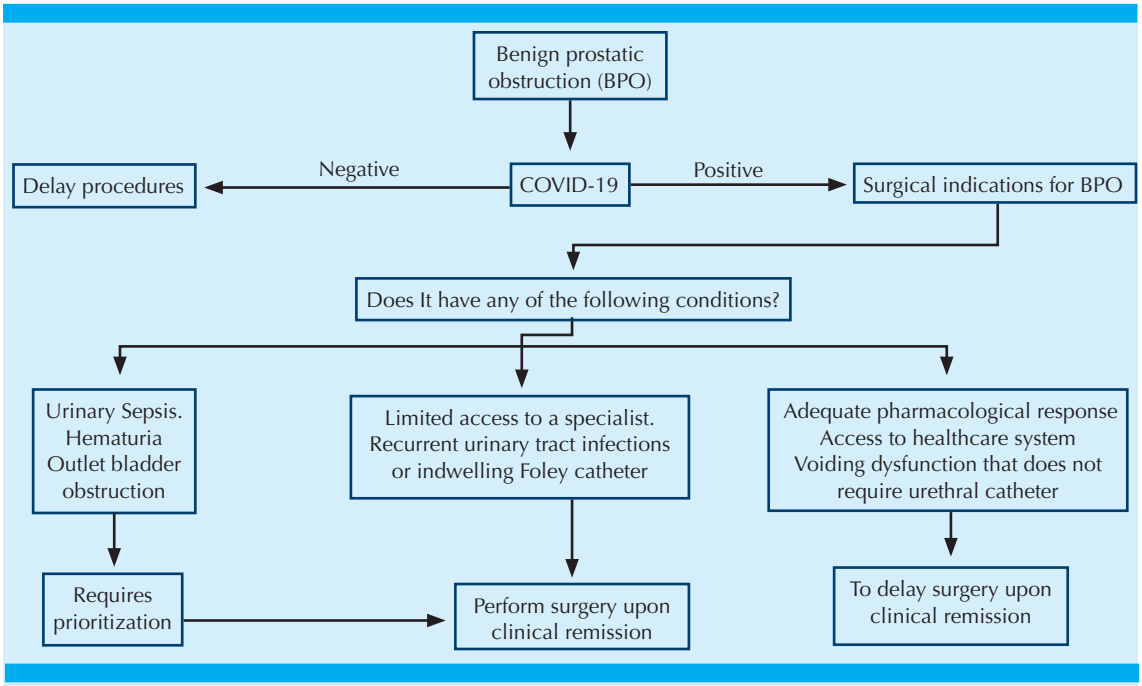

Figure 1. Algorithm for prioritizing patients with benign prostatic obstruction.

Table 1. Recommendations for management of pathologies associated to functional urology according to priority categorization.[6] Benign prostate obstruction (BPO), pelvic organ prolapse (POP)

Recommendation	Example
Emergency. Survivorship compromised if surgery not performed in hours	Acute urinary retention.
Proceed as planned, do not postpone. Survivorship compromised if surgery not performed within days. Unless resources exhausted.	Macroscopic hematuria (with decreased levels of hemoglobin)
Consider delay <1 month. Or proceed as planned if COVID trajectory not in rapid escalation phase.	Sacral implantation Stage 2 Botulinum toxin (patients with high pressure bladders)
Safe to delay 1-3 months. Or proceed as planned if COVID trajectory not in rapid escalation phase.	Urethral diverticulum Mesh removal Urinary fistulae Urinary incontinence surgery POP with urinary tract obstruction
Safe to delay > 3 months	BPO with intermittent clean catheterization or indwelling catheterization POP without urinary tract obstruction

an analysis of the specific requirements for each hospital (staff, budget) in order to prioritize care of those conditions having a direct impact on life without being detrimental to the quality of patient healthcare.

REFERENCES

1. Teoh JY-C, Ong WLK, Gonzalez-Padilla D, Castellani D, et al. A global survey on the impact of COVID-19 on urological services. Eur Urol. 2020; 78 (2): 265-75. https://doi.org/10.1016/j.eururo.2020.05.025
2. Hashim H, Thomas L, Gammie A, Farullo G, Finazzi-Agrò E. Good urodynamic practice adaptations during the COVID-19 pandemic. Neurourol Urodyn. 2020; 39 (6): 1897-901. https://doi.org/10.1002/nau.24441
3. Gravas S, Fournier G, Oya M, Summerton D, et al. Prioritising urological surgery in the COVID-19 era: A global reflection on guidelines. Eur Urol Focus. 2020; 6 (5): 1104-10. https://doi.org/10.1016/j.euf.2020.06.006
4. de la Reza MT, Autrán-Gómez AM, Tardío GU, Bolaños JA, Rivero JCG. Emergency Surgery in Urology during the COVID-19 Pandemic. Int Braz J Urol. 2020; 46 (Suppl.1): 201-6. https://doi.org/10.1590/S1677-5538.IBJU.2020.S125
5. Huri E, Hamid R. Technology-based management of neurourology patients in the COVID-19 pandemic: Is this the future? A report from the International Continence Society (ICS) institute. Neurourol Urodyn. 2020; 39 (6): 1885-8. https://doi.org/10.1002/nau.24429
6. Heldwein FL, Loeb S, Wroclawski ML, Sridhar AN, et al. A systematic review on guidelines and recommendations for urology standard of care during the COVID-19 pandemic. Eur Urol Focus. 2020; 6 (5): 1070-85. https://doi.org/10.1016/j.euf.2020.05.020
7. Grimes CL, Balk EM, Crisp CC, Antosh DD, et al. A guide for urogynecologic patient care utilizing telemedicine during the COVID-19 pandemic: review of existing evidence. Int Urogynecol J. 2020; 31 (6): 1063-89. https://doi.org/10.1007/s00192-020-04314-4
8. López-Fando L, Bueno P, Carracedo D, Averbeck M, et al. Management of female and functional urology patients during the COVID pandemic. Eur Urol Focus. 2020; 6 (5): 1049-57. https://doi.org/10.1016/j.euf.2020.05.023
9. Amparore D, Campi R, Checcucci E, Sessa F, et al. Forecasting the future of urology practice: A comprehensive review of the recommendations by international and European associations on priority procedures during the COVID-19 pandemic. Eur Urol Focus. 2020; 6 (5): 1032-48. https://doi.org/10.1016/j.euf.2020.05.007
10. Jabbar T, Mills S, Simpson R, Jones A, et al. Performance of urodynamics during the COVID-19 pandemic: A questionnaire survey. J Endoluminal endourol. 2020; 3 (3): e13–21. https://doi.org/10.5217/ir.2020.00037
11. Goldman HB, Haber GP. Recommendations for tiered stratification of urological surgery urgency in the COVID-19 era. J Urol. 2020; 204 (1): 11-3. https://doi.org/10.1097/JU.0000000000001067
12. Naspro R, Da Pozzo LF. Urology in the time of corona. Nat Rev Urol. 2020; 17 (5): 251-3. https://doi.org/10.1038/s41585-020-0312-1
13. Porreca A, Colicchia M, D'Agostino D, Amenta M, et al. Urology in the time of Coronavirus: Reduced access to urgent and emergent urological care during the Coronavirus disease 2019 outbreak in Italy. Urol Int. 2020; 104 (7-8): 631-6. https://doi.org/10.1159/000508512

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Uro-oncological care during COVID-19: From the Cuban experience to international recommendations.

Atención de neoplasias urológicas durante la pandemia por COVID-19: de la experiencia cubana a las recomendaciones internacionales

Tania González-León,[1] Edgar Algarin-Villalón,[2] Adolfo García-García,[3] Maykel Quintana-Rodríguez,[1] Isabel García-Morales[3]

Abstract

BACKGROUND: Cancer patients have a higher risk of COVID infection and developing complications.

OBJECTIVE: To present Cuba´s experience in the care of uro-oncological patients within the general scenario of confronting COVID-19 in our country and to comment on the international recommendations.

METHODOLOGY: Thirty-eight articles were selected as well as electronic scientific materials from Pubmed-Medline®, SciELO®, Academic Google® and national and international web pages.

CONCLUSIONS: The Cuban National Health System has distinctive elements to confront COVID-19. Uro-oncological care has not been interrupted. International literature, in general, recommends delaying medical care and initiating cancer treatment whenever it is possible to offer active surveillance or when the cancer is localized. When it is locally advanced or of high risk, the recommendation is not to delay treatment. Uro-oncological care has not been interrupted in Cuba during the pandemic. Delaying medical care of certain types of urological cancers is recommended internationally so as to reduce the risk of contagion and the morbi-mortality increase in this population due to the virus, whenever the benefits outweigh the potential danger of not treating these patients. The recommendations should be acknowledged with flexibility and caution. Studies with a higher level of evidence will be necessary to evaluate the consequences of the pandemic regarding the uro-oncological patient.

KEYWORDS: Coronavirus infections; Cancer; Oncology; Urology; Health Services.

Resumen

ANTECEDENTES: Los pacientes con cáncer tienen mayor riesgo de contraer COVID-19 y sufrir complicaciones.

OBJETIVO: Exponer la experiencia de Cuba en la atención de neoplasias urológicas dentro del escenario general del enfrentamiento a la COVID-19 en el país y comentar las recomendaciones internacionales.

METODOLOGÍA: Se seleccionaron 38 artículos y materiales científicos electrónicos extraídos de Pubmed-Medline®, SciELO®, Google Académico® y páginas web nacionales e internacionales.

CONCLUSIONES: El Sistema Nacional de Salud Cubano, para el enfrentamiento de la COVID-19, tiene elementos distintivos. La atención de los pacientes uro-oncológicos no se ha interrumpido. La bibliografía internacional, en general, recomienda retrasar la atención y el inicio del tratamiento del cáncer cuando existe la posibilidad de brindar

[1] National Center of Minimally Invasive Surgery.
[2] National Institute of Oncology and Radiobiology.
[3] Hermanos Ameijeiras Hospital.

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Correspondence
Tania González León
tania@cce.sld.cu
taniagleon@infomed.sld.cu

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vigilancia activa o está localizado. Cuando el cáncer es localmente avanzado o de alto riesgo se recomienda no retrasar el tratamiento. La atención del paciente uro-oncológico en Cuba no se ha interrumpido durante la pandemia. Internacionalmente, se recomienda retrasar la atención de pacientes con ciertas neoplasias urológicas para reducir el contagio, la morbilidad y mortalidad. Las recomendaciones deben aceptarse con flexibilidad y cautela. Se requieren estudios con mayor nivel de evidencia para evaluar las consecuencias de la pandemia en pacientes con neoplasias urológicas.

PALABRAS CLAVE: Infección por coronavirus; cáncer; oncología; urología; servicios de salud.

INTRODUCTION

The world is living one of the greatest health crisis ever reported in the history of mankind: coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). First identified in the city of Wuhan, China, it spread rapidly throughout the world, which is why the World Health Organization (WHO) declared it a pandemic in February 2020. COVID-19 has had a negative social and economic impact on health systems internationally. But no other region in the planet has been so affected as Latin America.[1,2,3]

Up to this moment in which the writing of this article is completed (February 20) the world has reported 111 million 430 thousand 830 positive cases to the virus and 2 million 467 thousand 342 deaths, which confirms the high mortality rate (2.21) of the disease.[4]

From the very beginning of the pandemic it was seen that patients with a previous history of cancer had a higher risk of contagion and developing complications. Among the risk factors identified as linked to COVID-19 are older age (> 60 years) that is obviously related to a higher presence of comorbidities including cancer, as well as active cancer and these patients ≥ 2 ECOG physical status. Immunosuppression associated with the disease and with antineoplastic therapy as well as greater immune response have been some of the facts stated to explain worse results in these patients.[5,6,7]

This situation has generated recommendations which mainly come from Europe and The United States regarding medical care and above all in cancer patients, to optimize health resources, protect the lives of the patients and health care workers in the particular circumstances the pandemic presents.[8,9,10]

The aim of the following revision is to present the experience of Cuba in the care of uro-oncological patients within the general scenario of confronting COVID-19 in our country and to comment on the international recommendations.

METHODOLOGY

Eighty-two scientific articles were revised in addition to other published materials from January 2020 up to date. References and documents had an electronic format, in two languages, English and Spanish. They were taken from Pubmed/Medline and SciELO® databases. Academic Google® was also searched and web pages of interest to the topic (Infomed, Cubadebate, American Urological Association, and European Urological Association, among others). Taking into consideration their scientific content and quality, 38 were chosen to write this article. The terms used were: COVID-19, coronavirus, cancer, urological cancer.

Cuban scenario confronting COVID-19

The Americas have reported 44.94% of the confirmed patients with COVID-19 worldwide (50

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million 79 thousand 598 cases) and a higher mortality rate (2.36). Meanwhile, Cuba confirmed 44 thousand 523 cases and 291 deaths, since March 2020, (when the first case was reported in its territory) and a mortality rate of 0.68%, lower than that of the region.[4,11]

After being aware of the extension of this disease around the world, the country prepared itself to confront it, with several distinctive elements:

The existence of a National Healthcare System (NHS) which is public, strong and free, organized in levels of medical care that offer the population a universal coverage both medical and epidemiological, that include health promotion actions, as well as preventive actions, in which primary care plays a fundamental role, and has the inter-sectorial approach of health care as one of its principles.[12,13,14,15]

The NHS has 479 623 workers and 86.6 doctors per 10 000 inhabitants. There are 150 hospitals (62.7% have between 100 and 399 beds), 110 intensive care units, 120 municipal intensive care areas and 449 polyclinics.[16]

The national connection of science and technology together with governmental actions to offer a social, scientific, political and sanitary response capable of confronting the de pandemic.[17]

The implementation of a COVID-19 Prevention and Control Plan since the beginning of the pandemic and the definition of three epidemiological stages: stage 1, pre epidemic; stage 2, limited local transmission; and stage 3, epidemic.[12]

The setting up of a multidisciplinary central workgroup to design and develop studies and investigations, foresee possible sanitary strategies and prepare the NHS for the challenge this pandemic represents.[18]

The antecedent of a strong pharmaceutical industry that enabled the use of national products to treat COVID-19.[19,20]

The implementation of a National Protocol to confront COVID-19, which determines healthcare and among other things, since the beginning of the disease in the nation, concentrated the medical care of patients positive to COVID-19 in specific institutions of the NHS, so as to continue giving the upmost medical care to the rest of the patients with diseases unrelated to the epidemic.[21]

COVID 19: Uro-oncological treatment in Cuba and international recommendations

Malignant tumors (C00-C97) are the second cause of death in Cuba, based on the most updated data of the Cuban health statistics information system of 2019. Prostate cancer (C61), unfortunately, is the second cause of death due to malignant tumors and those of the urinary system (C64-C68) are the fifth. The Cuban population shows progressive aging, 20.8% is > 60 years.[16]

As in other sanitary systems at the end of March, in correspondence with the danger of the pandemic spreading nationwide, elective surgery was restricted, except that related to cancer treatment.[21]

In addition to oncological surgery, radiotherapy and chemotherapy were not restricted. In Primary Health Care, the family doctors participated in the update of the personal history of every patient with cancer, so as to have a better control of this vulnerable population group for getting infected with SARS-CoV-2.[22]

The main hospital centers dedicated to uro-oncological surgery in the capital of the country continued operating. The National Institute of Oncology and Radiobiology performed 268

uro-oncologic surgeries in 2020, 85.07% after COVID-19 was detected in Cuba. The total amount of surgeries that year exceeded the 251 uro-oncologic surgeries performed in 2019. Hermanos Ameijeiras Hospital performed 73 uro-oncological surgeries in 2020, 82.1% of them during the pandemic and in 2019 they had performed a similar number of oncological surgical procedures. At the National Center for Minimally Invasive Surgery, 46 patients with cancer (from a total of 172 major surgeries performed /26.7%) were operated on in 2020, a higher percentage regarding 2019 when 44 cancer patients underwent surgery (from a total of 224 major surgeries/19.6%).

Most interventions, in every institution, were related to renal cancer, non-muscle-invasive and muscle-invasive bladder cancer, and prostatic cancer. Other cancers treated were urothelial t tumors of the upper urinary tract, as well as testicular and penile tumors. These Urology Departments also performed ambulatory or very short hospital stay procedures related to the treatment for urinary tract cancers such as cystoscopies, prostatic biopsies and other procedures. The administration of intravesical BCG, as well as chemo and radiotherapy sessions continued.

Uro-oncological care in Cuba was determined by the National Protocol designed to confront COVID-19 taking into consideration the epidemiological characteristics and the particular medical care offered in each institution.[23]

One of the greatest challenges of the pandemic has been considering the risks of a possible exposure of the patient to the viral infection versus cancer treatment. An appropriate balance between risks and benefits should be established to be able to offer the best guidance to patients and relatives. Surgery or the corresponding treatment can be deferred in some cases without the risk of progression, but in others it could be potentially dangerous.[24]

Studies have reported that patients who underwent urological surgeries had a 3% incidence of infection due to SARS-CoV-2 and 1% mortality rate postoperatively. Another factor to keep in mind is that some COVID-19 symptoms are similar to common postoperative complications in urological surgeries. These facts, together with the need to redirect sanitary resources to confront the pandemic and avoid viral infection justify evaluating the need to delay cancer surgery during the pandemic.[25]

Some tools have been proposed to decide surgical priority based on questionnaires such as cross-discipline surgical prioritization (QSP), specialty society expert opinion priority tiering (EOP) or individual surgeon case-by-case priority stratification (ISP) and the American College of Surgeons endorsed the use of a QSP system: Medically-Necessary,Time-Sensitive Procedures (MeNTS) which could also be used in other situations of sanitary crisis to decide which surgeries should not be postponed and this would help restart surgical activity.[26,27]

The European Association of Urology Guidelines established 4 levels of priority for the medical care of urological patients (low, intermediate, high and emergency) based on the risk for clinical damage if the surgery is postponed during the pandemic. General recommendations are offered for surgery in this difficult situation, as well as in the particular case that surgery is required for patients infected with the virus. Furthermore, other assistance aspects beyond surgery that were not commonly used before are advised, such as telemedicine, remote consultation and others to reduce the number of visits the patients make to the hospital and the risk of infection. Regarding the assistance to the oncological patient they suggest, in a general way, to assure continuous medical care based on the available resources.[28]

The recommendations regarding renal tumor surgeries depend on the stage of the tumor; in

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T1 stage surgical treatment can be deferred; from T2 on they should be operated early just as the patients with metastases should be treated. Other researchers assert that in the case of T2 tumors, surgery can also be postponed during the pandemic without risk. In metastatic renal tumors, vascular endothelial growth factor targeted therapy over immunotherapy is advised.[8,9]

In upper tract urothelial carcinoma, the literature recommends not delaying surgery because of the high risk of progression, although other authors have reported that delaying nephroureterectomy up to 12 weeks does not lead to adverse results. In non-muscle invasive bladder cancer, the risk of surgery and intravesical therapy should be considered; and in bladder cancer muscle invasive bladder cancer, surgery should not be deferred for more than 10 weeks, otherwise, radio chemotherapy should be considered.[8,9]

In high risk prostate cancer (PCa) treatment should not be postponed and neo-adjuvant hormonal therapy should be considered. Other authors, however, state that delaying the surgery between 3-6 months in intermediate or high risk PCa does not affect the results. In low risk PCa active surveillance should be used. Other publications assert that most prostatectomies should be deferred.[8,9,29,30]

Testicular, penile and adrenal cancer should be treated as indicated and surgery should not be delayed.[9,30]

In general, in those cancers in which active surveillance can be used, surgical treatment can be postponed; nevertheless, in high risk or locally advanced tumors the delay in beginning treatment could compromise survival. Moreover, comorbidities, the age of the patient and life expectancy should be considered so as to make better decisions.[8]

Some considerations have been published regarding systemic therapy for urinary tract cancers. Delaying the beginning of therapy is an appropriate measure for many therapies in oncological urology when we are in a situation as the pandemic has created. Febrile neutropenia should be avoided and if it happens the dose of the systemic treatment should be adjusted. Immunosuppressive treatments such as steroids are not advisable and prophylactic antibiotics should be used. If administering the biphosfonates exposes the patient to a possible viral infection with SARS-CoV-2, the treatment should be postponed. Adjuvancy and neo-adjuvancy should be analyzed balancing risks and benefits well, but if delaying surgery or radiotherapy is required, neo-adjuvancy could be an appropriate option. In short, systemic therapy should be initiated when the advantages of this treatment for patient survival are clear or when it is administered with curative intentions; in the rest of the cases risks and benefits should be balanced to decide its use.[31]

It is important to mention that everything previously presented regarding international literature are recommendations that should not be rigidly obeyed, they are guidelines to be considered but should be adapted to the specific situation of each territory.

In the context of Cuban Public Health, uro-oncologic patient care continued throughout 2020 without deferring assistance or care. In that period, the number of positive cases and mortality rate due to SARS-CoV-2 showed control of the epidemic. Although in August, the numbers were considered alarming (93 new cases), control measures managed to diminish the number of positive cases, even more in the last months of the year.[32,33]

Unfortunately, at the time in which this article is being written the number of positive COVID-19 cases in Cuba increases, and has exceeded the

total amount of cases during 2020. Nevertheless, cancer patient care has not changed and is one of the top priorities of sanitary assistance.[34]

The consequences of postponing diagnosis and treatment of cancer patients cannot be immediate measures, as has already been stated in the revised literature. This is the reason why the authors of this article are of the opinion that the uro-oncological patient should continue being a top priority, whenever possible, unless the epidemiological context and the resources available prevent it. However, the high COVID-19 mortality and severity in patients with cancer should not be ignored[35-38].

CONCLUSIONS

Uro-oncological care has not been interrupted in Cuba during the pandemic. Delaying medical care of certain types of urological cancers is recommended internationally so as to reduce the risk of contagion and the morbi-mortality increase in this population due to the virus, whenever the benefits outweigh the potential danger of not treating these patients. These recommendations should be acknowledged with flexibility and caution. Studies with a higher level of evidence will be necessary to evaluate the consequences of the pandemic regarding the uro-oncological patient.

REFERENCES

1. Lu H, Stratton CW, Tang YW. Outbreak of pneumonia of unknown etiology in Wuhan, China: The mystery and the miracle. J Med Virol. 2020; 92 (4): 401-402. https://pubmed.ncbi.nlm.nih.gov/31950516/
2. Ferreira R, McGrath M, Wang Y, Sener A, et al. How to prioritize urological surgeries during epidemics: Lessons learned from the Toronto SARS outbreak in 2003. Can Urol Assoc J. 2020; 14 (5): E159-60. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7197958/pdf/cuaj-5-e159.pdf
3. The Editors. COVID-19 in the Americas: We Are in This Together. Med Rev 2020; 22 (2). from: https://mediccreview.org/covid-19-in-the-americas-we-are-in-this-together/
4. CUBADEBATE Cuba cierra este sábado con 1039 nuevos casos positivos, la segunda mayor cifra desde inicios de la pandemia. CUBADEBATE. 2020. http://www.cubadebate.cu/noticias/2021/02/21/cuba-cierra-este-sabado-1039-casos-positivos-la-mayor-cifra-desde-inicios-de-la-pandemia/
5. Kuderer NM, Choueiri TK, Shah DP, Shyr Y, et al. Clinical impact of COVID-19 on patients with cancer (CCC19): a cohort study. Lancet. 2020; 395 (10241): 1907-1918. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7255743/. Erratum in: Lancet. 2020 Sep 12;396(10253):758.
6. Addeo A, Friedlaender A. Cancer and COVID-19: Unmasking their ties. Cancer Treat Rev. 2020; 88: 102041. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7831797/pdf/main.pdf
7. Pathania AS, Prathipati P, Abdul BAA, Chava S, et al. COVID-19 and Cancer Comorbidity: Therapeutic Opportunities and Challenges. Theranostics 2021; 11 (2): 731-753. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7738845/pdf/thnov11p0731.pdf
8. Wallis CJD, Novara G, Marandino L, Bex A, et al. Risks from Deferring Treatment for Genitourinary Cancers: A Collaborative Review to Aid Triage and Management During the COVID-19 Pandemic. Eur Urol. 2020; 78 (1): 29-42. https://pubmed.ncbi.nlm.nih.gov/32414626/
9. Tachibana I, Ferguson EL, Mahenthiran A, Natarajan JP, et al. Delaying Cancer Cases in Urology during COVID-19: Review of the Literature. J Urol. 2020; 204 (5): 926-933. https://pubmed.ncbi.nlm.nih.gov/32692934/
10. Curigliano G, Banerjee S, Cervantes A, Garassino MC, et al. Managing cancer patients during the COVID-19 pandemic: an ESMO multidisciplinary expert consensus. Ann Oncol. 2020; 31 (10): 1320-1335. https://pubmed.ncbi.nlm.nih.gov/32745693/
11. Beldarraín-Chaple E, Alfonso-Sánchez I, Morales-Suárez I, Durán-García F. Primer acercamiento histórico-epidemiológico a la COVID-19 en Cuba. An Academ Cienc Cuba. 2020; 10 (2). http://revistaccuba.sld.cu/index.php/revacc/article/view/862
12. Cuba's COVID-19 strategy: main actions through april 23, 2020. Medicc Rev. 2020; 22 (2). https://mediccreview.org/cubas-covid-19-strategy-main-actions-through-april-23-2020
13. Morales Ojeda R, Bermejo P, Castell-Florit Serrate P, Arocha Mariño C, et al. Transformaciones en el sistema de salud en Cuba y estrategias actuales para su consolidación y sostenibilidad. Rev Panam Salud Pública. 2018; 42: e25. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6385798/
14. Aguilar-Guerra TL, Reed G. Mobilizing Primary Health Care: Cuba's Powerful Weapon against COVID-19. MEDICC Rev. 2020; 22 (2): 53-57. https://pubmed.ncbi.nlm.nih.gov/32478710/
15. Bacallao-Gallestey J. "Universal" doesn't just apply to health care, but to every sector's actions taken to protect the population's health. MEDICC Rev. 2020; 22 (2): 21-23. https://pubmed.ncbi.nlm.nih.gov/32478702/

https://doi.org/10.24245/bcmurol.v36iS1.5478

16. MINSAP. Dirección Nacional de Registros Médicos y Estadística de Salud. Anuario Estadístico de Salud 2019. La Habana: MINSAP; http://files.sld.cu/dne/files/2020/05/Anuario-Electrónico-Inglés-2019-ed-2020.pdf.
17. Díaz-Canel Bermúdez M, Núñez-Jove J. Government Management and Cuban Science in the confrontation with COVID-19. An Acad Cienc Cuba. 2020; 10 (2). http://www.revistaccuba.cu/index.php/revacc/article/view/881/892
18. Beldarraín-Chaple E, Alfonso-Sánchez IR, Morales-Suárez I, Durán-García F. Primer acercamiento histórico-epidemiológico a la COVID-19 en Cuba. An Acad Cienc Cuba. 2020; 10 (2). http://revistaccuba.sld.cu/index.php/revacc/article/view/862/866
19. Rodríguez JL, Odriozola S. Impactos Económicos y Sociales de la COVID 19 en Cuba: Opciones de políticas. Cuba: PNUD; 2020. https://scholar.google.es/scholar?hl=es&as_sdt=0%2C5&q=%22Interfer%C3%B3n+Alfa+2b+humano+recombinante+%22+++%22Covid-19%22+%22Cuba%22&btnG=
20. Martínez Díaz E, Pérez Rodríguez R, Herrera Martínez L, Lage Dávila A, Castellanos Serra L. La industria biofarmacéutica cubana en el combate contra la pandemia de COVID-19. Anales de la Academia de Ciencias de Cuba. 2020; 10 (2): e906. http://www.revistaccuba.cu/index.php/revacc/article/view/9
21. MINSAP. Protocolo vs COVID-19 de abril de 2020. https://instituciones.sld.cu/facultadfinlayalbarran/
22. Rubio MC, Sanchez L, Abreu-Ruíz G, Bermejo-Bencomo W, et al. COVID-19 and Cancer in Cuba. Semin Oncol. 2020; 47 (5): 328-329. https://pubmed.ncbi.nlm.nih.gov/32994047/
23. Ruiz-Torres JF, González-León T, Torres-Peña RC, Guerra-del Valle D, et al. COVID-19 control in a Havana surgical hospital [Letter]. MEDICC Rev. 2021; 23 (1): 10. https://mediccreview.org/covid-19-control-in-a-havana-surgical-hospital/
24. Moschovas MC, Mazzone E, Puliatti S, Mottrie A, Patel V. Selecting the Most Appropriate Oncological Treatment for Patients with Renal Masses During the COVID-19 Pandemic: Recommendations from a Referral Center. Eur Urol Focus. 2020; 6 (5): 1130-1131. https://pubmed.ncbi.nlm.nih.gov/32475783/
25. McDermott A, O'Kelly J, de Barra E, Fitzpatrick F, et al. Perioperative Outcomes of Urological Surgery in Patients with SARS-CoV-2 Infection. Eur Urol. 2020; 78 (1): 118-120. https://pubmed.ncbi.nlm.nih.gov/32425302/
26. Cohn JA, Ghiraldi EM, Uzzo RG, Simhan J. A Critical Appraisal of the American College of Surgeons Medically Necessary, Time Sensitive Procedures (MeNTS) Scoring System, Urology Consensus Recommendations and Individual Surgeon Case Prioritization for Resumption of Elective Urological Surgery During the COVID-19 Pandemic. J Urol. 2021; 205 (1): 241-247. https://pubmed.ncbi.nlm.nih.gov/32716742/
27. Prachand VN, Milner R, Angelos P, Posner MC, et al. Medically Necessary, Time-Sensitive Procedures: Scoring system to ethically and efficiently manage resource scarcity and provider risk during the COVID-19 Pandemic. J Am Coll Surg. 2020; 231 (2): 281-288. https://pubmed.ncbi.nlm.nih.gov/32278725/
28. Ribal MJ, Cornford P, Briganti A, Knoll T, Gravas S, Babjuk M et al. European Association of Urology Guidelines Office Rapid Reaction Group: An Organisation-wide Collaborative Effort to Adapt the European Association of Urology Guidelines Recommendations to the Coronavirus Disease 2019 Era. Eur Urol. 2020; 78 (1): 21-28. https://pubmed.ncbi.nlm.nih.gov/32376137/
29. Ginsburg KB, Curtis GL, Timar RE, George AK, Cher ML. Delayed Radical Prostatectomy is Not Associated with Adverse Oncologic Outcomes: Implications for Men Experiencing Surgical Delay Due to the COVID-19 Pandemic. J Urol. 2020; 204 (4): 720-725. https://pubmed.ncbi.nlm.nih.gov/32356508/
30. Stensland KD, Morgan TM, Moinzadeh A, Lee CT, Briganti A, Catto JWF, Canes et al Considerations in the Triage of Urologic Surgeries During the COVID-19 Pandemic. Eur Urol. 2020; 77 (6): 663-666. https://pubmed.ncbi.nlm.nih.gov/32279903/
31. Gillessen S, Powles T. Advice regarding systemic therapy in patients with urological cancers during the COVID-19 Pandemic. Eur Urol. 2020; 77 (6): 667-668. https://pubmed.ncbi.nlm.nih.gov/32312544/
32. Cuba en Datos: El rebrote más peligroso. CUBADEBATE. 2020. http://www.cubadebate.cu/especiales/2021/02/12/cuba-en-datos-el-rebrote-mas-peligroso/
33. Galbán-García E, Más-Bermejo P. COVID-19 in Cuba: assessing the national response. MEDICC Rev. 2020; 22 (4): 29-34. https://mediccreview.org/covid-19-in-cuba-assessing-the-national-response/
34. Cuba reporta 838 nuevos casos de COVID-19, cuatro fallecidos y 912 altas médicas. CUBADEBATE. 2020. http://www.cubadebate.cu/noticias/2021/02/22/cuba-reporta-838-nuevos-casos-de-covid-19-y-cuatro-fallecidos-video/
35. Sud A, Torr B, Jones ME, Broggio J, Scott S, Loveday C et al. Effect of delays in the 2-week-wait cancer referral pathway during the COVID-19 pandemic on cancer survival in the UK: a modelling study. Lancet Oncol. 2020; 21 (8): 1035-1044. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7116538/pdf/main.pdf
36. Bakouny Z, Hawley JE, Choueiri TK, Peters S, et al. COVID-19 and Cancer: Current Challenges and Perspectives. Cancer Cell. 2020; 38 (5): 629-646. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7528740/
37. Jacob L, Loosen SH, Kalder M, Luedde T, et al. Impact of the COVID-19 Pandemic on Cancer Diagnoses in General and Specialized Practices in Germany. Cancers (Basel). 2021; 13 (3): 408. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7865307
38. Lièvre A, Anthony Turpin A, Ray-Coquard I, Le Malicot K, et al. Risk factors for Coronavirus Disease 2019 (COVID-19) severity and mortality among solid cancer patients and impact of the disease on anticancer treatment: A French nationwide cohort study (GCO-002 CACOVID-19). Eur J Cancer. 2020; 141: 62-81. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7543792

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Acquired resources for the implementation of telemedicine in uor-oncology: Tips for its use and optimization.

Recursos para la implementación de la telemedicina en uro-oncología: consejos para su uso y optimización

Álvaro Yebes,[1] Diego M. Carrión,[1,2] Carlos Toribio-Vázquez,[1] Mario Álvarez-Maestro,[1,2] Alfredo Aguilera-Bazán,[1,2] Luis Martínez-Piñeiro[1,2]

Abstract

BACKGROUND: Telemedicine has emerged as a consequence of advances in telecommunication technologies and changes in the way of interacting with other people. Its use has greatly expanded as a result of the COVID-19 pandemic during 2020. This has meant a change with respect to clinical practice and face-to-face consultations to which we were previously accustomed.

OBJECTIVE: To revise the current evidence about teleconsultation in the context of uro-oncology and to provide some basic recommendations for its development.

METHODODOLOGY: A review of the available literature on telemedicine applied to uro-oncology in PubMed and Embase was carried out, including the following keywords: "telemedicine", "urology" and "oncology". The articles considered as most relevant and updated were selected.

CONCLUSIONS: Telemedicine is a working model that is based on the use of electronic information and telecommunications to provide medical assistance at a distance. Despite certain limitations, it appears to be a safe and efficient management alternative with respect to face-to-face consultations in certain patients. The application of teleconsultation can lead to a reduction in risk and unnecessary visits, which is especially important in uro-oncological patients. Telemedicine in urology seems to have a role in the case of providing remote assistance. Outside the current epidemiological context, its potential use in the future remains to be determined. Following basic guidelines and recommendations can help optimize their use and provide quality medical care.

KEYWORDS: Telemedicine; Telecomunications technologies; COVID-19 pademic; Teleconsultation; Medical assistance; Urology.

Resumen

ANTECEDENTES: La telemedicina ha surgido del avance en las tecnologías de telecomunicación y los cambios en la forma de interaccionar con otras personas. Su uso se ha expandido en gran medida durante la pandemia por COVID-19. Esto ha supuesto un cambio respecto de la práctica clínica y las consultas a las que estábamos acostumbrados.

OBJETIVO: Revisar la evidencia actual acerca de la teleconsulta en el contexto de la uro-oncología y proporcionar recomendaciones básicas para su desarrollo.

METODOLOGÍA: Revisión de la bibliografía disponible acerca de la telemedicina aplicada a la uro-oncología en PubMed y Embase, incluídas las siguientes palabras clave: "telemedicina", "urología" y "oncología". Se seleccionaron los artículos más relevantes y actualizados.

CONCLUSIONES: La telemedicina es un modelo de trabajo que se basa en el uso de la información electrónica y las telecomunicaciones para proporcionar asistencia médica a distancia. A pesar de ciertas limitaciones, parece una alternativa segura y efectiva respecto de las consultas presenciales en determinados pacientes. La aplicación de la

[1] Urology Department, La Paz University Hospital, Madrid, Spain. Autonomous University of Madrid, Madrid, Spain.
[2] La Paz University Hospital Institute for Health Research (IdiPAZ), Madrid, Spain.

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Correspondence
Diego M. Carrión
diegocarrionm@hotmail.com

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teleconsulta puede suponer una reducción del riesgo y de las visitas prescindibles, de especial importancia en los pacientes uro-oncológicos. La telemedicina en urología tiene un papel importante para proveer asistencia a distancia. Fuera del contexto epidemiológico actual, queda por determinar su potencial uso en el futuro. El seguimiento de las normas y recomendaciones básicas puede ayudar a optimizar su uso y proporcionar asistencia médica de calidad.

PALABRAS CLAVE: Telemedicina; tecnologías de telecomuncación; pandemia por COVID-19; teleconsulta; asistencia médica; urología.

INTRODUCTION

The current pandemic situation due to coronavirus disease (COVID-19) has been an unprecedented situation in the field of contemporary medical care that has led health personnel to adapt to this new stage. Not only do the government measures in relation to mobility controls and social distancing draw attention, but there have also been numerous changes within the hospital environment that have had an impact on the way we practiced clinical medicine. The redistribution of resources and prioritization by pathologies have been some of the pillars on which patient care has been restructured.

Urological pathology, due to its great variety, includes patients in various age ranges, of which a large percentage corresponds to patients over 60 years of age, especially in the case of oncologic disease and age-driven benign pathology. These older patients, which the majority are males, are at the highest risk of complications from COVID-19 disease.[1,2] With the aim of protecting patients and physicians from unnecessary exposures both in the context of routine and urgent medical visits, and optimizing the consumption of medical resources, a series of measures have been implemented with the help of technology.

That is why many centers have begun to apply telemedicine to replace previous on-site care activity.[3] Despite the fact that this modality has gained much popularity as a result of the COVID-19 pandemic, it should be remembered that its use had already been described as a successful strategy previously in many specialties, including urology.[4] Other exceptional situations such as the severe acute respiratory syndrome (SARS) epidemic in 2003 in Taiwan, or more recently the epidemic caused by the H7N9 virus in 2013 in China, have required the use of telemedicine for the care of isolated patients.[5] Before 2020, telemedicine applied to urology had already been evaluated by some authors who defended it as an efficient and useful tool for reducing contacts between patients, reducing infection rates among health personnel, and allowing continuity of care health from one's own home.[6]

The main objectives of telemedicine at the present time are the prevention of COVID-19 virus infections in both patients and professionals by reducing unnecessary travel, reducing crowds in places where it is difficult to maintain interpersonal distance and safety measures and the reduction of the medical care burden in the centers that may require a restructuring of the functions of their staff. All this should provide patients with quality remote medical care in the most comprehensive and decisive way possible.

In this article, we carry out a review of the available medical literature on the practice of telemedicine applied to uro-oncology, as well as recommendations for its correct application. We searched for the most relevant articles in PubMed and Embase with the the following keywords: “telemedicine”, “urology” and “oncology”. The articles considered as most relevant and updated were selected for this review.

Dealing with telemedicine and working from home

Telemedicine, like face-to-face work, requires organization, order and discipline. Being a working modality that we may not be used to, it can be a challenge to face telematic work. Maintaining healthy habits and routines helps improve productivity.[7]

Every health system should be responsible for providing its workers with adequate software to perform the same tasks as in a routine consultation. The ideal location to carry out telemedicine is a closed and private place, such as an office of the hospital itself. In case of working from home, remote access to the institution's resources must be provided. In the latter case, each doctor should set up an adequate space with an appropriate environment that allows the confidentiality of the patient to be preserved and that transmits professionalism. Some basic equipment is necessary, which includes a computer, a microphone, and a video camera or a telephone, internet connection. **Figure 1**

Figure 1. Photograph showing an example of the preferable space for teleworking with good lighting and an ergonomic environment. The standard equipment necessary for teleconsultation is also appreciated: a computer with an adequate computer system, headphones, a web camera and a telephone.

Teleconsultation modalities

The various modalities of contact with the patient include text messages, emails, telephone calls, video calls, and the use of specific software for both computers and mobiles. The possibility of using one or the other tool depends in part on the patient's and healthcare provider's resources, with the conventional telephone call being the most accepted especially in older patients or in less developed areas that are not so familiar with new technologies.

The video call is apparently the most similar to the face-to-face visit and interactive way of teleconsultation. It has the benefit of allowing, albeit in a limited way, the role of non-verbal communication, and the performance of a guided physical self-examination by the patient. The main limitations of video calling, apart from its availability by patients, are the training of medical personnel for its use, the requirement of video cameras, a fast Internet connection from the workplace that allows good video quality, and adequate software. If a video call could not be carried out due to connection or other technical problems, a conventional telephone call should be chosen.

Regarding the platforms developed specifically to provide virtual medical care, the EPIC® (EPIC, Verona, USA) and NHS Attend Anywhere® systems stand out, implemented in the USA and the United Kingdom respectively.[3] These telehealth platform options may be limited in many countries or healthcare systems due to privacy, billing, and cost issues.

Privacy

Another key element in telemedicine is ensuring privacy that complies with current regulations. In the case of urological and more specifically, uro-oncology consultations, this issue becomes even more relevant. Records and data must be

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electronic in compliance with privacy and data protection regulations. Each country, health system, and even every hospital may have different programs and protocols for safe control of personal and medical data, complementary tests or laboratory analysis. Every clinician should be able to have secure access from any computer or device anywhere, even through a virtual private network (VPN) provided by their institution if necessary.

Regarding contact with the patient, although some platforms such as Facetime, Hangouts, Zoom or Skype have been used, they do not comply with the basic standards required in many countries in terms of data protection.[8] However, there are software platforms available integrated into the electronic medical records system of the health center that allow greater security: Zoom for Healthcare®, Skype for Business®, Doxy.me®, Updox®, Vsee®, Microsoft Teams®, Google G Suite®, and Hangouts Meet®.[9] Although platforms provided by the institution are the most recommended, it is important to adjust the consultation process to fit the patients' resources and capabilities.[7] Moreover, it is strongly advised to check the local regulations with the appropriate clinical administrator before conducting a telemedicine practice.

Planning and organization of teleconsultation

Regarding the scheduling of the consultation, it is desirable that patients can have different methods for the appointment through websites, emails, telephone numbers or mobile applications. These appointments must be confirmed in advance as a reminder (through a phone call, text message, or email), communicating to the patient the non-presence nature of the consultation and the convenience of reserving a margin of time in their activities of the day, dedicated to their medical consultation. Likewise, it would be convenient to clarify at that time the means available to the patient in order to choose the best one for the visit, being preferable, as previously mentioned, that of video calling.

In case of not having clinical data of the patient because it is a first consultation or a patient referred from another center, it would be appropriate to provide a form to upload reports or diagnostic tests that can be evaluated by the physician in advance. A telemedicine agenda must be generated and managed with the help of the nurse and administrative staff. Telemedicine has the great advantage of allowing flexible planning compared to regular face-to-face visits.

Optimizing the planning of the teleconsultation in advance is important for efficient medical care. It is advisable to carry out a previous triage to differentiate between different groups of cancer patients. Patients can be classified into groups, for example, patients on their first consultation, patients who come for an outpatient procedure, patients who come for results of complementary tests, patients with a diagnosis who potentially need surgical intervention, patients who come for treatment, patients on follow-up consultation or others. Some examples of which conditions could be managed safely with teleconsultation during the pandemic time can be found in.[10] **Table 1**

Development of the medical consultation

Every virtual medical consultation should begin with a general introduction in which the official character of the consultation, the possible technical problems and limitations in terms of medical evaluation that may arise from an unconventional visit are clarified to the patient. The interviewer must introduce himself by his full name unless the patient knew his physician beforehand. The guarantee of privacy must also be always transmitted, which will help to establish a relationship of trust between physician and patient.

Table 1. Modified from: Recommendations for the management of some of the most frequent reasons for consultation in urological practice during confinement measures. Modificed from: Carrion DR, et al.[7]

Disease	Accepted management	Teleconsultation is possible	Face-to-face consultation may be delayed for ≤ 3 months	Requires a face-to-face consultation
Bladder cancer (BC)	Diagnostic cystoscopy to study macroscopic haematuria			X
	Follow-up cystoscopy in low- or intermediate-risk BC		X	
	Follow-up cystoscopy in high-risk BC			X
	Intravesical induction BCG therapy for high-risk BC			X
	Maintenance intravesical therapy with BCG / Chemotherapy for low- or intermediate-risk BC		X	
	Removal of bladder catheter after TURBT			X
	Removal of bladder catheter after radical cystectomy + orthotopic neobladder reconstruction			X
	Information about histopathology results following TURBT or radical cystectomy	X		
Prostate cancer	Prostate biopsy (if low- or intermediate-risk disease is suspected)		X	
	Prostate biopsy (if high-risk disease is suspected)			X
	Information about prostate biopsy results	X		
	Initiation of androgen deprivation therapy	X		
	Follow-up <6 months after surgery (without recurrence)		X	
	Follow-up >6 months after surgery (without recurrence)	X		
Kidney cancer	Information about histopathology results following partial or radical nephrectomy	X		
	Follow-up <6 months after surgery (without recurrence)		X	
	Follow-up >6 months after surgery (without recurrence)	X		
Testicular cancer	First consultation for testicular mass			X
	Information about histopathology results following radical orchiectomy	X		
	Follow-up <6 months after surgery (without recurrence)	X		
	Follow-up >6 months after surgery (without recurrence)	X		

Additionally, it is reasonable to obtain verbal consent from the patient to carry out the consultation online instead of a regular clinic visit. In the clinical record, the patient's consent and the virtual nature of the interview should be noted.[7,10]

The basic principles of a medical appointment should also be applied on a telematic consultation, without forgetting some additional ones.[11,12]

Firstly, in the case that data such as laboratory tests or imaging results may not be provided online, extra time and as much effort as possible should be put into fully collecting this data verbally from the patient, paying special attention to the units used on lab reports. Secondly, and given the exceptional context of the COVID-19 pandemic, it is important to screen for coronavirus disease using simple epidemiological and symptomatic questions. Also, social distancing

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and thus perceived isolation may be a risk factor in developing or exacerbating a preexisting depression or anxiety disorder, which is a special concern in the uro-oncologic population. Every interview in the era of the COVID-19 pandemic should be aimed to first screen the patient for both suspicious COVID-19 symptoms and possible mental health issues.[13] Fourthly, it is also of great interest to identify signs or symptoms suggestive of urgent urological pathology for which the patient should be referred to the emergency department, which is essential in fragile cancer patients. Fifthly, depending on the perceived quality of communication, in order to mitigate the risk of misunderstanding, it would be reasonable for the physician to paraphrase the collected data and ask the patient to confirm its correctness. If possible, a summary of the consultation or the recommendations should be provided on-line to the patient, as well as the appropriate contact details, should the patient have any doubts or late questions.

Once the consultation is finished, all the reports, results, and requests for complementary diagnostic tests must be sent to the patient via encrypted email or via postal mail.

Another aspect that also concerns some uro-oncological patients is the use of devices such as temporary or permanent urethral catheters, suprapubic catheters, nephrostomy catheters or urinary diversions through stomata. The face-to-face learning for its management can be partly replaced by photographic or video tutorials designed specifically for it, being able to be a complementary tool to home care by nursing teams. Likewise, the implementation of nursing teleconsultations to resolve doubts regarding derived problems may be interesting.[14]

Patient self-education

One of the advantages of the use of new technologies for medical care is the easy access of patients to information concerning their disease and data about its management, as well as advice and recommendations for possible arising complications. Taking advantage of the use of online applications and platforms, we have the opportunity to provide our patients with accurate information and educational materials, in a way that encourages patient self-education. In this way, patients may become more familiar with their conditions and we also avoid the confusion that the information that can be found on the internet may generate for the patient. We propose as an example, the materials that can be found on the website of the European Association of Urology Patient Information website (https://patients.uroweb.org). Moreover, the patient should be guided to familiarize themselves with the help of patient organizations.

Maintaining contact with other specialists

It is essential to understand uro-oncological medical care as a coordinated team effort between different professionals that include urologists, nurses, technicians and administrative personnel. Therefore, this coordination should not be lost in the context of telemedicine, and efforts should be made to pursue smart-working models. Likewise, regular contact with the rest of specialists involved in the comprehensive care of uro-oncological patients (radiologists, medical oncologists, radiation oncologist, pathologists, etc) must be ensured, even maintaining the development of virtual multidisciplinary sessions on a regular basis.[10,15] Telecommunication between professionals should not be an excuse to skimp on resources that seek to provide quality medical care to our patients.

Many of the software mentioned previously allows the participation of several members in a conversation at the same time, being useful to include relatives of the patient, other health experts, or even language interpreters.[16] Regarding the latter, difficult communication with a

patient due to the language barrier is not uncommon. Some platforms, such as EPIC® or NHS Attend Anywhere®, do not directly allow a solution to this problem.[15] Consequently, institutions should provide access to a "language line" to facilitate translation services.

DISCUSSION

The circumstance of the COVID-19 pandemic has led to a disruption in the way of communication with patients in our environment. Professionals in specialties such as urology have had to adapt their services and benefits to remote assistance in order to continue their activity. Telemedicine, as a previously undervalued tool, has gained prominence, proving to be useful to face the difficulties presented.

Giving its proper use and always being aware of its limitations, telemedicine has an opportunity as a safe and efficient alternative for the management of uro-oncological patients in some situations. It is important to be aware that the great variety of uro-oncological patients, due to their great heterogeneity, cannot be managed in the same way. Apart from follow-up check-ups, new patients, or those with symptoms suggestive of a complication may not be a subsidiary of online consultation and may require a physical encounter anyway.

As a basis for this system, it highlights the importance of carrying out a good triage of patients who can benefit from this type of health care assistance. Although there are no clinical guidelines on telemedicine in urology, we have set out our recommendations following what a quality standard should entail. An infographic summary of some of them can be found in **Figure 2**.

The practice of telemedicine is evolving day by day and a constant improvement of services is taking place. Physicians are acquiring more

Figure 2. Some of the proposed principles, recommendations, and tips for the organization of a successful teleconsultation practice.

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practice and skill in handling complex situations in the context of care by phone or video calls. However, once the current circumstances are overcome, several questions could arise about the future of telemedicine. Could teleconsultation be safely integrated into routine clinical practice in uro-cancer patients? What is the level of quality perceived by patients? Can teleconsultation be a more efficient tool for the management of patients in cancer follow-up? These doubts can probably be clarified as the practice of telemedicine becomes widespread and its use expands over longer periods of time.

CONCLUSIONS

Telemedicine and more specifically teleconsultation seems to provide adequate remote support for urologists specialized in oncology in special situations. This new tool is postulated as a logistically feasible alternative to conventional face-to-face consultation. Based on our experience and that of other groups of authors, we have presented key recommendations and advice that should be applied when conducting a teleconsultation practice. Looking ahead, the role of telemedicine in routine clinical care remains to be established, although to date it appears to be a promising opportunity.

Nevertheless, we need further evidence from strong studies that assess the safety and efficacy of the multiple experiences with all forms of telemedicine during the COVID-19 pandemic, this is paramount for validating telemedicine practices in case of future health crisis.

REFERENCES

1. Grasselli G, Zangrillo A, Zanella A, Antonelli M, et al. Baseline Characteristics and Outcomes of 1591 Patients Infected with SARS-CoV-2 Admitted to ICUs of the Lombardy Region, Italy. JAMA. 2020; 323 (16): 1574-81. https://doi.org/
2. Thapa BB, Shrestha D, Bista S, Thapa S, et al. Urology during COVID-19 Pandemic Crisis: A Systematic Review. Surg J. 2021; 07 (01): e3–10. https://doi.org/10.1055/s-0040-1722341
3. Connor MJ, Winkler M, Miah S. COVID-19 pandemic – is virtual urology clinic the answer to keeping the cancer pathway moving? BJU Int. 2020; 125 (6): E3-E4. https://doi.org/10.1111/bju.15061
4. Ellimoottil C, Skolarus T, Gettman M, Boxer R, et al. Telemedicine in Urology: State of the Art. Urology. 2016; 94: 10-6. https://doi.org/10.1016/j.urology.2016.02.061
5. Ohannessian R, Duong TA, Odone A. Global Telemedicine Implementation and Integration Within Health Systems to Fight the COVID-19 Pandemic: A Call to Action. JMIR public Heal Surveill. 2020; 6 (2): e18810. https://doi.org/10.2196/18810
6. Miller A, Rhee E, Gettman M, Spitz A. The Current State of Telemedicine in Urology [Internet]. Vol. 102, Medical Clinics of North America. W.B. Saunders; 2018, 387-98.
7. Rodriguez-Socarrás M, Loeb S, Teoh JYC, Ribal MJ, et al. Telemedicine and Smart Working: Recommendations of the European Association of Urology. Eur Urol 2020; 78 (6): 812-819. https://doi.org/10.1016/j.eururo.2020.06.031
8. Mehrotra A, Ray K, Brockmeyer DM, Barnett ML, Bender JA. Rapidly Converting to "Virtual Practices": Outpatient Care in the Era of Covid-19. 2020; https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0091
9. Carrion DM, Gomez Rivas J, Rodriguez-Socarras ME, Mantica G, et al. Implementation of Remote Clinics in urology practice during the COVID-19 era: What have we learned? Arch Esp Urol. 2020; 73 (5): 345-52.
10. Sosnowski R, Kamecki H, Joniau S, Walz J, et al. Introduction of Telemedicine During the COVID-19 Pandemic: A Challenge for Now, an Opportunity for the Future. Eur Urol. 2020; 78 (6): 820-1. https://doi.org/10.1016/j.eururo.2020.07.007
11. Gadzinski AJ, Ellimoottil C. Telehealth in urology after the COVID-19 pandemic. Nat Rev Urol. 2020; 17 (7): 363-4. https://doi.org/10.1038/s41585-020-0336-6
12. Santini ZI, Jose PE, York Cornwell E, Koyanagi A, et al. Social disconnectedness, perceived isolation, and symptoms of depression and anxiety among older Americans (NSHAP): a longitudinal mediation analysis. Lancet Public Heal. 2020; 5 (1): e62–70. https://doi.org/10.1016/S2468-2667(19)30230-0
13. Simonato A, Giannarini G, Abrate A, Bartoletti R, et al. Clinical pathways for urology patients during the COVID-19 pandemic. Minerva Urol e Nefrol. 2020; 72 (3): 376-83. https://doi.org/10.23736/S0393-2249.20.03861-8
14. Gómez-Rivas J, Rodríguez-Serrano A, Loeb S, Yuen-Chun Teoh J, et al. Telemedicine and smart working: Spanish adaptation of the European Association of Urology recommendations Actas Urol Esp. 2020; 44 (10): 644-52. https://doi.org/10.1016/j.acuro.2020.08.010
15. Gadzinski AJ, Gore JL, Ellimoottil C, Odisho AY, Watts KL. Implementing Telemedicine in Response to the COVID-19 Pandemic. J Urol. 2020; 204 (1): 14-6. https://doi.org/10.1097/JU.0000000000001033

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Prostate cancer in the COVID-19 era: What should we know from an oncologist's perspective?

Cáncer de próstata en la era del COVID-19: ¿Qué debemos saber desde la perspectiva oncológica?

Homero Fuentes-de la Peña,[1] Jesús Salas-Ochoa,[2] David Ramírez-Viramontes,[2] Emilio Olloqui-Salas,[2] Eduardo Estrada-Vázquez[2]

Abstract

The world has changed since SARS-CoV-2 and its variants emerged, however, we cannot fail to address the cancer pandemic, particularly, that of Prostate Cancer, the most common among adult males. Faced with this "new normal" in the COVID-19 era, there is a clear necessity to "Triage" or "prioritize and categorize" patients with advanced Prostate Cancer (aPC), for their proper care, which is practically mandatory, even though our health system is presented with serious deficiencies and shortages, while also treating a viral pandemic.

In this article we review the actual treatments for aPC in the COVID-19 era. These advanced prostate cancer patients are the main focus of medical oncologists in any of their three modalities: Metastatic Hormone-Sensitive Prostate Cancer (mHSPC), Nonmetastatic Castration-Resistant Prostate Cancer (nm-CRPC), and Metastatic Castration-resistant Prostate Cancer (mCRPC). We review the concepts of medical and surgical castration, androgen deprivation therapy (ADT), skeletal-related events (SREs) and its complications, bisphosphonates, the role of peripheral androgen blockade, androgen synthesis inhibitors, radiopharmaceutical and cytotoxic agents, radiotherapy, PARP inhibitors, immunotherapy, and new therapies under development in a modern context. Likewise, we mention the importance of Quality of life (QoL) and early palliative care instauration needed, which should be unpostponable even though we are facing the COVID-19 pandemic.

KEYWORDS: SARS-CoV-2; COVID-19 pandemic; Prostate; Triage; Medical oncologist; Castration resistant prostate cancer; Surgical castration; Androgen deprivation therapy; Androgen synthesis inhibitors; Cytotoxic agents; Immunotherapy; Quality of life.

Resumen

El mundo ha cambiado desde que surgieron el SARS-CoV-2 y sus variantes; sin embargo, no podemos dejar de lado el cáncer, en particular el de próstata, que supone el más frecuente entre los hombres. Con la "nueva normalidad" en la era del COVID-19, existe una clara necesidad de "Triage" en los pacientes con cáncer de próstata avanzado para su adecuada atención, que es prácticamente obligatoria, aunque nuestro sistema de salud tiene serias deficiencias y carencias, y al mismo tiempo trata una pandemia viral. En este artículo revisamos los tratamientos para el cáncer de próstata avanzado durante la pandemia por COVID-19. Los pacientes con esta neoplasia son el foco principal de los oncólogos en cualquiera de sus tres modalidades: cáncer de próstata metastásico sensible a hormonas, y cáncer de próstata metastásico y no mestastásico resistente a la castración. También se revisan los conceptos de castración médica y quirúrgica, terapia de privación de andrógenos, eventos relacionados con el esqueleto y sus complicaciones, bisfosfonatos, función del bloqueo androgénico periférico, inhibidores de la síntesis de andrógenos, radiofármacos y citotóxicos, radioterapia, inhibidores de PARP, inmunoterapia y terapias en desarrollo en el contexto moderno. Asimismo, informamos la importancia de la calidad de vida y la instauración temprana de los cuidados paliativos necesarios, que no debieran posponerse aún durante la pandemia por COVID-19.

PALABRAS CLAVE: SARS-CoV-2; pandemia de COVID-19; próstata; Triage; oncólogos; cáncer de próstata resistente a la castración; castración quirúrgica; bloqueo androgénico periférico; inhibidores de la síntesis de andrógenos; agentes citotóxicos; inmunoterapia; calidad de vida.

[1] Oncolgist, Principal of ProOncavi (ProOncología y Calidad de Vida).
[2] Urology Department, Hospital de Especialidades Centro Médico Nacional de Occidente (IMSS), Guadalajara, Jalisco.

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Correspondence
Homero Fuentes de la Peña
doctorhomerofuentes@live.com.mx

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INTRODUCTION

The world has suffered an everlasting change. For us it is very clear that life as we knew it until 2019 will never be the same. With this pandemic we must get used to SARS-CoV-2, its variants, and new ones to come, which are here to stay whether we like it or not or accept it or not. There is a saying that states that this world belongs to the strong. Today we believe it belongs to those who adapt better and faster to the so called "new normality".

Speaking about epidemiology concepts, what about that which concerns cancer? In this article we will address the Prostate Cancer epidemic. I would say that the real importance of it revolves around two central aspects, the first being the transcendence of its "numbers", by being the most frequent cancer in males, and conversely, the fact that we are in an historical moment of therapeutic transition in advanced aPC, in which exist "endless" research papers of actual therapeutic approaches. In this publication we will approach therapeutic considerations in a summarized manner in relation to their clinical importance, taking into account that it is impossible to fully address them all.

As medical oncologists, we get to observe the advanced disease. Today there exist numerous modern therapeutic approaches that force us, as professionals, to be constantly updating. We see that mortality rates in Latin America are comparable to those of first world countries like the United States, Canada, and central Europe[1] but with an incidence 3-4 times lower, manifesting inferior therapeutic results probably related to late diagnosis, with limited access to health services and lifestyle (ex. obesity estimated at 72.5% of the adult population of our respective countries).

If we add the COVID-19 pandemic to this issue, we get a perfect "broth culture" for all kind of setbacks, actually, bringing to light decades of deficiencies in the Mexican public healthcare system. Mortality rates have been very high, and we couldn't expect another result, so patients with aPC are not getting a proper "prioritization and categorization" based on their risk and feasibility in deferring therapeutic modalities and palliative care. Clearly, if the previous statement is not addressed, it will cost us more lives.

The three modalities of patients with advanced aPC previously mentioned need expensive medical treatments, healthcare services, and early instauration of palliative care (ideally started at diagnosis), allowing patients to achieve significant improvement in QoL, so we must never wait until a disease progresses to terminal phases to take action.

The different scenarios of action for oncologists include the following:

1) **Metastatic Hormone-Sensitive Prostate Cancer (mHSPC):**
   First of all, it is worth mentioning that treatment doesn't have curative intent, and that these M1 patients are very heterogenous. In Mexico and many Latin American countries, 30-50% of patients with mHSPC start to receive treatment in this stage of their disease[1]. There are substantial differences between patients with local aPC and those with bone or visceral metastases, with significant variations in cancer-specific survival.

   Skeletal-related events (SREs) are common complications of bone metastases and could bring severe structural, functional, or metabolic consequences. SREs have a negative impact on QoL and get a hold of the economics of patient safety, which in turn adds the need for immediate palliative care, one example being medullar compression that is present in 10% of cases[1]

and will require analgesics, nonsteroidal anti-inflammatory drugs, steroids, opioids, bisphosphonates, monoclonal antibodies, radiopharmaceutical agents, radiotherapy, and sometimes surgical stabilization of osteolytic structural abnormalities.

Nowadays, NCCN guidelines[2] largely guides oncological therapeutic behavior, suggesting zoledronic acid and denosumab as two reasonable alternatives for bone protection.

Most patients with significant bone metastatic lesions manifest pain. For them the more adequate therapeutic options are External Radiotherapy (ET) and Radium 233 Dichloride, which is an alpha emitter that selectively targets bone metastases. The difference between Radium 233 and beta emitters (samarium-153 and strontium-89) lies in the former which is a high linear energy transfer (LET) with little tissue penetration.[3]

The systemic cornerstone of treatment for mHSPC is the so-called Maximal Androgen Blockade (MAB), using androgen deprivation therapy (ADT) with medical (Leuproreline, Gosereline, Triptoreline, etc) or surgical (bilateral orchidectomy) castration, while also using or adding an antiandrogen, which acts as a competitive molecule at the Androgen Receptor (AR) level inside the cell, preventing its activation, thereby promoting its apoptosis, having at our disposal 3 groups: 1st generation (Flutamide and Nilutamide), 2nd generation (Bicalutamide) and 3rd generation (Enzalutamide, Apalutamide and Darolutamide).

The total testosterone level for defining castration for more than 40 years has been < 50 ng/dL and nowadays it continues to be the approved value, however, in recent years there seems to be the conviction that values < 20 ng/dL are more reliable[1], and using MAB to reach those levels is easily and rapidly achievable in most patients with mHSPC.

We emphasize that only 3rd generation anti-androgens, along with their hormonal action, suppress tumor growth. Existing different trials/studies show increased global survival (GS) and progression free survival (PFS) like SPARTAN[4] and TITAN[5] with Apalutamide, ARAMIS with Darolutamide[6] and CHAARTED with Cabazitaxel and Abiraterone after initially using Docetaxel.[7] Abiraterone is an inhibitor of androgen biosynthesis, and although its actions are anti-androgenic its composition and mechanisms of action differ from classic anti-androgens. Its results are comparable to those of Enzalutamide.

Recently, the FDA approved adding Docetaxel to MAB in mHSPC. Based on the results in the aforementioned CHAARTED[7] and STAMPEDE[8] shortly after, adding Abiraterone was evaluated in the same scenario by STAMPEDE[8] and by LATITUDE in 2017. Both showed improved GS. Moreover, ARCHES, PROSPER, ENZAMET and PREVAIL[9] showed increased GS with Enzalutamide in phase III protocols, allowing different and efficient professional options for achieving beneficial therapeutic results in accordance with NCCN guidelines.[2]

We must be very wary when assessing patients with aPC in our new COVID-19 era. The results that we just reviewed show in a way an unquestionable benefit. The delay or suspension of treatment must not happen because postponement of therapy will affect QoL, nor add diver-

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se complications like demineralization with or without fractures, obesity or sarcopenia, metabolic syndrome, cardiovascular disease, fatigue, depression and anxiety. We must take into account that many of these patients are "vulnerable or fragile" whether it is at the expense of their age or pathological condition.

2) **Non-metastastic Castration-Resistant Prostate Cancer (nm-CRPC):**
Between 20-40% of patients with radical prostatectomies and between 30-50% of patients treated with Radiotherapy for localized aPC will have biochemical recurrence within the first 10 years following such therapeutic approaches[1],and most of them will initially respond to ADT, but eventually will present progression within the first 5 years, without showing distal metastases, but rather PSA elevation. Most patients continue to be asymptomatic for long periods of time, but 33% will develop metastases within the first 2 years, showing that a main challenge is to delay this phenomenon and improve GS, PFS, and patients QoL.

Today, new imaging techniques and next generation imaging (RADAR III),[10] like PET-TC, are more efficient in detecting metastases, although the aforementioned studies PROSPER, SPARTAN, ARAMIS and some others, employed traditional imaging techniques to determine M0 status, and PET-TC has not been considered in these studies. It is disturbing that the previously mentioned pharmaceutical drugs that have a positive impact on M1 disease could potentially show broader benefits in M0 patients, which leads to an increased level in curiosity for studying their earlier use, particularly when in recent years we are able to detect bone lesions in a more premature and efficient manner.

Apalutamide is a potent AR antagonist with antineoplastic activity studied in SPARTAN[4] and TITAN;[5] 2021 ASCO-GU[5] shows that PFS and total progression time in TITAN were significatively higher than placebo, and in their reported time of the first analysis for 27 months. It now reports a duration of almost 4 years and the benefit continues to be there, with an excellent safety profile, reporting an additional 35% reduction in mortality risk. Conversely, SPARTAN states that in this group of patients QoL remains unchanged, so its usefulness today is being studied in other clinical stages of the disease.

Other clinical studies like ATLAS, ACIS (interesting a trial using Apalutamide + Abiraterone scheduled to end in August 2021), and newer versions of SPARTAN and TITAN, and PROSPER with enzalutamide, along with a review of ARADES and ARAFOR,[12] and of course ARAMIS (6) with Darolutamide, are reporting similar benefits in efficacy with QoL, so why should we withhold nm-CRPC patients from these benefits? I don't believe it's ethical, which is why we must apply and individualize a type of Triage or categorization in aCP patients.

It is worth mentioning that despite notable progress with the new anti-androgens, practically all patients with advanced disease will eventually develop clinical resistance, which is why there is a growing interest in generating impact in earlier stages and in using medical agents that could prevent mechanisms of resistance. Similarly, in different medical publications there is a tendency to use hormonal deprivation for 18-24 months instead of the previously suggested 36 months.[13] There does not seem to exist a great difference in the efficacy of treat-

ment response, since it reduces adverse effects and improves QoL. Nevertheless, to this day the only validated and recommended results in international guidelines[2] are those taken from PROSPER, SPARTAN and ARAMIS, with their respective pharmaceuticals, and in combination with ADT. Moreover, TITAN has recently been approved by the FDA.

3) **Metastatic Castration-resistant Prostate Cancer (mCRPC):**
Defined by European guidelines as castration testosterone levels plus biochemical progression of PSA or as radiological progression by the very well-known RECIST criteria.[1]

Adding to the mechanisms of resistance to castration in the AR (V7-AR being the most frequent), we already know of the existence of other resistance mechanisms like mutations of the receptor, which translates to resistance to Enzalutamide and Abiraterone, while also predicting a rapid cancer progression. There is no doubt that great interest in potential future therapies is based on this.

There are numerous publications and trials on mCRPC with favorable initial results on PFS and GS, along with other benefits in their initial results, with examples for practically all pharmaceutical variants and their combinations, like radiopharmaceutical agents (CHEIRON, PLATO, TROPIC and/or PREVAIL),[9] cytotoxic agents: Docetaxel or Cabazitaxel (CARD, CA184, TRITON 2) or Sipuleucel-T, which is the only one of its class approved for "castration resistance" analyzed on IMPACT 3, also having immunotherapy combined with PARP inhibitors or simply with peripheral anti-androgens, and chemotherapy (FIRSTANA),[14] immunotherapy with Nivolumab-Ipilimumab (CHECKMATE 650)[15] or Pembrolizumab (KENOTE 365).[16]

There are many other clinical trials, I have highlighted the recent increased interest in the more frequent use of PARP inhibitors in patients with BRCA1/BRCA2 germinal mutations, using either Olaparib or Rucaparib, with a significant number of clinical publications: PROfound, Olap-A, Olap-B, TAPUR, TOPARB-B, among others, clearly demonstrating that we are still on the lookout for the best therapeutic sequence, "Precision Medicine" or "Target therapy".

Research is ongoing, either with known drugs, new combinations of the former, or with new drugs still under development in clinical trials: IPATential 150 (Ipatasertib), VISION (177Lu-PSMA-617), PROSPECT with a "Vaccine", KRONOS (Cetrelimab), among others, indicating an extensive number of trials under development.

CONCLUSION

From today's perspective and lines of investigation, the main focus is the research of new drugs or already known targets for advanced aCP, the secondary scenario being their use in earlier stages of the disease like high-risk localized PCA, biochemical recurrence, nm-CRPC, and mHSPC, and the third scenario as a combination of already known or new hormonal agents, PARP inhibitors, Radiopharmaceuticals (LU-177-PSMA), immunotherapy (GVAX, PROSTVAC), or Anti-CTLA-4 (Ipilimumab).

We must not deny any advanced aCP, patients the potential therapeutical benefit that they could achieve. Living through or with the pandemic is not reason enough to postpone treat-

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ment. Oncological care during a pandemic is also important, and with this "harsh reality" we must of course make an individualized "Triage" and modify all treatments that could be transferred or switched to ambulatory management, thereby reducing medical visits and hospital stays, so that no patient might lose his/her right to be treated effectively. If a patient is in the terminal stages, it must not be denied palliative care. Absolutely no one should face unnecessary suffering or an undignified death, and absolutely no patient should stop receiving whatever offers them better PFS, GS, and QoL.

REFERENCES

1. Sanchez-Lopez HM. Cáncer de Prostata. Actualización y Vanguardia. CDMX: Editorial Zarpra, noviembre, 2019.
2. National Comprehensive Cancer Network (NCCN). NCCN Guidelines prostate cáncer. https://www.nccn.org/professionals/physician_gls/default.aspx
3. Informe de Posicionamiento terapéutico de Radio 223 (223Ra) (Xofigo*). Agencia española de medicamentos y productos sanitarios. Available online: https://www.aemps.gob.es/informa/notasinformativas/medicamentos-usohumano-3/seguridad-1/2018/ni-muh_fv_09-xofigo/
4. Small EJ, Saad F, Chowdhury S, Oudard S, et al. Updated analysis of progression-free survival with first subsequent therapy (PFS2) and safety in the SPARTAN study of apalutamide (APA) in patients (pts) with high-risk nonmetastatic castration-resistant prostate cancer (nmCRPC) [abstract no. 144]. J Clin Oncol. 2019; 37 (7 Suppl). https://ascopubs.org/doi/abs/10.1200/JCO.2019.37.7_suppl.144
5. Chi KN, Agarwal N, Bjartell A, Chung BH, et al. Apalutamide for Metastatic, Castration-Sensitive Prostate Cancer. N Engl J Med. 2019; 381 (1): 13-24. https://doi.org/10.1056/NEJMoa1903307
6. Fizazi K, Shore ND, Tammela T, Ulys A, et al. ARAMIS: Efficacy and safety of darolutamide in non-metastatic castration-resistant prostate cancer (nmCRPC). J Clin Oncol 2019; 37 (7 Suppl): 140.
7. Sweeney CJ, Chen YH, Carducci M, Lui G, et al. Chemohormonal Therapy in Metastatic Hormone-Sensitive Prostate Cancer. N Engl J Med. 2015; 373 (8): 737-746. https://doi.org/10.1056/NEJMoa1503747
8. James ND, Sydes MR, Clarke NW, Mason MD, et al. Addition of docetaxel, zoledronic acid, or both to first-line long-term hormone therapy in prostate cancer (STAMPEDE): survival results from an adaptive, multiarm, multistage, platform randomised controlled trial. Lancet. 2016; 387 (10024): 1163-1177. https://doi.org/10.1016/S0140-6736(15)01037-5
9. Beer TM, Armstrong AJ, Rathkopf D, Loriot Y, et al. Enzalutamide in Men with Chemotherapy-naïve Metastatic Castration-resistant Prostate Cancer: Extended Analysis of the Phase 3 PREVAIL Study. Eur Urol. 2017; 71 (2): 151-154. https://doi.org/10.1016/j.eururo.2016.07.032
10. Denham JW, Joseph D, Lamb DS, Spry NA, et al. Short-term androgen suppression and radiotherapy versus intermediate-term androgen suppression and radiotherapy, with or without zoledronic acid, in men with locally advanced prostate cancer (TROG 03.04 RADAR): 10-year results from a randomised, phase 3, factorial trial. Lancet Oncol. 2019; 20 (2): 267-281. https://doi.org/10.1016/S1470-2045(18)30757-5
11. The 2021 Genitourinary Cancers Symposium. ASCO. https://meetings.asco.org/gu/virtual-program
12. Shore ND, Tammela TL, Massard C, Bono P, et al. Safety and Antitumour Activity of ODM-201 (BAY-1841788) in Chemotherapy-naïve and CYP17 Inhibitor-naïve Patients: Follow-up from the ARADES and ARAFOR Trials. Eur Urol Focus. 2018; 4 (4): 547-553. https://doi.org/10.1016/j.euf.2017.01.015
13. Mason MD, Parulekar WR, Sydes MR, Brundage M, et al. Final Report of the Intergroup Randomized Study of Combined Androgen-Deprivation Therapy Plus Radiotherapy Versus Androgen-Deprivation Therapy Alone in Locally Advanced Prostate Cancer. J Clin Oncol. 2015; 33 (19): 2143-2150. https://doi.org/10.1200/JCO.2014.57.7510
14. Sartor AO, Stephane O, Sengelov L, et al. Cabazitaxel vs docetaxel in chemotherapy-naive (CN) patients with metastatic castration-resistant prostate cancer (mCRPC): a three-arm phase III study (FIRSTANA). J Clin Oncol. 2016; 34: 5006. https://ascopubs.org/doi/10.1200/JCO.2016.34.15_suppl.5006
15. Sharma P, Pachynski RK, Narayan V, Flechon A, et al. Initial results from a phase II study of nivolumab (NIVO) plus ipilimumab (IPI) for the treatment of metastatic castration-resistant prostate cancer (mCRPC; CheckMate 650). J Clin Oncol. 2019;37(Suppl):142(Abstr.). https://ascopubs.org/doi/10.1200/JCO.2019.37.7_suppl.142
16. Yu EY, Massard C, Retz M, Tafreshi A, et al. Keynote-365 cohort a: Pembrolizumab (pembro) plus olaparib in docetaxel-pretreated patients (pts) with metastatic castrate-resistant prostate cancer (mCRPC). J. Clin. Oncol. 2019, 37, 145. https://ascopubs.org/doi/abs/10.1200/JCO.2019.37.7_suppl.145

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Information management and social networks during the COVID-19 era: Benefits and risks.

Gestión de la información y de las redes sociales en la era del COVID-19: beneficios y riesgos

Óscar D. Guzmán-Aguilar,[1] Carolina Jiménez-Santillán,[2] Diana C. Rojas-Ramírez[3]

Abstract

Since its inception humanity has suffered from various pandemics, however, the social context in each one has been different, during the current pandemic caused by COVID-19, the use of social networks for information management has brought benefits never imagined as rapid access to information in real time and relatively at low cost, breaking both geographical and language barriers. Likewise, it allows health personnel to interact with other professionals and always keep up to date. For patients, the use of social networks is a self-learning tool and one of the most common ways to search for information during this pandemic. On the other hand, there are known risks with the use of information found on social networks, which include the overload of real and false information (infodemic), which can generate loss of trust in health personnel, as well as behaviors unfavorable to it, in addition to generating anxiety and fear, which makes it difficult to seek timely care for other pathologies, and even generate mental health problems in vulnerable people. Therefore, it is important to point out the main benefits and risks associated with the use of social networks in the COVD-19 era, as stated in this article.

KEYWORDS: Humanity; Pandemic; Social context; Social networks; Information managements; Language barriers; Health; Benefits; Risk.

Resumen

Desde sus inicios la humanidad ha padecido diversas pandemias; sin embargo, el contexto social en cada una ha sido diferente durante la pandemia actual, causada por la COVID-19. El uso de las redes sociales para el manejo de la información ha traído beneficios nunca antes imaginados, por ejemplo: rápido acceso a la información en tiempo real y a bajo costo, rompiendo barreras geográficas y de lenguaje. Así mismo, al personal de salud permite interactuar con otros facultativos y mantenerse actualizados en todo momento. Para los pacientes, las redes sociales son una herramienta de autoaprendizaje y una de las formas más comunes de búsqueda de información durante esta pandemia. Existen riesgos con los datos encontrados en las redes sociales, que incluyen la sobrecarga de información real y falsa (infodemia), que puede generar pérdida de la confianza en el personal de salud y conductas desfavorables, además de ansiedad y miedo, lo que dificulta la búsqueda de atención oportuna para otras enfermedades, incluso generar problemas de salud mental en personas vulnerables. Por ello es importante señalar los principales beneficios y riesgos asociados con las redes sociales en la era del COVD-19.

PALABRAS CLAVE: Humanidad; pandemia; contexto social; redes sociales; manejo de la información; barreras de lenguaje; salud; beneficios; riesgo.

[1] Urology Department, Hospital General de Zona 76, IMSS.
[2] Urology Department, Hospital General de Zona 27, IMSS.
[3] Urology Department, Hospital de Especialidades 14 Lic. Adolfo Ruiz Cortines, IMSS.

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Correspondence
Carolina Jiménez Santillán
carolinaurologa@gmail.com

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INTRODUCTION

Different kinds of pandemics have plagued humanity since its inception, and during each one of them there was a different context (social, medical, and technological) to face them. As was the 1918 influenza pandemic case, when a third of the world's population was infected and a total of 50 million ended up dead. At that time medical therapies and countermeasures were significantly limited, the exchange of information that had place to facilitate any public health intervention was insufficient for how fierce that pandemic became.

Today, 100 years away from the times of that pandemic, a new virus hits us, SARS-CoV-2 causing COVID-19, which threatens millions of lives in the world and has taken many others. On the other hand, now we have more technology and more possibility of immediate communication than ever before in history. During the COVID-19 pandemic, the traffic of information on social networks increased considerably by all segments of the population, both young and old. Social media sites such as Facebook®, Twitter®, and YouTube® are powerful symbols of a new generation of online tools and applications that foster user generated content, social interaction, and real-time collaboration what has greatly facilitated the exchange of information using large social networks allowing the fast flow of updated news.[1] Almost 4.66 billion people were active internet users until October 2020, and, as it was expected, the average period of time in social media increased significantly during the pandemic.[2]

Although this is accompanied by its dark side, the duality of publications between fake news and verified sources. The volume of information is large and overwhelming and has been termed an "infodemic'', this term has been coined to outline the perils of misinformation phenomena during the management of disease outbreaks, since it could even speed up the epidemic process by infuencing and fragmenting social response.[3-4] How these platforms can be harnessed to optimally support emergency response, resilience, and preparedness is not yet fully understood. Although its effectiveness and influence on people has been proven on different occasions.

Many scientists used Twitter to communicate specifically with other scientists, even before pandemic, nowadays it is known that is the most used platform between scientific community and has an emerging role in the dissemination of health information.[5]

On the other hand, social media allows individuals to interact with each other in real time, enables global information exchange among physicians, patients, organizations, and other stakeholders in the medical field.[6]

Consequently, new methods of digital communication open unprecedented opportunities for medical education as well, since there was a negative impact of the pandemic on scientific, academic, and educational activities of urologists and other healthcare providers. Urologists have also found unique ways to generate a scientific community aimed to educate fellow urologists, urology residents and even patients.[7]

Creating online journal clubs with experts, sharing data on open-source platforms, bookmarking content in specified web pages, and hosting webinars and video conferences in a way to avoid the barriers of social distancing.

Let us try to envision social media as a fundamental tool in managing the current evolving pandemic, as well as in the transformative aspects of preparing and responding for the future. For this reason, it is important to point out the main benefits and risks associated with the use of social networks in the COVD-19 era, as indicated below.

Benefits of using social networks

The main benefits are the rapid dissemination of information thanks to the accessibility of the Internet due to the low cost that has risen in recent years and the large number of users that all social networks have. Among them, the main and generally used in our country are WhatsApp®, Youtube®, Twitter®, Instagram®, Linkedln® (mainly for professional use), Facebook®, TikTok®. This is accompanied by breaking geographically difficult barriers to cross in a territory of 1,964,375 km^2 as Mexico is.[8]

Internet is also an important progress in the obstacle represented by the different languages. The use of social networks allows medical personnel to discuss clinical cases, surgical strategies and patient alternatives while respecting their privacy. In this sense, the clinician can be supported, challenged, taught, or have his or her information shared.[9]

The fact of publishing medical information leads to greater interaction between the medical community and the public, directing attention towards publications of impact. It is possible to conduct and prepare multicenter studies without the need for person-to-person interaction.

The use of social networks is a way to keep up to date, many medical journals use these media to share their findings, even before journal publications, such as new guidelines, research, case reports, etc. It is an essential activity in modern education, there is a tendency for schools or associations to broadcast congresses or hold webinars, especially in this time of pandemic, in which it is essential to hold webinars to have a positive impact on changing clinical practice.

There is another advantage in which social networks play different roles, from content creator, critic, information gatherer or spectator. The decision to be part of any of these specific groups is personal and there is a change in the role according to the preferences or needs of the participants.

During this pandemic, recommendations in the form of easy-to-understand graphics or tutorials on hand washing, use of masks, isolation, methods of spread, methods of limiting SARS COV-2 disease, and use of personal protective equipment were read and provided through social networks.

Patients also have the benefit of sources for self-learning and decision making concerning their health or even the procedure they will undergo. They can research the doctor they wish to see to find out his or her academic history and some have the experience of talking to patients who have previously undergone some type of surgery, as there are patient associations in social networks.[10]

Risks about the use of social networks

The main risk of the use of social networks in the COVID-19 era is the increase in the infodemic, which throughout history has caused multiple behaviors that lead to the difficulty in obtaining reliable sources of information, and the inability to discern between the true and the false. The pressing issue is that fake news spreads more rapidly on social media than news from reliable sources, damaging the authenticity balance of the news ecosystem.[11]

On the other hand, in addition to the challenges in the health system caused by COVID, the emergence of multiple rumors and misinformation, lead to erroneous practices that in turn promote the spread of the disease[11] and hinder access to health services, both due to their saturation, as well as the fear instilled by misinformation, which limits the search for medical attention by patients.

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The ease through which inaccuracies and conspiracies can be repeated and perpetuated via social media and conventional outlets puts public health at a constant in the crosshairs. In addition to conspiracy theories and the loss of trust towards health institutions, the same infodemic causes stigmatization towards medical personnel and can even lead to violent attitudes towards them, as has happened on previous occasions such as what happened during the Ebola outbreak in the Democratic Republic of Congo in 2019, misinformation was linked to violence, mistrust, social disturbances, and targeted attacks on healthcare providers.[12]

In addition to limiting the search for medical attention and promoting erroneous behavior, the infodemic produces harmful effects on the mental health of the population. Social media have been associated with increased mental distress, self-harm, and suicide. Additionally, the spread of information is not limited by distance, such that the pandemic of fear can and has spread before the actual C-19 pandemic. This can lead to an increase in suicidal ideation or attempts.[13]

Therefore, the use of social networks can be a valuable tool, but if it is not regulated and monitored, it can be harmful to the population, both physically and not seeking medical attention for other reasons, due to fear; as psychological, in addition to promoting stigmas towards health professionals; For this reason, it is very important to pay attention to them and avoid being part of the infodemic that currently afflicts the whole world in the COVID-19 era.

It is our responsibility as health professionals to provide accurate and reliable information to patients, therefore it is useful to know certain recommendations for the proper management of social networks currently (**Table 1**), in order to be part of the misinformation that causes so much damage.

CONCLUSIONS

Health emergencies have occurred throughout the history of humanity, the main difference lies in the social context in which they occur, during this COVD-19 pandemic, the particularity is observed in the use of social networks for trafficking of information, which unfortunately sometimes tends to be overwhelming (infodemic), that is why we must learn to discern between the true information and the one that is not.

The use of social networks can be a valuable weapon for health professionals, such as updat-

Table1. Criteria for the responsible use of the information disseminated on social media. Modified from González-Padila DA, et al[8]

1. Prefer dissemination through established professional platforms, or communication groups.
2. Provide source when sharing information. Abstain from sharing information without a clear and trusted source.
3. Abstain from sharing information that may only induce panic or anxiety.
4. Quality should be preferred over quantity when sharing information, In vitro studies and low-quality evidence are of little or no use in daily practice and may give unfounded hope.
5. Declare conflicts of interest, when appropriate.
6. Avoid providing medical advice in social media and abstain from giving recommendations not backed by evidence as this may confuse lay public
7. Use transparent methods for peer review and feedback, like platforms for post-publication peer review processes or preprint (unpublished manuscripts) like medRxiv.org, providing author/institutional contact, and pursue a traditional peer review process as soon as feasible.
8. If possible, report posts with dense and false content.
9. Encourage patients to consult reliable sources of information and not only what is seen on social networks

ing and contact between peers, as well as allowing them close contact with patients, breaking down time, language, and geographical barriers, thus allowing them to preserve social distancing, which helps mitigate the spread of the virus.

Unfortunately, social networks, if they are not regulated and verified, can have undesirable effects towards health professionals and patients themselves, due to the false information that circulates in them, as we have mentioned, violent behavior against health personnel and mistrust have been observed towards the same by the rise of conspiracy theories, in addition to causing fear, anxiety and other mental disorders.

We consider that it is necessary to increase efforts to regulate the content that circulates on social networks, with strong penalties for generators of news and false information, as well as to promote the traffic of real information by health personnel, avoiding data that causes confusion or unfavorable behaviors in the population.

REFERENCES

1. George DR, Rovniak LS, Kraschnewski JL. Dangers and opportunities for social media in medicine. Clin Obstet Gynecol. 2013; 56 (3): 453-462. https://doi.org/10.1097/GRF.0b013e318297dc38
2. Clement J. Number of global social media users 2010-2021. Statista website. https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/
3. Kouzy R, Abi Jaoude J, Kraitem A, El Alam MB, et al. Coronavirus Goes Viral: Quantifying the COVID-19 Misinformation Epidemic on Twitter. Cureus. 2020; 12 (3): e7255. https://doi.org/10.7759/cureus.7255
4. Cinelli M, Quattrociocchi W, Galeazzi A, Valensise CM, et al. The COVID-19 social media infodemic. Sci Rep. 2020; 10 (1): 16598. https://doi.org/10.1038/s41598-020-73510-5
5. Venegas-Vera AV, Colbert GB, Lerma EV. Positive and negative impact of social media in the COVID-19 era. Rev Cardiovasc Med. 2020; 21 (4): 561-564. https://doi.org/10.31083/j.rcm.2020.04.195
6. Bhatt NR, Czarniecki SW, Borgmann H, van Oort IM, et al. A Systematic Review of the Use of Social Media for Dissemination of Clinical Practice Guidelines. Eur Urol Focus. 2020; S2405-4569 (20): 30292-3. https://doi.org/10.1016/j.euf.2020.10.008
7. Cooley LF, Hampton LJ. A Reflection on Social Media Usage in Healthcare and Urology: An Opportunity for Research. Am J Urol Res. 2016; 1 (1): 001-002.
8. González-Padilla DA, Tortolero-Blanco L. Social media influence in the COVID-19 Pandemic. Int Braz J Urol. 2020; 46 (suppl.1): 120-124. https://doi.org/10.1590/S1677-5538.IBJU.2020.S121
9. Da Silva RD, Leow JJ, Abidin ZA,Linden-Castro E, et al. Social Media in the Urology Practice | Opinion: NO. Int Braz J Urol. 2019;45(5):882-888. https://doi.org/10.1590/S1677-5538.IBJU.2019.05.04
10. Bellote MC, Santamaria HT, Pelayo-Nieto M, Es HP, et al. Social Media in the Urology Practice | Opinion: YES. Int Braz J Urol. 2019; 45 (5): 877-881. https://doi.org/10.1590/S1677-5538.IBJU.2019.05.03
11. Tasnim S, Hossain MM, Mazumder H. Impact of Rumors and Misinformation on COVID-19 in Social Media. J Prev Med Public Health. 2020; 53 (3): 171-174. https://doi.org/10.3961/jpmph.20.094
12. Islam MS, Sarkar T, Khan SH, Kamal AH, et al. COVID-19-Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis. Am J Trop Med Hyg. 2020; 103 (4): 1621-1629. https://doi.org/10.4269/ajtmh.20-0812

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Effect of the pandemic on the mental health of health personnel.

Efecto de la pandemia en la salud mental del personal de salud

Daniel Fernando Fernández-López,[1] Juan Ricardo Cabrera-Rios,[1] Herney Andrés García-Perdomo[2,3]

Abstract

The COVID-19 pandemic has generated multiple biopsychosocial inconveniences that have compromised well-being at the global health personnel level, reflecting in problems at their mental health level. Factors such as stress created by arduous and long hours of work, lack of protective elements, negative emotions generated by the loss of patients are examples that lead to the mental health of health personnel being one of the most affected. This review's objective was to evaluate the effect of the COVID-19 pandemic on mental health in health personnel and to compile some of the intervention strategies. Between 2.2 and 14.5% of the respondents experienced symptoms of stress, depression, and anxiety. About 80% of physicians are at high risk for burnout syndrome. There are reports of stigmatization, aggressiveness, and discrimination towards health personnel in Latin America that accentuate these alterations.

To conclude, the mental health of health workers is one of the most affected. Symptoms of stress, anxiety, and depression are the most frequent. Implementing interventions at different levels by trained personnel, institutional and governmental measures reduces the pandemic's impact on the mental health of health personnel.

KEYWORDS: COVID-19 pandemic; Health; Mental Health; Depression; Anxiety; Physicians; Burnout syndrome; Stigmatization.

Resumen

La pandemia por COVID-19 ha generado múltiples inconvenientes biopsicosociales que han afectado el bienestar personal de salud global, reflejándose en problemas de salud mental. El estrés provocado por jornadas laborales arduas y largas, la falta de elementos protectores y las emociones negativas originadas por la pérdida de pacientes son ejemplos que afectan la salud mental del personal de salud. El objetivo de esta revisión fue: evaluar el efecto de la pandemia por COVID-19 en la salud mental del personal de salud y recopilar algunas de las estrategias de intervención. Entre el 2.2 y 14.5% de los encuestados experimentaron síntomas de estrés, depresión y ansiedad. Aproximadamente, 80% de los médicos tienen alto riesgo de síndrome de agotamiento. Existen denuncias de estigmatización, agresividad y discriminación hacia el personal de salud en América Latina que acentúan estas alteraciones. La salud mental de los trabajadores de la salud es una de las más afectadas. El estrés, la ansiedad y depresión son los síntomas más frecuentes. La implementación de intervenciones para el personal capacitado, además de medidas institucionales y gubernamentales reduce el efecto de la pandemia en la salud mental de los médicos.

PALABRAS CLAVE: Pandemia por COVID-19; salud; salud mental; depresión; ansiedad; síndrome de Burnout; estigmatización.

[1] PLASTICUV Research Group.
[2] Department of Surgery / Urology.
[3] UROGIV research group.

School of Medicine, Universidad del Valle, Cali, Colombia.

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Correspondence
Herney Andrés García Perdomo
herney.garcia@correounivalle.edu.co

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INTRODUCTION

The COVID-19 pandemic caused by the SARS-CoV-2 virus has compromised health and well-being globally. In addition to generating manifestations and organic consequences, it compromises the population economically, socially, physically, and mentally. The evidence is clear regarding the impact of economic crises and the finding of high levels of depressive symptoms.[1] At present, the literature has focused its interest on the epidemiology of mental health conditions and COVID-19.[2,3]

The mental health of health workers is one of the most compromised. Negative emotions and stress due to fear of contracting the infection or transmitting it to family or friends, long hours of work and a more significant workload, a shortage of personal protective equipment could lead to mental disorders and an increased risk of infection.[4] Feelings of helplessness, daily exposure to suffering and death, more communication of bad news and fatal outcomes make it essential to implement strategies for the care of mental health of health workers.[5]

This review's objective was to evaluate the effect of the COVID-19 pandemic on mental health in health personnel and to compile some intervention strategies.

METHODOLOGY

The bibliographic search was carried out in the PUBMED database using the search strategy with MESH terms "mental health" and "COVID-19". The search returned 5,792 results. We selected the studies according to their relevance.

Effects on mental health

The general population has a higher number of respiratory infections and higher mortality, where the American continent represents approximately 50% of fatal victims globally.[6] Exposure of healthcare professionals leads to more significant risks. Harrison et al. Determined that 2.5% of all infections correspond to health personnel, 14.5% were classified as severe or critical, with a mortality of 1.3%.[2] Some of the most common mental disorders are anxiety, depression, and burnout syndrome.

Anxiety and depression

Although social isolation is one of the fundamental tools to reduce disease transmission, it has been associated with mental health conditions. The systematic review carried out by Hossain et al. about the outcomes in mental health in quarantine and isolation for the prevention of infections reported the presence of stress, insomnia, panic attacks, impulsivity, post-traumatic stress, and suicidal behaviors, where anxiety and depression are the most frequent.[7]

Regarding health workers, Bohlken et al., Analyze the information from 14 studies about psychological stress in the hospital after the start of the pandemic. The Patient Health questionnaires 9 (PHQ9), the Self-Rating-Anxiety Scale (SAS), and the Impact of the Event Scale (IES-R) were the most used instruments. The sample size ranged from 37 to 2,299 people, mostly doctors and nurses; between 2.2 and 14.5% of those surveyed reported experiencing stress, depression, and anxiety. The expression of psychological symptoms in physicians was influenced by age, gender, specialization, type of activity, and proximity to COVID-19 patients.[3]

Burnout syndrome

As a result of inadequate coping with chronic emotional stress, depersonalization, emotional exhaustion, and decreased personal performance occur-all part of the burnout syndrome.[8]

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A survey conducted in Wuhan and Shanghai in 2020 included 107 nurses. High levels of emotional exhaustion (78.5%) and depersonalization (92.5%) were found concerning burnout syndrome, also associated with longer working hours in COVID-19 units.[9]

The study by Khasne et al. Conducted through the "Copenhagen Burnout Inventory" questionnaire reported that the prevalence of personal burnout was 44.6% (903), work-related burnout was 26.9% (544), and that more than half of the respondents (1,069, 52.8%) presented exhaustion related to the pandemic. Furthermore, the prevalence of personal and work burnout was significantly higher among female physicians, while male physicians were 1.64 times more likely to experience pandemic-related burnout.[10]

The prevalence of burnout in a reference center in Portugal was 17%, evidenced by emotional exhaustion (66.0%), depersonalization (45.7%), and poor professional performance (48.2%). In this study, it was identified that this syndrome was more prevalent in doctors under 45 years of age and with less experience.[11]

Stigmatization

Different types of physical and emotional aggression have been reported in different parts of the world against health workers; misinformation and fear regarding contagion are triggers.[12] The international committee of the Red Cross (CIRC) registered 611 attacks against infrastructure and health personnel related to the pandemic between February and July 2020, 67% directly to health personnel, of which approximately 20% involved attacks physical, 15% verbal aggression, and 15% were classified as discrimination.[13]

In Latin America, there are reports about stigmatization, rejection of public transport, the aggressiveness of neighbors for sharing spaces, generating physical aggression towards people wearing uniforms from the health sector.[14]

Suicidal

Health personnel also have a higher risk of suicide than the general population. Lindeman et al. Estimated relative risk of suicide of 1.1 IC95%: (0.5-2.1) to 3.4 IC95%: (2.6-4.4) for men and 2.5 IC95%: (1.7-3.8) to 5.7 IC95%: (3.1-9.7) for women compared to those of the general population, and 1.5-3.8 for men and 3.7-4, 5 for women compared to those for other professionals.[15]

Fear of COVID-19 ended up transforming into stigmatization, aggressiveness, and discrimination towards health professionals, making them more susceptible to the development of anxiety and depression disorders,[16] which could compromise the way they carry out their self-care and attention of the population. Furthermore, contributing to these two mental disorders already clearly related to suicide could increase their risk.[17,18]

Interventions to mitigate the impact of the COVID-19 pandemic on health workers

The comprehensive approach to workers' mental health must be carried out by qualified personnel and supported by the use of technologies that facilitate access at the individual, group, and social level. Also, it involves institutional and governmental actions.

Activism from the scientific community: Stimulate the development of studies that evaluate the prevalence of stigmatization at the individual, family, social, and work level and that allow the implementation of strategies at these levels. Also, it is useful to limit the spread of disinformation and promote the massive dissemination of reliable information. Finally, educate com-

munities about the adverse effects of consuming and sharing false or dubious information.[4,19]

Staff-led therapies with mental health training: Strong leadership with straightforward, honest, and open communication is needed to deal with fears and uncertainties.[20] Implement strategies to strengthen support networks among health professionals, for example, "weekly grief rounds," in which the emotions generated by the suffering and death of patients are shared, resilience is promoted, and strategies are provided to manage their emotions.[21] Emphasizing the altruism of working in health care and serving the common good will help health workers to remember their purpose in times of crisis.[20]

Institutional strategies: Interventions such as care in the hospital, in the wards, and total coverage of all departments with protective measures for nosocomial infections were protective factors for outcomes such as acute stress, depression, and anxiety. Additionally, reasonable organization of work shifts, logistical support, and comfortable accommodations provided by the hospital were protective factors for symptoms of depression.[22]

Use of virtual networks for intervention in mental health: Social contact increases the risk of contagion. Through these networks' use by multidisciplinary teams, their emotions are described, and directed discussions are held. In addition, they allow the detection of individuals who require assessment and more profound interventions regarding high levels of stress, anxiety, and depression.[23]

Institutional and governmental policies: Strengthening and improving legislative mechanisms during the pandemic favors mental health care. Health workers enjoy civil rights and labor rights associated with their profession. However, circumstances such as the lack of personal protection elements translate into a violation of their fundamental rights: The right to life, health, and decent working conditions.[24] In addition, implement institutional policies that guarantee medical and social assistance and financial support to health workers and their families.[5]

CONCLUSIONS

The mental health of health workers is one of those mainly affected by the pandemic. The fear of contracting the infection, transmitting it to family or friends, long hours of work, and with a more significant workload with a greater number, an increase in the number of fatal outcomes are some of the factors that could lead to symptoms of stress, anxiety, and depression are the most frequent. Therefore, it is necessary to implement interventions at different levels by trained personnel, institutional and governmental measures to reduce the pandemic's impact on the mental health of health personnel.

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In memory of Humberto A. Fernández, a victim of this pandemic, father and inspiration of the first author. His ideas are embodied in this manuscript.

REFERENCES

1. Chaves C, Castellanos T, Abrams M, Vazquez C. The impact of economic recessions on depression and individual and social well-being: the case of Spain (2006-2013). Soc Psychiatry Psychiatr Epidemiol. 2018; 53 (9): 977-986. https://doi.org/10.1007/s00127-018-1558-2
2. Harrison D, Muradali K, El Sahly H, Bozkurt B, Jneid H. Impact of the SARS-CoV-2 pandemic on healthcare workers. Hosp Pract. (1995). 2020; 48; (4): 161-164. https://www.tandfonline.com/doi/full/10.1080/21548331.2020.1771010
3. Bohlken J, Schömig F, Lemke MR, Pumberger M, Riedel-Heller SG. COVID-19-Pandemie: Belastungen des medizinischen Personals [COVID-19 Pandemic: Stress Experience of Healthcare Workers - A Short Current Review]. Psychiatr Prax. 2020; 47 (4): 190-197. https://doi.org/10.1055/a-1159-5551

https://doi.org/10.24245/bcmurol.v36iS1.5566

4. Greenberg N, Docherty M, Gnanapragasam S, Wessely S. Managing mental health challenges faced by healthcare workers during covid-19 pandemic. BMJ. 2020; 368: m1211. https://doi.org/10.1136/bmj.m1211
5. Fukuti P, Uchôa CLM, Mazzoco MF, Corchs F, et al. How Institutions Can Protect the Mental Health and Psychosocial Well-Being of Their Healthcare Workers in the Current COVID-19 Pandemic. Clinics (Sao Paulo). 2020; 75: e1963. https://doi.org/10.6061/clinics/2020/e1963
6. Prieto-Silva R, Sarmiento-Hernández CA, Prieto-Silva F. Morbidity and mortality due to COVID-19 in Latin America: Study of three countries-February to July 2020. Rev Salud Publica. 2020; 22 (2): 1-7. https://doi.org/10.15446/rsap.V22n2.89682
7. Hossain MM, Sultana A, Purohit N. Mental health outcomes of quarantine and isolation for infection prevention: a systematic umbrella review of the global evidence. Epidemiol Health. 2020; 42: e2020038. https://doi.org/10.4178/epih.e2020038
8. Maslach C, Jackson SE. The measurement of experienced burnout. J Organ Behav. 1981; 2 (2): 99-113. http://doi.wiley.com/10.1002/job.4030020205
9. Zhang Y, Wang C, Pan W, Zheng J, et al. Stress, Burnout, and Coping Strategies of Frontline Nurses During the COVID-19 Epidemic in Wuhan and Shanghai, China. Front Psychiatry. 2020; 11: 565520. https://doi.org/10.3389/fpsyt.2020.565520
10. Khasne RW, Dhakulkar BS, Mahajan HC, Kulkarni AP. Burnout among Healthcare Workers during COVID-19 Pandemic in India: Results of a Questionnaire-based Survey. Indian J Crit Care Med. 2020; 24 (8): 664-671. https://doi.org/10.5005/jp-journals-10071-23518
11. Reis CDC. Prevalência de Síndrome de Burnout em Médicos de Família da Secção Regional do Norte da Ordem dos Médicos. Rev Port Clínica Geral. 2019; 35 (3): 176-84. https://www.rpmgf.pt/ojs/index.php/rpmgf/article/view/12131
12. McKay D, Heisler M, Mishori R, Catton H, Kloiber O. Attacks against health-care personnel must stop, especially as the world fights COVID-19. Lancet. 2020; 395 (10239): 1743-1745. https://doi.org/10.1016/S0140-6736(20)31191-0
13. Devi S. COVID-19 exacerbates violence against health workers. Lancet. 2020; 396 (10252): 658. https://doi.org/10.1016/S0140-6736(20)31858-4
14. Trejos-Herrera AM, Vinaccia S, Bahamón MJ. Coronavirus in Colombia: Stigma and quarantine. J Glob Health. 2020; 10 (2): 020372. https://doi.org/10.7189/jogh.10.020372
15. Lindeman S, Laara E, Hakko H, Lonnqvist J. A systematic review on gender-specific suicide mortality in medical doctors. Br J Psychiatry. 1996; 168 (3): 274-279. https://doi.org/10.1192/bjp.168.3.274
16. Zakout YM, Alreshidi FS, Elsaid RM, Ahmed HG. The magnitude of COVID-19 related stress, anxiety and depression associated with intense mass media coverage in Saudi Arabia. AIMS Public Health. 2020; 7 (3): 664-678. https://doi.org/10.3934/publichealth.2020052
17. Conejero I, Berrouiguet S, Ducasse D, et al. Épidémie de COVID-19 et prise en charge des conduites suicidaires : challenge et perspectives [Suicidal behavior in light of COVID-19 outbreak: Clinical challenges and treatment perspectives]. Encephale. 2020; 46 (3S): S66-S72. https://doi.org/10.1016/j.encep.2020.05.001
18. Gerada C. Doctors, suicide and mental illness. BJPsych Bull. 2018; 42 (4): 165-168. https://doi.org/10.1192/bjb.2018.11
19. Chopra KK, Arora VK. Covid-19 and social stigma: Role of scientific community. Indian J Tuberc. 2020; 67 (3): 284-285. https://doi.org/10.1016/j.ijtb.2020.07.012
20. Wu PE, Styra R, Gold WL. Mitigating the psychological effects of COVID-19 on health care workers. CMAJ. 2020; 192 (17): E459-E460. https://doi.org/10.1503/cmaj.200519
21. Kiser SB, Bernacki RE. When the Dust Settles: Preventing a Mental Health Crisis in COVID-19 Clinicians. Ann Intern Med. 2020; 173 (7): 578-579. https://doi.org/10.7326/M20-3738
22. Zhu Z, Xu S, Wang H, Liu Z, et al. COVID-19 in Wuhan: Immediate psychological impact on 5062 Health Workers. medRxiv. medRxiv; 2020. https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(20)30187-5/fulltext
23. Nahandi MZ, Shahrokhi H, Farhang S, Somi MH. Virtual social networks and mental health intervention for medical staff during the COVID-19 outbreak in the Islamic Republic of Iran. East Mediterr Health J. 2020; 26 (5): 497-498. https://doi.org/10.26719/2020.26.5.497
24. Sheather J, Hartwell A, Norcliffe-Brown D. Serious violations of health workers' rights during pandemic. BMJ. 2020; 370: m2824. https://doi.org/10.1136/bmj.m2824

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Uro-oncological patient care in Uruguay: Reality and perspective during COVID-19 pandemic.

Atención de pacientes con neoplasias urológicas en Uruguay: realidad y perspectiva durante la pandemia por COVID-19

Federico López,[1] Noelia Silveyra,[2] Ignacio Cardozo,[2] Gabriel Krygier,[2] Levin Martínez[2]

Abstract

In Uruguay, cancer is a significant cause of death, given its demographic and epidemiological characteristics. Urological tumors make up a group of high incidence in our population. The COVID-19 pandemic generated various challenges in different areas, one of these being these patients' care. This resulted in a readjustment of treatment of uro-oncological patients, considering the benefits of the treatments against the risk of contracting a severe infection by COVID-19. In this exceptional context, the Urology and Oncology Departments of the "Hospital de Clínicas" raised the need to draw up a series of recommendations to manage patients with urological tumors. Each urological tumor and its different stages were addressed, making recommendations for each disease stage. Based on the evidence about each tumor's treatment, the knowledge about risk factors for severe COVID-19 infection, and the epidemiological situation and availability of resources, this guide has helped Urologists and Oncologists of Uruguay in the management of these patients in this complex scenario.

KEYWORDS: Uruguay, Urologic tumors; COVID-19 pandemic; Hospital; Risk factors; Urologist; Oncologist.

Resumen

En Uruguay, según las características demográficas y epidemiológicas, el cáncer constituye una importante causa de mortalidad. Los tumores urológicos suponen una gran incidencia. La pandemia por COVID-19 generó diversos desafíos en diferentes áreas, sobre todo en la atención de este tipo de pacientes. Esto trajo como consecuencia una readecuación del tratamiento de los pacientes uro-oncológicos, tomando en cuenta el beneficio de los tratamientos frente al riesgo de contraer una infección grave por COVID-19. En este contexto se planteó, por parte de las Cátedras de Urología y Oncología del Hospital de Clínicas, la necesidad de confeccionar una serie de recomendaciones para el tratamiento de pacientes con tumores urológicos. Se analizó cada tumor y sus diferentes estadios, haciendo recomendaciones para cada etapa de la enfermedad, basadas en la evidencia del tratamiento de cada tumor, el conocimiento de los factores de riesgo para infección grave por COVID-19, la situación epidemiológica particular y la disponibilidad de recursos. Esta guía ha sido de gran ayuda para Urólogos y Oncólogos en Uruguay para el tratamiento de pacientes con neoplasias urológicas.

PALABRAS CLAVE: Uruguay; neoplasias urológicas; pandemia por COVID-19; hospital; factores de riesgo; urólogos; oncólogos.

[1] Titular Assitant, Chair of Urology, Universidad de la Republica, Facultad de Medicina, Hospital de Clínicas, Montevideo, Uruguay.
[2] Hospital de Clínicas, Montevideo, Uruguay.

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Correspondence
Federico López
fedelofe@gmail.com

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INTRODUCTION

In Uruguay, cancer deaths make up almost a quarter (23.4%) of all deaths, being the main cause of death in people under 70.[1]

Regarding the incidence of different tumors in men, within the top ten tumors with the highest incidence, we found four urological tumors: Prostate (1st); Bladder (4th); Kidney (5th), and Testicle (10th).

We find kidney cancer (7th) in women in the ten most frequent tumors.[2] **Figure 1**

The first cases of COVID-19 in Uruguay were diagnosed on March 13, 2020, with the authorities declaring a health emergency on that same date.

The pandemic in our country initially presented a different behavior than neighboring countries, with very few cases from March 13 to early December 2020, where an exponential increase in cases occurred, which reached their maximum peak in mid-January.[3]

Despite this increase in cases, so far, the health system has not been overwhelmed, and currently, the occupation of ICU beds by COVID-19 patients is less than 10%.[4]

Regarding mortality from COVID-19 so far, Uruguay has one of the lowest numbers of deaths per million inhabitants in Latin America, with 138.2 deaths per million.[5] **Table 1**

The declaration of a health emergency implied, among many other measures, that practically all face-to-face care of outpatients was suspended, promoting telemedicine or telephone consultations.

Despite the difficulties that this entails, it was carried out correctly in our country, given the almost universalization of electronic medical records.

Regarding surgeries, non-oncological coordinated surgeries were suspended only performing oncological and emergency surgeries.

There was no greater delay regarding oncological surgeries, with a delay in conducting diagnostic studies, especially imaging.

The pandemic brought difficult treatment decisions for cancer patients. The consequences have been multiple and included a redistribution of human and material resources towards infected patients' care. Likewise, the decrease in mobility restricted patients' movement to health centers.

Cancer patients are at increased risk of death from COVID-19. The risk-benefit ratio of various treatments must be reconsidered during this pandemic.[6]

When considering patients' treatment, we must evaluate several factors such as age and comorbidities. Visits to the health center associated with treatment should also be considered.

Regarding the treatment of uro-oncological patients, the Professor of the Urology department, Prof. Dr. Levin Martínez, with the head of the Oncology department, Prof. Dr. Gabriel Krygier of the "Hospital de Clínicas de Montevideo," made recommendations about the oncological diagnosis and treatment of urological tumors during the COVID-19 pandemic.[7]

The guide seeks to offer suggestions that guide the therapy in the risk-benefit relationship within the different clinical scenarios, not rigid guidelines.

Many of the patients with tumors of the genitourinary sphere present risk factors for severe infection by COVID-19: male gender, age, cardiovascular comorbidities, need for long-term systemic treatments, among others.

Many variables must be taken into accounts, such as the stage of the pandemic and local medical care capacity, risk of infection for each patient, and phase of the disease. These variables are dynamic and must be continuously reassessed.

The first recommendation was to avoid visits to the health center to minimize the exposure of patients with urological tumors.

All measures that allow patients to stay at home were encouraged, such as telemedicine and telephone consultations.

The delivery of oral and injectable medication at home was implemented. In generic terms, patients with prostate cancer who require the use of LHRH analogs were advised to prefer those administered quarterly or semi-annually to reduce the number of visits to the health center.

The emphasis was placed on prioritizing those with curative criteria and regimens with a clear survival advantage for the treatments.

It was proposed to assess the risk/benefit ratio regarding adjuvant and neo-adjuvant treatments, especially where the survival benefits are modest or are not fully proven.

Neo-adjuvant therapy may be attractive in delaying the need for surgery/radiation therapy where these services are interrupted.

For chemotherapy treatments, it was recommended to use growth factors and prophylactic antibiotics.

As previously stated, these recommendations were made in May 2020 when the pandemic in Uruguay was controlled with few daily cas-

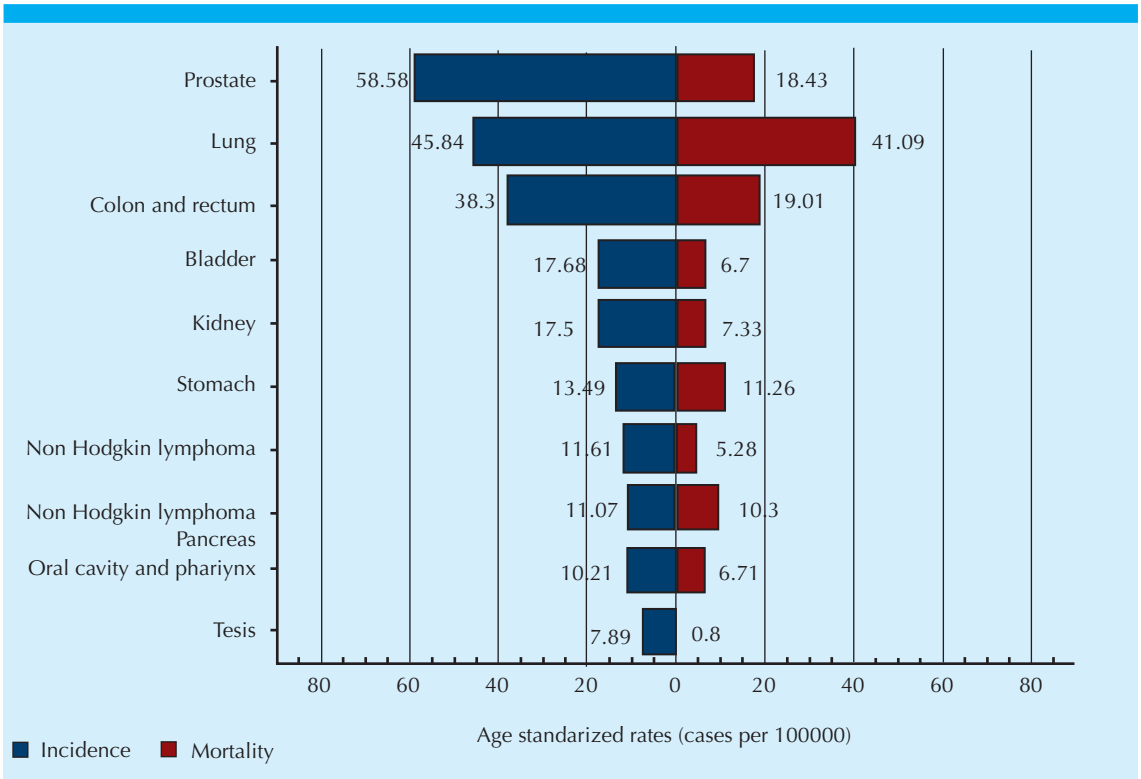

Figure 1. Cancer in Uruguay 2011-2016 leading sites.

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Table 1. Mortality estimation of COVID-19 until 4-08-2020

Country	Total Cases	Total deceased	Reason forlethality (CFR*)	Population	Incidence x million	Deaths x million	Total Test	Test x millon	Reference Test-Case	Active cases	population-active cases (n)
Costa Rica	196438	2672	1.4	5121204	38357.8	521.8	607403	118606	3.1	37585	136
Panana	326464	5455	1.7	4354153	74977.6	1252.8	1733650	398160	5.3	30885	141
Colombia	2151207	55693	2.6	51198389	42017.1	1087.8	10465124	204403	4.9	73183	700
Ecuador	257115	15004	5.8	17798461	14445.9	843.01	905885	50897	3.5	32297	551
Perú	1180478	42121	3.6	33238498	35515.4	1267.2	6581216	198000	5.6	49317	674
Bolivia	225910	10687	4.7	11765477	19201.1	908.3	595824	50642	2.6	48777	241
Brasil	9497795	231069	2.4	213440286	44498.6	1082.6	?	?	?	903049	236
Paraguay	137603	2807	2.0	7183454	19155.5	390.8	673381	93741	4.9	21430	335
Chile	748082	18895	2.5	19211780	38938.7	983.5	8333834	433788	11.1	23167	829
Argentina	1976689	49110	2.5	45437253	43503.7	1080.8	6483493	142691	3.3	155520	292
Uruguay	44812	481	1.1	3480763	12874.2	138.2	884324	254060	19.7	5862	594

$$*CFR\% = \frac{\text{deaths per disease}}{\text{confirmed cases of disease}} \times 100$$

worldometers.info
ourworldindata.org
SINAE-MSP
*Mortality stimatimation of COVID-19, OMS 4-08-20

es; but recommendations were foreseen for the exponential growth of cases.

We will briefly address the recommendations that we made for each of the urological tumors:

Prostate cancer[7-9]

Low risk localized prostate cancer:
Prioritize Active Surveillance

Intermediate risk:
If radiotherapy (RT) is chosen, perform neo-adjuvant hormone therapy for three months, prioritizing RT's hypofractionation (HFX).

If radical prostatectomy (RP) is chosen, evaluate to defer it 4-6 months, maintaining neoadjuvant.

High risk localized prostate cancer:
If RT is chosen, evaluate extending neoadjuvant hormone therapy to 6 months to avoid the onset of RT in the pandemic's exponential phase.

If RP is chosen, discuss together with the patient according to characteristics of the tumor and health system, adjuvant with RT and/or hormone therapy (HT)

Metastatic prostate cancer:
Prioritize HT (androgen deprivation + new generation hormone therapy)

Prioritize Enzalutamide over Abiraterone if available (does not require the use of corticosteroids)

Avoid Docetaxel if possible, if necessary, limit the number of doses, and consider using growth factors.

Defer RT of oligometastatic tumors until after the exponential phase of the pandemic.

Bladder cancer[7-10]

Diagnosis:
Do not delay cystoscopy / TUR in the event of suspected bladder cancer.

Muscle-invasive bladder cancer:
Prioritize radical cystectomy.
Discuss the use of neoadjuvant chemotherapy, considering the risk/benefit of a potential COVID-19 infection aggravated by neutropenia.

If undergoing chemotherapy, preferred Gemcitabine-Cisplatin combination and use G-CSF.

If RT is chosen, short courses with or without chemotherapy.

Metastatic bladder cancer:
Evaluate risk-benefit in each patient.
In symptomatic patients, the benefit of treatment is probably more significant than the risk.

Preferably Gemcitabine-Cisplatin (over MVAC), associating G-CSF; in patients eligible to receive cisplatin.

In PDL1 positive patients, consider starting immunotherapy instead of chemotherapy.

Cisplatin unfit patients:
PDL1 positive; perform treatment with Atezolizumab or Pembrolizumab.
If they are PDL1 negative, carry out regimens based on Carboplatin.

It is not recommended to start chemotherapy in platinum-resistant disease unless it is strictly necessary.

Kidney cancer[7-9]

Localized kidney cancer:
In small tumors, discuss deferring surgical treatment for a few months.

For tumors larger than 4 cm, prioritize surgical treatment.

Metastatic kidney cancer:
Do not recommend cytoreductive nephrectomy in the exponential phase of the pandemic unless it is well justified.

Do not delay the start of first-line systemic treatment.

Favorable prognosis: tyrosine kinase inhibitor (Pazopanib or Sunitinib) may be preferred.

Intermediate or Poor Prognosis: although Ipilimumab + Nivolumab is the current standard of treatment, in some cases in the context of a pandemic, the use of a tyrosine-kinase inhibitor may be considered (intermediate prognosis, asymptomatic, low tumor burden).

In unfavorable prognosis and performance status two or higher, prioritize symptomatic palliative treatment.

Testicular cancer[7-9]

Suspicious testicular mass:
Do not defer orchiectomy.

Seminoma EI:
Prioritize surveillance over carboplatin chemotherapy.

No Seminoma EI:
Prioritize surveillance over PEB chemotherapy (except for cases with a higher risk of relapse).

IBD and III seminoma:
In cases of IBD tumors, RT could be preferred over chemotherapy.

Prioritize chemotherapy strategy according to the SEMITEP trial to minimize chemotherapy cycles.

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Avoid the use of bleomycin.
Use G-CSF.

Metastatic seminoma of intermediate prognosis (IGCCCG 1 and 2):
Preferably 4 VIP cycles.
Use G-CSF.
Avoid bleomycin.

No metastatic seminoma with a good prognosis:
Consider replacing bleomycin with Ifosfamide (3 cycles of VIP).
Use G-CSF.

No metastatic seminoma of intermediate prognosis:

Consider replacing bleomycin with Ifosfamide (4 cycles of VIP).
Use G-CSF.
No metastatic seminoma with a poor prognosis:

Recommend using chemotherapy without bleomycin (4 TIP or 4 VIP) or the scheme's use according to the GETUG-13 test; replace the first cycle of PEB with a VIP cycle to minimize the dose of bleomycin to be used.
Use G-CSF.

Metastatic germ cell tumor:
Salvage treatment.
Limit indications for high-dose chemotherapy.

As we have already said, these recommendations were not intended to be a protocol for managing uro-oncological patients during the pandemic but rather to help and support urologists and oncologists' actions in Uruguay through this situation of extreme uncertainty.

It reflects the joint effort of two Head of Departments (Oncology and Urology, of the "Hospital de Clínicas,") highlighting the importance of multidisciplinary interaction, especially in this urgent context.

According to those mentioned above, we consider that in Uruguay, correct management of patients with urological tumors has been achieved; however, we have no doubts that during these months, many tumors have not been diagnosed; either due to less accessibility to consultations and delays in diagnostic studies, which will probably be reflected in more advanced tumor diagnoses in the near future.

REFERENCES

1. Ministerio de Salud Pública, "División estadística. Estadisticas de Mortalidad," Ministerio de Salud Pública, 2020. [Online]. https://uins.msp.gub.uy/defunciones.html.
2. Comision Honoraria de Lucha contra el Cáncer, "Registro Nacional de Cáncer," 2020. https://www.comisioncancer.org.uy/home.
3. Sistema Nacional de Emergencias, "Coronavirus," Sistema Nacional de Emergencias. Presidencia de la República. 2021. https://www.gub.uy/sistema-nacional-emergencias/inicio.
4. Sociedad Uruguaya de Medicina Intensiva, "SUMI," 2021. https://sumi.uy/.
5. Worldometer, "Coronavirus," 2021. https://www.worldometers.info/coronavirus/.
6. Liang W, Guan W, Chen R, Wang W, et al. Cancer patients in SARS-CoV-2 infection: a nationwide analysis in China. Lancet Oncol. 2020; 21 (3): 335-337. https://doi.org/10.1016/S1470-2045(20)30096-6
7. Sylveira N, Camblor M, Martinez L, Krygier G. Recomendaciones acerca del diagnóstico y tratamiento oncológico de los tumores urológicos en Uruguay durante la pandemia COVID 19. 2020. https://www.comisioncancer.org.uy/auc-documento.aspx?241,900.
8. Fizazi K; pour les membres du bureau du Groupe d'étude des tumeurs uro-génitales. Options thérapeutiques en cancérologie génito-urinaire en période épidémique du COVID-19 [Therapeutic options for genitourinary cancers during the epidemic period of COVID-19]. Bull Cancer. 2020; 107 (4): 395-397. https://doi.org/10.1016/j.bulcan.2020.03.003
9. Roupret MM, Rozet F, Bensalah K, Murez T, et al. Recommandations CCAFU sur la prise en charge des cancers de l'appareil urogénital en période d'épidémie au Coronavirus COVID-19. Association Francaise D´Urologie, 2020. https://www.urofrance.org/base-bibliographique/recommandations-ccafu-sur-la-prise-en-charge-des-cancers-de-lappareil-urogenital-en-periode-epidemie-covid-19
10. Patel K, Choudhury A, Hoskin P, et al. Clinical Guidance for the Management of Patients with Urothelial Cancers During the COVID-19 Pandemic - Rapid Review. Clin Oncol (R Coll Radiol). 2020; 32 (6): 347-353. https://doi.org/10.1016/j.clon.2020.04.005

Special Content

Urologic cancer during the COVID-19 pandemic in Panama: An expert opinion.

Ramón Rodríguez-Lay

Urology Surgeon, President of Sociedad Panameña de Urología, Panama City, Panama

Correspondence
Ramón Rodríguez Lay
rarodlay@gmail.com

In Urology we have understood that Urologic cancer must be given priority with early and timely treatment. In view of the scientific evidence, postponing it is not a sustainable option. However, in 2020 the paradigm shifted. Even though it started filled with hope, like each new year, we would soon receive news from China. In the latter months of 2019, a new virus was affecting the population with pneumonias, and that only 20% of those infected would seek inpatient treatment. Nevertheless, the authorities of that country celebrated the erradication of the same in March 2020. That information, especially the celebration, reassured us no doubt, and I would dare to say made us, underestimate the extent of SARS-CoV-2.

It is precisely in March 2020 when the Chinese jubilantly cheered on medical personnel that the first case appeared in Panama, that curiously enough was the first death: a teacher who became infected with a strain brought from trips to Europe.

The initial measure of the government were feeble. They didn't close the airspace or borders early, and lockdowns began occurring when diagnoses increased exponentially. Today Panama has one of the highest diagnostic testing rates per inhabitant of the region, and also the highest incidence rate of the disease. Clinical registries report that in mid-February 2021, more than 330,000 people were diagnosed, and more than 5,600 had died in an overall population of 4 million inhabitants.

But what happened in the hospitals was unpredictable. They have been converted into care centers, and nearly 100% of patient care was treating only one disease. The closure of operating rooms where elective surgeries are performed soon took effect. Only vital emergencies were able to get scheduling.

At the start of the pandemic, medical personnel (including myself), went through a period of fear and denial when having to attend to these sick patients, however, strength of necessity and appeals from the population motivated us to face it with courage and dedication.

The Metropolitan Hospital Complex, Dr. Arnulfo Arias Madrid, in Panama City, which is the main hospital of the Costarrican Social Security Office, and therefore, a reference site for one of the most complex illnesses in our country, has been converted into a COVID hospital.

As Urologists, we are obligated to change traditional pathology management, and we try to defer surgical management. What follows are urinary retentions and the placing of ureteral cath-

eters for renal decompression. Surgical treatment for Urologic cancer took into account the relative urgency of the situation and time slots that opened for patients. However, a timely diagnosis is followed by a waiting list, since elective outpatient services have been delayed, since many of us have had to cover Covid area in hospitals to support frontline doctors that were showing apparent signs of exhaustion.

Urology Services performs more than 150 radical prostatectomies for prostate cancer annually. For example, in 2020, we have only had 30 patients with this diagnosis for the operating room. In the near future we must expect disseminated disease in multiple patients which will lead to a disastrous situation for patients and for the economic health of the country. Conversely, less common pathologies such as Penile cancer are present. We know that the most efficient therapeutic option for the latter condition is surgery, in order to maintain an appropriate safety margin and for the early removal of inguinal lymphatic tissue and the tumor resection site of this disease. If anything good has come out of this pandemic, it has brought about a paradigm shift in the surgical approach to lymph node dissection (surgical excision of lymphatic tissue) on an inguinal that was typically open, with high post-operative morbidities, and therefore, prolonged hospitalizations. The lack of bed days for another condition that is not Covid related made us attempt laraparascopic surgery. At first, we were concerned about the operating time, but grounded in determination and persistence we have now gained enough experience to perform them with adequate operative time requiring one night's hospital stay, and the postoperative results were profoundly better.

Table 1. Surgical management of urologic cancer in the pandemic. Chmdraam

Prostate cancer	30
Bladder cancer	18
Adrenal tumors	5
Testicular cancer	4
Penile cancer	10
Upper tract urothelial cancer	6
Renal cancer	20
Total	93

We are well aware that with the mitigating transmission of Covid, we are faced with decompensated chronic diseases and tumors of size and complexity that demand the very best of us. We hope to stay healthy, vaccinated, and fully ready to follow the rugged path of academic excellence that is founded on continuing medical education.

Review article
Bol Col Mex Urol 2021; 36 (Supl. 1): 68-74.

Strategies to reactivate urological activity during COVID-19 pandemic.

Estrategias para la reactivación de la urología durante la pandemia de COVID-19

Beatriz Gutiérrez-Hidalgo, Juan Gómez-Rivas, Irene de la Parra, Roser Vives-Dilme, Lorena Fernández-Montarroso, Jesús Moreno-Sierra

Abstract

The disease caused by new coronavirus, named COVID-19, has had a significant impact on healthcare system globally. The need to attend several affected patients by this disease has forced us to reorganise our medical and personal resources, stopping urological activity almost entirely during the first COVID-19 outbreak. After the number of cases was partially controlled, urological activity was slowly restarted, prioritising oncology and lithiasis pathology in several places. A review of the current situation of the urological patients is shown in this article, and also the strategies for the care and management of urological tumours in moments when social distance and minimisation of contagions are critical when making decisions, and when sanitary resources are limited due to the current pandemic.

KEYWORDS: Coronavirus; COVID-19; Resources; Lithiasis; Urological tumors; Pademic.

Resumen

La enfermedad ocasionada por el nuevo coronavirus, llamada COVID-19, ha tenido un efecto trascendental a nivel mundial en el ámbito sanitario. La necesidad de atender a un gran volumen de pacientes afectados por esta enfermedad ha obligado a reestructurar los recursos médicos y de personal, frenando la actividad urológica casi en su totalidad durante el primer brote de contagio. Según se han controlado la cantidad de casos, al mismo tiempo se ha reintroducido la actividad urológica, teniendo que priorizar los casos oncológicos y con litiasis en diversos servicios médicos. A continuación se revisa la situación actual de pacientes con neoplasias urológicas, su cuidado y tratamiento, en estos momentos en los que la distancia de seguridad y la minimización del riesgo de contagio son claves a la hora de tomar decisiones, y en los que los recursos sanitarios se ven limitados por la situación de la pandemia actual.

PALABRAS CLAVE: Coronavirus; COVID-19; recursos; litiasis; neoplasias urológicas; pandemia.

Urology Department Clínico San Carlos Hospital. Health Research Institute of Clínico San Carlos Hospital. Complutense University. Madrid. Spain.

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Correspondence
Juan Gómez Rivas
juangomezr@gmail.com

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INTRODUCTION

In March 2020, the World Health Organization (WHO) declared Coronavirus-2 disease (COVID-19) disease as a pandemic. The causal agent of this infection is SARS-CoV-2, an RNA virus with similar characteristics to severe respiratory syndrome coronavirus (SARS-CoV) that caused in 2003 SARS global pandemic.[1]

The human-to-human transmission from respiratory droplets or secretions and its high infectiousness led to the increased spreading of the disease. Common symptoms are fever, dry cough, muscle fatigue or dyspnea. Many infected people can be asymptomatic or have mild symptoms, but others (especially if they have risk factors) can develop bilateral pneumonia and fatal complications that can lead to death.[2]

As a consequence of the increase in the number of cases, higher demand for care of these patients was seen in hospitals around the world, with a major impact on hospital organisation. The Intensive Care Units (ICUs) were with full occupancy in several places, and the lack of equipment to take care of patients appropriately and lack of health care providers led to a reorganisation of hospital activities. As a consequence, surgical activity and diagnosis procedures were reduced or suspended, being detrimental to the rest of patients, especially those with oncological pathologies.[3,4]

We expose several strategies that can help to continue our urological activity minimising contagious risk inside the hospital. It is essential to decide the best moment to treat patients, taking care of several aspects: age, comorbidities, urological disease, risk of progression if delayed treatment, among others.

Reorganisation of the elective surgery

Due to the limited number of hospital resources during the COVID-19 pandemic, we have been forced to select patients who need surgery earlier and decide which patient's treatment can be delayed. To make this decision, it is crucial to consider the age and comorbidities, thinking that older patients with several comorbidities have an increased risk of adverse outcomes in COVID-19 disease during post-operative period.[2,3] Another point to keep in mind is the disease to treat, prioritising urological pathologies that short-term delays can detriment to patient's survival.[2]

Table 1 shows a summary of the European Association of Urology (EAU) recommendations about the categorisation of oncological procedures into priority groups, based on the consequences of delaying the procedure.[5]

COVID-19 pandemic has had a negative impact on non-oncological pathologies with no priority but impacting the quality of life. When the pandemic is over, it will be a challenge to attend to all these non-oncological pathologies as benign prostatic hyperplasia, erectile dysfunction, functional problems such as incontinence, and minor surgeries due to the extent of surgical waiting lists.[3]

To resume urological activity safely, protocols are needed to prevent COVID-19 infection. First of all, it is advisable to perform telephone surveys about COVID-19 symptoms. Previous to hospitalisation for surgery, a negative test performed by nasopharyngeal swabs in all cases will be needed. Inpatients have to maintain social distance during the hospitalisation peri-

Table 1. Summary of EAU guidelines Office Rapid Reaction Group for oncological conditions (EAU guidelines)

	Priority	Definition	Treatment
Oncological conditions	**Emergency**	Life-threatening situation	Cannot be postponed for more than 24 hours
	High priority	Clinical harm (progression, metastasis, loss of organ function and deaths very likely if postponed > 6 weeks)	Prevent delay of more than 6 weeks
	Intermediate priority	Clinical harm (progression, metastasis, loss of organ function) possible if postponed 3-4 months but unlikely	Not recommended postponing more than 3 months. *Reconsider in case of increase in capacity
	Low priority	Clinical harm (progression, metastasis, loss of organ function) very unlikely if postponed 6 months	Can be postponed up to 6 months

od, and all beds have to be at least one meter apart.[2,3] Finally, they will be asked to use a surgical mask during hospital admission. Medical personnel will be asked to use a surgical mask during their working shift and keep social distance, doing appropriate hand hygiene.[3]

The moment of greatest risk of infection in the surgery is during intubation and extubating. For that reason, only an anaesthetist and a nurse should be at the ward and the surgical team should wait outside during this process.[6] Skilled surgeons should perform surgeries to avoid post-operative complications and reach early discharge of the patient when possible.[3,7]

During post-operative care, visits should be avoided or at least limited in time and number of visitors, depending on the basal situation of the patient. If the patient's outcome is favourable and there is no compromise of patient's health, earlier discharge with a general control a few days later via phone call or telemedicine is suggested.[8]

General recommendations about oncological disease management

Urological cancer has been severely impaired due to the COVID-19 global pandemic. First of all, the pandemic has caused a delay in the diagnosis process due to the cancellation of several diagnostic techniques. In the same way, it caused a delay in treatment of these pathologies, with the patient's inconveniences that it entails.[9]

Prostate cancer

Many hospitals have had to cancel diagnostic procedures such as prostate biopsy. Due to the risk of COVID-19 infection, some authors recommend to delay the diagnosis of prostate cancer (PC) until the crucial phase of the pandemic has passed, whenever there are no factors of increased risk.[10] High risk is suspected by important increased of prostate-specific antigen (PSA), suspicious digital rectal examination (DRE) or suspected image on multiparametric magnetic resonance imaging (mpMRI) like PI-RADS 3 or higher. In the case of positive patients, we should wait until infection is solved, and they have a negative test to realise the procedure [9]. It is crucial to individualise every case and make decisions assessing the patient's benefits and risks. To decide the best management, it is necessary to consider the risk groups definition of the EAU guidelines.[11]

A summary about CP treatment during COVID-19 period:[9,10,12]

- Localised and locally advanced disease: if low risk, we can offer to the patient active surveillance. If an intermediate-high risk and patients are suitable for radical surgery, radical prostatectomy can be delayed without adverse outcomes up to 6 months. If external radiation therapy (RT) is proposed, it is possible to add androgen deprivation therapy (ADT), allowing it to delay the procedure safely.

- Advanced disease: we have to individualise based on patient's features and multidisciplinary management. If metastatic hormone-sensible disease or metastatic castration-resistant disease androgen-receptor-axis targeted therapies plus ADT is an acceptable option.

Bladder cancer

Due to the baseline of patients with bladder cancer, elderly, smokers, and several comorbidities are at risk of COVID-19 infection. We have seen a delay in the diagnosis of bladder cancer, findings tumours of larger size and probable of worse prognosis. If a patient has macroscopic haematuria, she/he should be evaluated with at least urinary cytology and cystoscopy. If a blad-

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der mass is found, transurethral resection of bladder tumour (TURBT) should be performed as it is considered a non-deferrable procedure.[5]

Non-muscle invasive bladder cancer low grade has good outcomes, so follow up with cystoscopy can be delayed. High-grade needs to be treated with Bacillus Calmette-Guerin (BCG) and requires closer monitoring due to the higher risk of recurrence or progression.[9]

Muscle invasive bladder cancer has worse outcomes if treatment is delayed, so radical cystectomy should be considered a non-deferrable procedure.[5] In hospitals that have ICUs with full occupancy, an alternative could be bladder-sparing trimodality with TURBT, RT and chemotherapy. Still, every case has to be properly analysed with risks and benefits balance.[9]

Other genitourinary tumours

High-risk tumours treated by nephroureterectomy can be safely delayed up to 3 months in upper tract urothelial carcinoma. We should perform urinary cytology and computer tomography (CT) urography if this tumour is suspected.[9]

If a renal mass is founded, those with small size (< 4 cm) could be proposed for active surveillance. If the tumour suspected is considered T1b or higher, tumour and patients features have to be considered previously nephrectomy is performed. If vena cava is involved, treatment should not be delayed.[9]

In testicular and penile cancer cases with a recent diagnosis, surgical treatment should not be delayed because of the rapid spread of tumour cells.[9]

Telemedicine during the COVID-19 period

Due to the COVID-19 pandemic and the need to limit in-person hospital visits, with the suspension of medical consultations, urological activity has had to adapt to the new social and economic situation. This scenario has imposed significant challenges to urology health care providers. As a consequence, there has been an increase in telemedicine use. Before the pandemic, telemedicine in urological departments was unusual, so this form of medical attention is not thoroughly described in the literature.[12]

For the implementation of telemedicine, it is recommended a secure and robust internet platform to adequate and secure data management and minimise technical failure.[13] It is essential to reflect in clinical history the informed consent and ensure patient privacy.[14] Several modalities of telemedicine are described, as video visits, electronic consults, tele-rounding, tele-monitoring, online education, etc.[15] Telemedicine regulations between countries still vary, and a regulatory framework to authorise and integrate telemedicine for all the patients is needed.[16]

Dublin et al,[8] performed a survey about the use of telemedicine by urologists before and after the COVID-19 pandemic. Before the COVID-19 scenario, urology was one of the specialities with the lowest rates in telemedicine usage. With all the restrictions that the pandemic has entailed, this survey results show that urologists nearly tripled the use of telemedicine. The most frequent platforms used were Zoom®, Doxy.me®, EPIC®, WhatsApp® and Skype®.

A good triage process is needed to decide properly which patients are suitable for being assisted by telemedicine. As it is shown in **Figure 1**, important aspects to value are: *1)* the urological disease (oncological, non-oncological), *2)* the patient features (age, comorbidities, grade of dependency), *3)* need for physical exploration, *4)* need for complementary in-person diagnosis test (such as cystoscopy) and *5)* distinguish acute disease that requires urgent management

in the emergency room.[13] For example, older adults with comorbidities that are at risk of severe COVID-19 infection could benefit most from telemedicine, but patients that need physical exploration would not be ideal candidates.[12] It is an excellent alternative to follow-up patients with prostate cancer, but for example is not suitable to follow-up bladder tumours because of the need for cystoscopy.

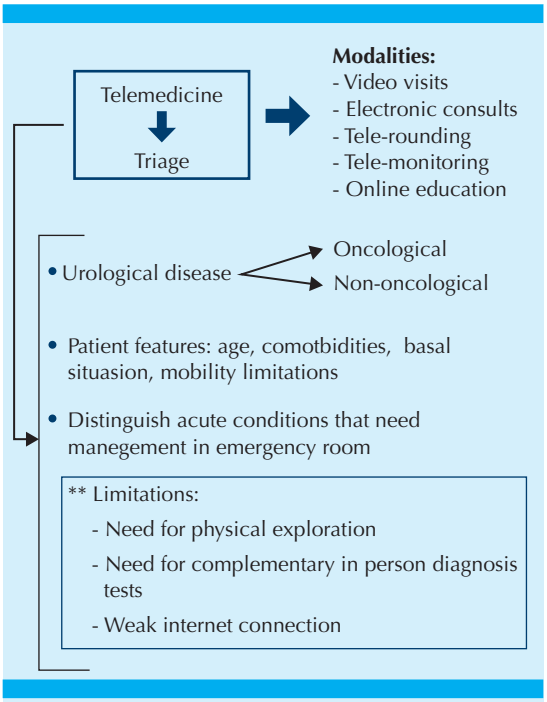

Figure 1. Telemedicine modalities. Essential aspects about triage process.

There are several positive aspects of telemedicine. It allows an early discharge of patients safely, with control of post-operative evolution without making the patient come to the hospital.[3,13] Other advantages are the reduced spread of COVID-19 infection, the reduced transmission between hospital workers, and the avoidance of unnecessary visits to clinics. Telemedicine allows the reduction in patient's travels and the reduction of missed working days. Several surveys have proved that this form of medicine satisfies the patient when referred to follow-up care.[17-19]

Boehm k, et al.[19] analysed 399 outpatients during four months of follow-up. They observed that 63.2% of these patients were eligible for telemedicine, and about this percentage, 54.1% of the patients were willing to keep a telemedical appointment.

These benefits previously exposed probably will lead to maintaining the use of telemedicine beyond the COVID-19 pandemic.

However, telemedicine is not free of limitations. It is important to be aware that urological patients are often an elderly population, not used to new technologies and not with easy access to the technological requirements needed for telemedicine. This challenge can make the follow-up difficult for this age group [12]. Nowadays, there is a disparity of access to technology, lacking access to high-speed internet connectivity in some rural and inner towns. Besides, a weak internet connection can lead to interruptions during an online encounter. As an alternative to this failure, patients can be reported to a telemedicine centre, where connectivity has maximum reliability, and staff can help with technical problems.[15] Another disadvantage is that physical examination cannot be performed, so this evaluation method should be prioritised to give results of laboratory and imaging tests.[8,18]

Due to the new application of this technology, many urologists will need adequate preparation and training to use these platforms properly and perform a good patient evaluation.[13]

About future directions and new possibilities, some pioneered hospitals use robots equipped with a video camera and with features to realise blood and urine test and compile vital constants in patients that are at home and need close surveillance.[15] The acute situation of pandemic gives us several challenges to adapt our clinical activity to a moment where social distance is the most important to prevent COVID-19 infection.

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Impact of COVID-19 on Urology trainees

The COVID-19 period has affected urology trainees in improving surgical skills, reducing formative and training programs, and general practice from day to day because of decreased urological activity in hospitals. Moreover, rotations between different hospitals and abroad fellowships have been restricted or cancelled.[3]

The redistribution of healthcare providers, the reduction of diagnostic tests such as cystoscopies and prostate biopsies, the cancellation of medical consultations and the decrease in surgical activity have negatively affected the learning curve of residents and young surgeons.[4]

To reduce surgical time, reduce exposure to the virus and prevent possible complications, is recommended surgeries to be performed by the most senior surgeon, which affects the learning curve of the young surgeons. Urological meetings programmed for 2020 and 2021 have been suspended or reorganised by technological platforms due to the mobility restrictions and the need to maintain social distance.[20,21]

For these reasons, new learning ways are needed like webinars, live broadcast of surgeries and online courses.[14] For example, the EAU organisation has an education section with e-courses, videos and webinars to maintain trainees formation (https://uroweb.org/education/online-education). Another useful platform is the EAU Surgery in Motion School (https://surgeryinmotion-school.org/), tools to continue the theoretical learning of residents. Positive aspects of these ways of urological formation are the easy access to the information and the possibility to participate in these courses even during quarantine period.[3,20]

CONCLUSIONS

COVID-19 pandemic has affected our speciality in several aspects. With the subtle control of the positive cases, it is a great challenge to properly reactivate urological activity. It is essential to value the benefits and risks of the patients needing surgery to decide the best moment of treatment and prevent unnecessary exposure to the virus. Telemedicine has a crucial role in this pandemic and probably will still be used after the pandemic. Nevertheless, several aspects in its use and the platforms that are used need to be established. Young trainees have a big challenge to maintain their urological formation during the pandemic and will have to take advantage of the new tools to continue their theoretical learning. Finally, when positive cases are more controlled, and the hospitals are not so overloaded, it is essential to start treatment of no-oncological pathologies that do not threat patient surveillance but have an important impact on the quality of life relegated to a second plane.

REFERENCES

1. González J, Ciancio G. Early experience with COVID-19 in kidney transplantation recipients: update and review. Int Braz J Urol. 2020; 46 (suppl.1): 145-155. https://doi.org/10.1590/S1677-5538.IBJU.2020.S114
2. Bravo-Castro EI, López-Secchi G, Díaz-Gómez C, Torres-Gómez J, et al. COVID-19: Measures to prevent hospital contagion. What do urologists need to know?. Int Braz J Urol. 2020; 46 (suppl.1): 113-119. https://doi.org/10.1590/S1677-5538.IBJU.2020.S117
3. Esperto F, Prata F, Civitella A, Pang KH, et al. Implementation and strategies to ensure adequate coordination within a Urology Department during the COVID-19 pandemic. Int Braz J Urol. 2020; 46 (suppl.1): 170-180. https://doi.org/10.1590/S1677-5538.IBJU.2020.S122
4. Teoh JY, Ong WLK, Gonzalez-Padilla D, Castellani D, et al. A Global Survey on the impact of COVID-19 on Urological Services. Eur Urol. 2020; 78 (2): 265-275. https://doi.org/10.1016/j.eururo.2020.05.025
5. Ribal MJ, Cornford P, Briganti A, Knoll T, et al. European Association of Urology Guidelines Office Rapid Reaction Group: An Organisation-wide Collaborative Effort to Adapt the European Association of Urology Guidelines Recommendations to the Coronavirus Disease 2019 Era. Eur Urol. 2020; 78 (1): 21-28. https://doi.org/10.1016/j.eururo.2020.04.056
6. Puche-Sanz I, Sabio-Bonilla A, Sánchez-Conde V, et al. Cirugía de urgencia en urología durante la pandemia Covid-19 [Emergency surgery during COVID-19 pandemia. Arch Esp Urol. 2020; 73 (5): 353-359.

7. Cacciamani GE, Shah M, Yip W, Abreu A, et al. Impact of Covid-19 on the urology service in United States: perspectives and strategies to face a Pandemic. Int Braz J Urol. 2020;46(suppl.1):207-214. https://doi.org/10.1590/S1677-5538.IBJU.2020.S126
8. Dubin JM, Wyant WA, Balaji NC, Ong WL, et al. Telemedicine Usage Among Urologists During the COVID-19 Pandemic: Cross-Sectional Study. J Med Internet Res. 2020; 22 (11): e21875. https://doi.org/10.2196/21875
9. Rodríguez-Covarrubias F, Castillejos-Molina RA, Autrán-Gómez AM. Summary and considerations in genitourinary cancer patient care during the COVID-19 Pandemic. Int Braz J Urol. 2020; 46 (suppl.1): 98-103. https://doi.org/10.1590/S1677-5538.IBJU.2020.S115
10. Gómez-Rivas J, Domínguez M, Gaya JM, et al. Cáncer de próstata y la pandemia Covid-19. Recomendaciones ante una nueva realidad [Prostate cancer and COVID-19 pandemia: Current recommendations.]. Arch Esp Urol. 2020; 73 (5): 367-373.
11. Van den Broeck T, van den Bergh RCN, Briers E, Cornford P, et al. Biochemical Recurrence in Prostate Cancer: The European Association of Urology Prostate Cancer Guidelines Panel Recommendations. Eur Urol Focus. 2020; 6 (2): 231-234. https://doi.org/10.1016/j.euf.2019.06.004
12. Rodriguez-Sanchez L, Cathelineau X, Alva-Pinto MA, Borque-Fernando A, et al. Clinical and Surgical Assistance in Prostate Cancer during the COVID-19 Pandemic: Implementation of assistance protocols. Int Braz J Urol. 2020; 46 (suppl.1): 50-61. https://doi.org/10.1590/S1677-5538.IBJU.2020.S106
13. Novara G, Checcucci E, Crestani A, Abrate A, et al. Telehealth in Urology: A Systematic Review of the Literature. How Much Can Telemedicine Be Useful During and After the COVID-19 Pandemic?. Eur Urol. 2020; 78 (6): 786-811. https://doi.org/10.1016/j.eururo.2020.06.025
14. Gómez-Rivas J, Rodríguez-Serrano A, Loeb S, et al. Telemedicine and smart working: Spanish adaptation of the European Association of Urology recommendations. Telemedicina y trabajo inteligente: adaptación al español de las recomendaciones de la Asociación Europea de Urología. Actas Urol Esp. 2020; 44 (10):644-652.
15. Carrión DM, Gómez-Rivas J, Rodríguez-Socarrás ME, Mantica G , et al. Implementación de la teleconsulta en la práctica urológica durante la era Covid-19: ¿qué hemos aprendido? [Implementation of Remote Clinics in urology practice during the COVID-19 era: What have we learned?]. Arch Esp Urol. 2020; 73 (5): 345-352.
16. Miller A, Rhee E, Gettman M, Spitz A. The Current State of Telemedicine in Urology. Med Clin North Am. 2018; 102 (2): 387-398. https://doi.org/10.1016/j.urology.2016.02.061
17. Ohannessian R, Duong TA, Odone A. Global Telemedicine Implementation and Integration Within Health Systems to Fight the COVID-19 Pandemic: A Call to Action. JMIR Public Health Surveill. 2020; 6 (2): e18810. https://doi.org/10.2196/18810
18. Donelan K, Barreto EA, Sossong S, Michael C, et al. Patient and clinician experiences with telehealth for patient follow-up care. Am J Manag Care. 2019; 25 (1): 40-44.
19. Rodriguez-Socarrás M, Loeb S, Teoh JY, Ribal MJ, et al. Telemedicine and Smart Working: Recommendations of the European Association of Urology. Eur Urol. 2020; 78 (6): 812-819. https://doi.org/10.1016/j.eururo.2020.06.031
20. Boehm K, Ziewers S, Brandt MP, et al. Telemedicine Online Visits in Urology During the COVID-19 Pandemic-Potential, Risk Factors, and Patients' Perspective. Eur Urol. 2020;78(1):16-20. https://doi.org/
21. Pang KH, Carrion DM, Rivas JG, et al. The Impact of COVID-19 on European Health Care and Urology Trainees. Eur Urol. 2020;78(1):6-8. https://doi.org/10.1016/j.eururo.2020.04.042

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Impact and recommendations in the face of the COVID-19 pandemic in Latin American Pediatric Urology.

Efecto y recomendaciones ante la pandemia por COVID-19 en Urología pediátrica en Latinoamérica

Sebastián B. Tobia-González,[1] Francisco Javier González-Ledón[2]

Abstract

The COVID-19 pandemic has impacted the entire world, first in Asia and Europe and later in Latin America. Due to the geopolitical diversity in the region and the proposed management of the pandemic, the impact was very different in the countries that comprise it. To this is added the different health systems present in each country in particular and in countries in general with different infrastructure to deal with this situation. This is why it was necessary to propose care protocols in the different medical specialties, in order to be close to the health context and pediatric urology was no exception. Although there is still no information on the impact in all the countries of the region, this study attempts to show the same in pediatric urology, what we learned and are learning during this period and the proposed recommendations for both spikes of contagion and for the transition to normal healthcare.

KEYWORDS: COVID-19 pandemic; Asia; Europe; Latin America; Health systems; Medical specialties; Pediatric urology; Healtcare.

Resumen

La pandemia por COVID-19 ha repercutido en todo el mundo, primero en Asia y Europa, y más adelante en Latinoamérica. Por la diversidad geopolítica de la región y el propuesto ante la pandemia, el efecto fue diferente en los países que la componen. A esto se agregan los diferentes sistemas de salud de cada país y en aquellos con diferentes infraestructura para afrontar esta situación. Por ello fue necesario proponer protocolos de atención en las distintas especialidades médicas, con la finalidad de adecuarse al contexto sanitario (la urología pediátrica no fue la excepción). Aunque no existe información de la repercusión en todos los países de la región, este estudio intenta mostrar el mismo en la Urología pédiátrica, lo que aprendimos y estamos aprendiendo durante este período, y las recomendaciones propuestas para los brotes de contagio y la transición hacia la normalidad de atención sanitaria.

PALABRAS CLAVE: Pandemia por COVID-19; Asia; Europa; Latinoamérica; especialidades médicas; Urología pediátrica; atención sanitaria.

[1] Urology Department, Children´s Hospital "Sor María Ludovica", La Plata, Argentina.
[2] Urology Derpartment, Hospital Infantil de México Federico Gómez, Mexico City.

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Correspondence
Sebastián B. Tobia González
sebastian.tobia@gmail.com

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GEOPOLITICAL-SANITARY FRAMEWORK

A year has passed since the coronavirus landed in Latin America, when Brazil confirmed the first case in São Paulo on February 26, 2020. After a month, the countries of the region closed schools and airports, closed businesses and implemented a range of restrictions in an attempt to control the pandemic. Tragically, few were helpful, and the region's total COVID-19 deaths exceeded 600,000 at the end of January 2021.[1] As of September 14, Latin America has registered more than 8.3 million cases and more than 310,000 deaths. By September 2020, it is the worst affected area in the world, along with Asia. The two most populous nations, Brazil

and Mexico, have suffered the highest number of deaths, more than 133,000 and 71,000 respectively, according to data from Johns Hopkins University. Brazil is the second country with the highest death toll in the world, after the United States, Peru has had more than 30,000 confirmed deaths and Colombia has registered more than 23,000. But researchers say that in addition to the cases, the deaths may also be underestimated. Furthermore, countries record deaths in different ways, making it difficult to compare between countries.[2] Even as vaccines appear offering a light at the end of the tunnel, the start of 2021 began with outbreaks and fears of new variants, threatening the hope for a speedy recovery.

Based on the foregoing, it is undeniable that the COVID-19 Pandemic has modified medical care in general throughout the world, and obviously this has affected pediatric urology, impacting on diagnostic and treatment methodologies in this branch of medicine. You just have to review the scientific publications during 2020, to see how medicine has been modifying the guides of different specialties, selecting pathologies and proposing alternative methods, either for consultations and / or treatment in different pathologies.

This also occurred in pediatric urology specialty, in July 2020, in the International Brazilian Journal of Urology, Dr. Anna Bujons Tur and collaborators,[3] carried out a systematic review of the effect of the pandemic in pediatric urology, finding a very scarce availability of publications specifically in pediatric urology, as well as of the scientific societies of the specialty. The authors, members of the Board of Directors of the Ibero-American Society of Pediatric Urology (SIUP), propose, based on the information collected so far, some considerations in the selection of patient care in pediatric urology, based on the recommendations of European Association of Urology / European Society of Pediatric Urology (EAU / ESPU) and the American Urological Association (AUA), **Table 1** to minimize exposure to the hospital environment of patients. Concluding in that document that the COVID-19 virus has had a dramatic impact on the normal life of departments and / or services.

On the other hand, an attempt has been made to establish later, following the evolution of the pandemic, after passing those months of the containment phase and beginning a new stabilization phase, with fewer infections, with the health system moderately desaturated and the countries in different transition phases, try to resume non-urgent surgical activity. Although most pediatric urology surgeries are elective and can take several months, this delay will represent unavoidable suffering if delayed for a long period of time. This transition phase inevitably entails the restructuring of our pediatric urology elective care and surgical activity, and its resumption proposes a constant challenge in the coming months, with the aim of working to solve the delay and the need for advice on surgical prioritization, particularly taking into account that in Latin America there are different health realities, with new waves of infections and the appearance of new strains of COVID-19.

The Spanish Urological Group of Pediatric Urology (GEUP)[4] initially proposed a strategy for this transition period, in an orderly and progressive manner, taking into account the ups and downs of the Pandemic, clarifying that, given the scarcity of bibliography and from experience in this health crisis situation, it is essential to apply strict prevention protocols in the medical-surgical care of pediatric patients with urological pathology, emphasizing that the use of good sense, common sense and the weighting of the benefit / risk on the part of the physician must prevail over any protocol. This group, which transmits its general recommendations to us in this transition stage for activity in Pediat-

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Table 1. Recommendations from the EAU/ESPU Paediatric Urology Guidelines Panel applicable

Diagnosis and outpatient clinics for paediatric urology cases				
Priority category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
Definition	Clinical harm very unlikely if postponed 6 months	Clinical harm possible if postponed 3-4 month but unlikely	Clinical harm very likely if postponed > 6 weeks	Life threatening situation
COVID-recommendation	Benign scrotal and penile pathology, incontinence.	Semi-urgent cases like initial post-operative ultrasound after upper tract surgery	Urgent cases in which delay may cause irreversible progression or organ damage: includes ultrasound, VCUG in suspected severly obstructed uropathy where surgery is still considered.	Continue all care in which delay is potentally organ threatening or life threatening.
Post-operative follow up schedule after surgery				
Priority category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
Definition	Clinical harm very unlikely if postponed 6 months	Clinical harm possible if postponed 3-4 month but unlikely	Clinical harm very likely if postponed > 6 weeks	Life threatening situation
COVID-recommendation	**Follow-up by 6 months** Orchidopexy, hydrocele, hypospadias, circumcision, inguinal hernia, buried penis, urolithiasis if no obstruction or infection	**Follow-up before end of 3 months** Any kind of anti-reflux surgery, pyeloplasty, incontinence surgery if bladder emptying is working.	**Follow-up within < 6 weeks** Pyeloplasty with possible loss of function. Recurrent UTI after anti-reflux surgery. Incontinence surgery with bladder emptying problems.	**Follow-up within < 24 h** Macroscopic hematuria after trauma. Inguinal hernia repair with onset of scrotal pain. Suspected bowel obstruction or intestinal perforation. Urolithiasis with signs of sepsis and/or obstruction. PUV with urinary retention. Local wound infection or abscess formation after any kind of surgery. Febrile UTI/urosseptical sings after any kind of surgery.
Surgical procedures for paediatric urology cases				
Priority category	**Low Priority**	**Intermediate Priority**	**High Priority**	**Emergency**
Definition	Clinical harm very unlikely if postponed 6 months	Clinical harm possible if postponed 3-4 month but unlikely	Clinical harm very likely if postponed > 6 weeks	Life threatening situation
COVID-recommendation	**Defer by 6 months**	**Treat before end of 3 months. Perform surgery that is semi-urgent.**	**Treat within < 6 weeks. Perform surgery for urgent cases in which delay will cause irreversible progression of disease or organ damage.**	**Treat within < 24 h. Perform surgery in case of organ threatening of life threatening disease.**

	Benign scrotal and penile surgery (orchidopexy, hydrocele, inguinal hernia, circumcision). Functional surgery (incontinence surgery, meatotomy, botulinum toxin injections). Genital reconstructive surgery (hypospadias, buried penis, other genital abnormalities). Benign (hemi)nephrectomy. Bladder augmentation, catheterisable stoma, appendicocecostomy due to the high and prolonged impact and resources. Bladder exthrophy correction depending on age and local situation	Surgery of VUR (open reimplant and bulk injection) Pyeloplasty if no loss of function. Urolithiasis if no infection or obstruction. Botulinum toxin injections for neurogenic bladder only in selected cases.	Pyeloplasty in UPJ obstruction with progressive loss of function or severe symptoms (consider drainage with JJ or nephrostomy) PUV POM with progressive loss of function Urolithiasis with recurrent infections	Urosepsis with obstruction (urolithiasis, ureterocele with obstruction or POM) Trauma with hemodynamic instability or urinoma formation. PUV if urethral or suprapubic catheter cannot be placed. Oncology (Wilms, malignant testicular/para-testicular tumors, RMS of bladder and prostate, resection may be considered depending on local situation and condition of child) Acute ischemia (testicular torsion – in neonates not exploring is an option due to low chance to salvage testis, very low risk of metachronous contralateral torsion and vulnerability of these patients). Paraphimosis.
General considerations				
While most children themselves may not be severely ill with COVID-19, this pandemic will impact paediatric urological care. Careful decision must be made on what care requires postponement and what care is essential to be continued. Depending on the resources and capacity we recommend to only treat high-priority and emergency cases surgically during the COVID-19 pandemic. Consider treating intermediate-priority patients if capacity is available, but not during the COVID-19 surge. It is important to note that postponing surgery in patients with obstructive urophaty (UPJ-, UVJ-obstruction, PUV, neurogenic bladder) may lead to loss of renal function and the decision to postpone may be revised depending on the duration of the local situation as well as the severity of obstruction in the individual case. Temporary drainage methods may be considered to bridge definitive surgery. Undoubtedly in the individual case of congenital abnormalities where the optimal surgical time point will be surpassed, such as hypospadias and cryptorchidism. These children may be at risk for suboptimal outmome or increase psychological burden due to delayed surgery and should beprioritised in the long waiting list.			

PUV: posterior urethral valves; POM: primary obstructive megaureter; UPJ: ureteropelvic junction; VCUG: voiding cystourethrogram; VUR: vesicoureteral reflux; UVJ: ureterovesical junction; UTI= urinary tract infection.

ric Urology Services, Sections or Units, clarifies that they must be adapted to each center following its rules and those given by the prevention service of occupational hazards. Mainly in relation to the activity of external consultations, they recommend promoting telematic consultations, leaving face-to-face consultations for new cases of pathologies that require exploration and for those revisions that are considered essential, following the prevention regulations adopted by each center and having Bear in mind that the number of patients seen will have to be reduced to avoid having more than two patients waiting with a minimum separation of 2 meters in the waiting rooms and with staggered hours, considering this from 20 to 30 minutes per pa-

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tient to achieve this effect. With regard to surgical activity, they recommend restarting them, giving priority to those considered to be of high and intermediate clinical priority, later being completed with dropouts (**Table 2**). All patients who undergo surgery must have a PCR test and an epidemiological survey of the relatives who come (never more than one person), together with the anesthetic evaluation. If there is doubt or the results of the PCR are not known and the intervention is not of high priority, it will be delayed until verifying the negativity of the tests. In cases where the intervention is considered essential and there are positive or doubtful tests, the surgery will be performed with all the protection measures given by your hospital for all operating room personnel (personal protective equipment, FPP2 masks, goggles, etc.), as well as the availability of a specific operating room for these situations with all the measures already described. The Hospital or center must have separate circuits for positive COVID-19 patients, both in the pediatric emergency, pediatric Intensive Care Unit and specific hospitalization. All these rules will have to be adapted as the pandemic evolves and the transition rules given by the Ministry of Health of each country (main health authority in each country).

Latin America data

Data on the impact of the COVID-19 pandemic on pediatric urology in Latin America are scarce, firstly due to the health differences in the management of the Pandemic in different countries, the different infrastructure available, and secondly because the region is still immersed, in some cases, in the first wave of contagion, without having been able to enter the transition phase. For example, in the Sor María Ludovica Children's Hospital in La Plata, Argentina, where the only public pediatric urology service is located, in the most populated province of the country, the reduction in consultations during 2020 compared to 2019 was of 42,98%, the reduction of surgeries it was of 38,19%, and in the urodynamics studies near of 50%. In Mexico, according to a survey of a group of pediatric urologists with 105 members, who were invited to participate anonymously, 52 urologists participated from 17 states with the following results: on the percentage of consultations in public institutions A 71% decrease was observed on average, 90% of those surveyed reported working in a public institution; Regarding the decrease in surgical procedures, a 68.75% decrease is referred. Re-

Table 2. Groups of children at higher risk for poor disease course (GEUP)[4]

Inmunosuppressed child	Primary inmunodeficiencies Sloid organ transplant and hematopoietic progenitor transplantation Treatment with chemotherapy, inmunusuppressants, or biological drugs Poorly controlled HIV (detectable CV, CD4 decrease, or CD4/CD8 inversion ratio)
Heart disease	With hemodinamyc repercussions With requirement for medical treatment Pulmonary hypertension On transplant waiting list Recent surgery or catheterization
Chronic respiratory pathology (chronic lung diseases)	Cystic fibrosis Bronchopulmonary dysplasia Severe asthma Under tracheostomy, oxygen therapy, or home mechanical ventilation
Others	Dialysis Sickle cell disease Type 1 diabetes mellitus with poor metabolic control Severe malnutrition, short bowel, epidermolysis bullosa, severe encephalopathies, myopathies, inborn errors of metabolism, etc.

garding private practice, respondents answered that 13% have not seen their private practice affected, but on average a decrease of 47% is observed, on average. Regarding the decrease in surgical procedures in private practice, an average decrease of 50% was observed. We found that 61% of those surveyed consider that the complexity of the interventions carried out in the public institution decreased. Since in most of these, priority has been given to emergencies and procedures that cannot be deferred or have been transformed into hospitals with COVID-19 priority. When asking about the quality of life and the impact that the pandemic has had, the majority of those surveyed referred to having had an impact on the change in health and social habits (47%) and also an economic impact (46%), therefore so practically 100% saw their quality of life affected. According to whether they perceived that the pandemic affected the development of professional skills, on a frequency scale "occasionally" and "frequently" were the responses of 61% of those surveyed. With regard to the feeling of "you are NOT going to work again as we did before", 32% of those surveyed occasionally think about it, but 25% refer to think about it frequently or always. When asked if the lack of face-to-face teaching activities such as congresses or scientific sessions is of concern, 20% say that almost always or always and 36% frequently. When asked, "Are you concerned about your health and that of your family due to professional risk?". The most frequent answer was "always" (56%), and if we add to these those who answered "almost always" and "frequently", increase the percentage to 90%. It is observed that 1 in 3 of those surveyed refers to having used a telemedicine tool, but in most cases they are commercial platforms to give online advice and not as such formal telemedicine tools. According to these results, it can be concluded that in Mexico the pediatric urological doctors has been affected both in private and institutional practice, with a decrease in the performance of procedures and their complexity in both settings, apparently private practice has been seen less affected although but cases with a decrease of up to 90%, which is worrying; Furthermore, there is no use of platforms in general for telemedicine and commercial means are used for this purpose. The situation of stress and concern that the pandemic generates in our daily lives is evident and is something that permanently worries health professionals dedicated to pediatric urology in Mexico and there is also an impact on the quality of life of this specialty.

In a paper known in recent months, carried out by the Porto Alegre´s pediatric urology group,[5] the results of a web survey carried out to members of the SIUP and the Brazilian School of Pediatric Urology (BSPU), carried out during the first peak of the pandemic in Latin America, based on the hypothesis that the workload of the Pediatric Urology Units (PUU) decreased during this period. This study aimed to assess burnout levels during the pandemic, concluding that the findings regarding PUUs show a large decrease in workload and hours in the operating room during the coronavirus pandemic, as well as low levels. of exhaustion during this period. In this survey and in a subsequent study,[5,6] a female predominance of the burnout syndrome was demonstrated, with levels worse than those reported by European and North American studies, probably attributable to sociocultural characteristics.

Recommendations

For all the above, the following summary of recommendations is proposed by scientific societies:

- Consider surgically treating only emergency and high-priority cases during the COVID pandemic.

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- Consider treating intermediate priority patients if capacity is available, but not during the peak of COVID.
- Nonsurgical management should be considered initially, including medical treatment (eg, antibiotics for urinary tract infections associated with vesicoureteral reflux), endovascular embolization (eg, for hemorrhagic renal trauma), or urinary tract diversion.
- Perform PCR for the COVID-19 test before any surgical intervention whenever possible.
- Follow local recommendations for personal protective equipment (PPE).
- Avoid or reduce the use of monopolar electrosurgery, ultrasonic dissectors, and advanced bipolar devices, as they can lead to the formation of particulate aerosols.
- All minimally invasive procedures should preferably be performed by experienced surgeons.
- It is recommended that the electrocautery power setting be reduced as much as possible to decrease the production of surgical smoke, especially in laparoscopic surgery. During access, the electrocautery must be provided with an automatic suction system.
- It is recommended to reduce visits to the outpatient clinic during the different stages of severity of the COVID-19 pandemic.
- Meetings of multidisciplinary teams are recommended to offer the optimal therapy.
- Whenever possible, regional or local anesthesia should be considered to avoid the need for mechanical ventilation.

CONCLUSIONS

Despite the lack of available data, we can say that the COVID-19 virus has had a dramatic impact on the normal life of pediatric urology departments and / or services, with a greater impact on female staff. Due to the need to adopt strategies to contain the spread, all surgical departments must be restricted and carry out an orderly transition according to the evolution in each country. Surgery is recommended only for life-threatening or life-threatening illness during peak periods of the pandemic. It is suggested to reduce outpatient visits during the various stages of severity of the COVID-19 pandemic, implementing, as far as possible, some modality of care through telemedicine.

REFERENCES

1. AS/COA. El coronavirus en América Latina. 2021. www.as-coa.org
2. BBC News. Coronavirus en América Latina ¿cuál es la situación de la pandemia en la región?. www.bbc.com
3. Bujons Tur, A, Prieto JC, Gómez-Fraile A, Corbetta JP. The effect of the Covid-19 Pandemic on pediatric urology. Int Braz J Urol;46(suppl.1):133-144, 2020. https://doi.org/10.1590/S1677-5538.IBJU.2020.S112
4. Bujons Tur A, Gómez-Fraile A, López Pereira P, Serrano A. El impacto del COVID-19 en la epoca de transición o "desescalada" en la urología pediátrica. Arch Esp Urol. 2020; 73 (5): 455-462.
5. Ovalle-Diaz J, Rebello-Horta Gorgen A, Gularte-Texeira da Silva A, de Oliveira-Paluda A, et al. Burnout syndrome in pediatric urology: a perspective during the COVID-19 pandemic — Ibero-American Survey. J Ped Urol 2021; S1477-5131(21)00014-0. https://doi.org/10.1016/j.jpurol.2021.01.015
6. Gularte-Teixeira da Silva A, Ovalle-Diaz J, Rebello-Horta Görgen A, Schwenberg VH, et al. Brazilian Urologist's mental health aspects during the Covid-19 pandemic. Int Braz J Urol 2021; 47. https://doi.org/10.1590/S1677-5538.IBJU.2020.0869

Review article
Bol Col Mex Urol 2021; 36 (Supl. 1): 82-87.

What has the COVID-19 pandemic meant for urology residency training?

¿Qué significa la pandemia COVID-19 para los residentes de Urología?

Elena Seguí-Moya,[1] Leonardo Tortolero-Blanco[2]

Abstract

The COVID-19 pandemic has had a great impact on the training of Urology residents. In this article we analyze the reasons for this impact from the evaluative, didactic, care, surgical and health of the residents' point of view. A literature review was conducted using the terms Urology training and COVID-19, prioritizing academic and surgical training articles in Urology. Due to the extreme pressure on the healthcare system stemming from the pandemic, residency training programs have suffered serious consequences, and a way has been sought to remedy this situation using adaptations and promoting online activities. The negative impact of the pandemic on the academic training of residents is undeniable. It is important to seek training alternatives to adapt the programs to the current situation.

KEYWORDS: COVID-19 pandemic; Urology; Academic; Healthcare system.

Resumen

La pandemia por COVID-19 ha tenido una gran repercusión en la formación de los residentes de Urología. En este artículo analizamos las razones de tal efecto, desde el punto de vista evaluativo, didáctico, asistencial, quirúrgico y de salud de los residentes. Se realizó una revisión de la bibliografía, utilizando los términos: formación en Urología y COVID-19, priorizando los artículos de formación académica y quirúrgica en Urología. Debido a la extrema presión del sistema de salud, derivada de la pandemia, los programas de formación de residencias han sufrido graves consecuencias y se ha buscado la forma de remediar la situación mediante adaptaciones y promoviendo actividades vía internet. El efecto negativo de la pandemia en la formación académica de los residentes es innegable. Es importante buscar alternativas de formación para adecuar los programas a la situación actual.

PALABRAS CLAVE: Pandemia por COVID-19; Urología; académico; sistema de salud.

[1] Urology department, Hospital General Universitario de Elche. Alicante. España.
[2] Urology department, Hospital Universitario La Moraleja, Madrid. España.

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Correspondence
Leonardo Tortolero Blanco
drltortolero@gmail.com

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INTRODUCTION

Since the nationwide lockdown was declared in Spain on March 14, 2020 due to the COVID-19[1] pandemic, the lives and routines of Spaniards have changed drastically. The global impact[2-4] of this health, social, and economic crisis is still present today with the third wave.

This crisis has meant a "standstill" in the usual activities of hospitals, seriously affecting specialty training that is not directly involved in the pandemic, such as Urology. An inexorable number of operating theatres for major and minor surgery, consultations, procedures such as biopsies or cystoscopies, etc., have been suspended. This has had consequences at all levels, which to this end has seriously affected the correct diagnosis and treatment of patients. Conversely, it has affected the training of residents in terms of healthcare, teaching, educational, and surgical activity.[5] In this sense, rotations, training activities such as face-to-face congresses[6] or face-to-face exams such as the oral part of the European Board of Urology[7] have been suspended.

The aim of this paper is to analyse to what extent and how the COVID-19 pandemic has affected the training of residents in Spain.

METHODOLOGY

A review of the literature was conducted using the terms "training", "Urology", "residence" "COVID-19" in English, employing the PubMed database that was published on February 2021. A total of 53 papers published in the 2019-2021 period were obtained. We selected the papers and prioritized our focus on academic and surgical training in medicine and Urology, as well as the impact on the health of the residents and quality of life, which, from the articles we selected, were 29 in total.

Summary of the evidence

Evaluation

In mid-March 2020, at the beginning of the pandemic in Spain, uncertainty about the employment and training situation of residents was increasing. The day after the declaration of the nationwide lockdown following Order SND/232/2020 on March 15, 2020, all final-year residents in specialties such as Internal Medicine, Pneumology, Intensive Care, Microbiology, among others, would see their MIR training extended until after the pandemic. Two weeks later, through order SND/319/2020, dated April 01, 2020, the training of residents was extended to other specialties, including Urology. Finally, on April 15, 2020, by order SND/346/2020, the usual dates for assessment and the training year for all final-year residents were re-established.

Notwithstanding, given the current situation of the third wave with the new interruption of activity, there is rising uncertainty among residents as to whether or not to extend their residency, and for how long. This debate is taking place among the residents themselves, tutors, and teaching committees of different hospitals. The situation of the pandemic in terms of training activity has now been transferred to almost a year of reduced surgical activity, suspension of evaluations and/or exams, suspension of rotations, suspension of face-to-face congresses, etc. This is affecting all residents, from R1 to R5.

Is an extension foreseen?

Negative impact of the pandemic on the academic training of residents is undeniable. It is important to seek training alternatives in order to adapt programs to the current situation.

A reasonable option would be to carry out a: "Non-assessable" evaluation of the residents, as would be done in situations of pregnancy or sick leave, since it is not a suspension of the residency, but rather a failure to meet the objectives, due to a lack of resources and/or opportunities.

To whom would this extension apply?

This is also a matter for debate as it is not clear which years of residency have been most affected. Senior residents (R4-R5) may already have a foundation from which to continue learning and improving once they enter residency, but junior residents have not even had the chance to acquire these basic skills.

For how long?

This is another question that remains unanswered to this day. The impact in time that this loss of residency has caused and, therefore, the recoverable time that should be applied, is unknown.

Didactics

The COVID-19 pandemic has completely paralyzed the traditional education of Urology residents. Initially, all Congresses and/or face-to-face

activities were suspended. In Spain, only two Working Group Meetings (Lithiasis, Laparoscopy, and Andrology) were held in person in 2020. From March onwards, the activities were postponed to the last quarter of the year. All other activities, such as the Female Functional Urology and Urodynamics Working Group Meeting, the Uro-Oncology Group Meeting, and the National Congress were held online. At the European level, the same was true for the European Urology Congress and all other training activities.

Not only did the congresses have to change the way they were conducted, but also the lectures in the hospitals themselves and learning through master-classes. Thus, as a result of this crisis, numerous didactic tools have appeared, taking the webinar format as a clear example. Platforms such as those promoted by the University of Southern California, through COVID Urology webinars or the Urotalks offered by the American Confederation of Urology (CAU), are tools available with a high-level of scientific knowledge that provide the advantage of being able to manage one's own time. Other online learning options can be found in the form of podcasts such as those of the Association of French Urologists in Training, or the podcasts developed by the Peter MacCallum Cancer Centre in Melbourne.

The **Table 1** shows some of the educational resources available.

Practical-Assistance Activity

There has been a major impact on the care practice and daily activity of the residents, together with the loss of surgical activity in the training and regular planning of the residency. In this sense, many residents, mainly in areas with a higher incidence of SARS-CoV-2, have had to be redeployed or rehabilitated.[12] This has not only occurred in Spain; countries such as the USA,[13] France[14] and Belgium[15] have also been forced to readapt their residents. Thus, the activities have shifted to the care of patients hospitalised by COVID-19 emergencies or administrative support to internists. Not only have residents had to be retrained, but many specialists also. In addition, this has affected the normal functioning of the incorporation of the residents who began their residency in 2020. Thus, first-year residents started their residency in September instead of May, which is customary in Spain. This affected the second-year residents like dominoes, since in many cases they had to cover shifts that would have been done by first-year residents. As a result, residents have lost part of their training by covering activities that did not correspond to them.

Moreover, there has been a significant decrease in consultations[16,17] and face-to-face patient care. This may lead to a delay in diagnosis and, above all, in the treatment of Urological diseases, given the increase, which is inherent to the situation as it pertains to the surgical waiting list.[18,19]

For this reason, one of the tools that has been most widely implemented in recent months, and which is probably here to stay, is telemedicine.[20] Telemedicine allows direct communication with the patient by telephone or video-call.[21] This can ensure the correct follow-up of patients in this situation where the safety of both patients and workers is paramount. Therefore, telemedicine has the advantages of avoiding unnecessary travel, reducing the physical burden of care in hospitals, not putting the health of patients and workers at risk, as well as establishing a good triage to assess which patients really need physical and in-person care. However, the disadvantages of telemedicine include, among others, patients who may not have access to the Internet, the software available in hospitals to facilitate these video-calls, the availability or not of being able to make the consultation from home, etc. In our experience, we do not yet have an external network that al-

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Table 1. Educational resources and links[8]

Name	Website Address
Webinar EAU/ESU	https://uroweb.org/education/online-education/webinars/
Webinar AEU	https://www.aeu.es/galeriawebinar.aspx
Webinar CAU	https://caunet.org/noticias-cau/
Webinar SIU	https://academy.siu-urology.org/siu/
Orsi Academy	https://www.orsi-online.com/en/news/join-our-orsi-webinars
UROOONCO	https://bladder.uroonco.uroweb.org/webinar/
UROLUTS	https://nocturia.uroweb.org/webcasts/
Urology Collaborative Online Video Didactics (COVID)	https://urologycovid.ucsf.edu
USC Urology 60 Minutes	YouTube: Urology 60 minutes
Educational Multi-Institutional Program for Instructing Residents (EMPIRE)	https://nyaua.com/empire/

lows access to the medical records of the patient from a home computer, nor do we have platforms that facilitate communication with the patient by video-call, as has been designed in the USA (EPIC®, Verona, USA) or in the UK (NHS Attend Anywhere®).[22]

Regardless of the drawbacks and advantages of telemedicine, it is a reality. It is the present and the future of healthcare and we must learn to manage[23] and regulate it through laws that allow its good practice.[24]

Surgical Skills

The healthcare that this crisis has required and continues to require has forced healthcare systems around the world to restructure hospitals, staff, and service-specific activities. The suspension of operating theatres has severely affected the surgical training of residents. In March 2020, the European Association of Urology (EAU) published a set of recommendations on surgical activity during the pandemic and surgeries in COVID-positive patients. One of these recommendations was to leave surgeries to expert surgeons and, in addition, not to allow fellows/residents/students in surgeries.[25] These are indeed reasonable and necessary recommendations in this crisis, above all to safeguard the safety of staff and patients and to avoid surgical complications as far as possible. According to a survey published by Amparore et al, the number of surgeries lost by final-year residents in 2020 was more than 80% compared to previous years.[26] This decline in surgical activity, not only for senior residents, but for all residents, presents a growing concern as the pandemic is not fully resolved.[27,28] This has led to the prioritisation and importance of simulated learning and training at home or in the hospital using simulators or pelvi-trainers. It is therefore vital that hospitals provide adequate capacity for their residents to continue practising and exercising during this pandemic. The negative impact of lack of practice in any profession is significant, but even more so when we are dealing with patients in our profession. Safety in the acquisition of surgical skills and the growing concern of not achieving the expected objectives is another of the characteristics that has marked this past year among residents, raising the possibility of reorganising residencies and training programmes.[28] Other tools that residents can (and should) use to acquire surgical skills are the surgical visualizations on platforms such as the AEU video library, websites such as "WeBSurg®", or the EAU's UROsource.

Health and Well-being

Last but not least, the health and well-being of residents during the pandemic has also been studied.[29] This U.S. survey studied factors such as mental health, access to Personal Protective Equipment (PPE), physical safety of the resident while caring for COVID patients, concern about family members and contagion, etc. They concluded that many actions, such as access to PPE, emotional support from institutions and from residents, are important. Stimulation and motivation for further learning through online educational programmes, etc., can improve the well-being of residents and their health. Residents were already suffering stages and periods of dissatisfaction during their residency, so the current situation has aggravated this burn-out even more. Similarly, it has been observed that the pandemic and the lack of activity, both in care and surgery, has benefited the residents and their well-being in certain respects. This is explained by Degraeve et al, with respect to Belgian residents, who showed better rates of stress levels in the presence of less work than usual.[13] It is important to follow a healthy lifestyle, to practise sports, disconnect from work, and surround oneself with good people[13,29] in order to maintain adequate mental and physical health, and to be able to face this professional career with the best mood and motivation.

CONCLUSIONS

The negative impact of the COVID-19 pandemic on residents is undeniable. Therefore, a reinvention of the training programs is required that adapts plans and resources by ensuring that residents continue to be trained to the highest standards. In the days to come, residents will need to be well trained.

REFERENCES

1. El Gobierno decreta el estado de alarma para hacer frente a la expansión de coronavirus COVID-19. Video 2020. https://www.lamoncloa.gob.es/consejodeministros/resumenes/Paginas/2020/14032020_alarma.aspx
2. Puliatti S, Eissa A, Eissa R, Amato M, et al. COVID-19 and urology: a comprehensive review of the literature. BJU Int. 2020; 125 (6): E7-E14. https://doi.org/10.1111/bju.15071
3. Ficarra V, Novara G, Abrate A, Bartoletti R, et al. Urology practice during the COVID-19 pandemic. Minerva Urol Nefrol. 2020; 72 (3): 369-375. https://doi.org/10.23736/S0393-2249.20.03846-1
4. Teoh JY, Ong WLK, Gonzalez-Padilla D, Castellani D, et al. A Global Survey on the Impact of COVID-19 on Urological Services. Eur Urol. 2020; 78 (2): 265-275. doi:10.1016/j.eururo.2020.05.025
5. Rosen GH, Murray KS, Greene KL, Pruthi RS, et al. Effect of COVID-19 on Urology Residency Training: A Nationwide Survey of Program Directors by the Society of Academic Urologists. J Urol. 2020; 204 (5): 1039-1045. https://doi.org/10.1097/JU.0000000000001155
6. Porpiglia F, Checcucci E, Autorino R, Amparore D, et al. Traditional and Virtual Congress Meetings During the COVID-19 Pandemic and the Post-COVID-19 Era: Is it Time to Change the Paradigm?. Eur Urol. 2020; 78 (3): 301-303. https://doi.org/10.1016/j.eururo.2020.04.018
7. Rimmer A. Trainees and covid-19: your questions answered. BMJ. 2020; 368: m1059. https://doi.org/10.1136/bmj.m1059
8. Smigelski M, Movassaghi M, Small A. Urology Virtual Education Programs During the COVID-19 Pandemic. Curr Urol Rep. 2020; 21 (12): 50. https://doi.org/10.1007/s11934-020-01004-y
9. Tabakin AL, Patel HV, Singer EA. Lessons Learned from the COVID-19 Pandemic: A Call for a National Video-Based Curriculum for Urology Residents. J Surg Educ. 2021; 78 (1): 324-326. https://doi.org/10.1016/j.jsurg.2020.07.013
10. Pang KH, Carrion DM, Rivas JG, Mantica G, et al. The Impact of COVID-19 on European Health Care and Urology Trainees. Eur Urol. 2020; 78 (1): 6-8. https://doi.org/10.1016/j.eururo.2020.04.042
11. Seguí-Moya E, González-Padilla DA, Ortega-Polledo LE, Sánchez-García M, et al. El impacto del COVID-19 en la residencia en urología en España: perspectivas y recomendaciones [Impact of COVID-19 in spanish urology residents: Recommendations and perspective]. Arch Esp Urol. 2020; 73 (5): 471-478.
12. Kwon YS, Tabakin AL, Patel HV, Blackstrand JR, et al. Adapting Urology Residency Training in the COVID-19 Era. Urology. 2020; 141: 15-19. https://doi.org/10.1016/j.urology.2020.04.065
13. Rosen GH, Murray KS, Greene KL, Pruthi RS, et al. Effect of COVID-19 on Urology Residency Training: A Nationwide Survey of Program Directors by the Society of Academic Urologists. J Urol. 2020; 204 (5): 1039-1045. https://doi.org/10.1097/JU.0000000000001155
14. Abdessater M, Rouprêt M, Misrai V, Pinar U, et al. COVID-19 outbreak situation and its psychological impact among sur-

https://doi.org/10.24245/bcmurol.v36iS1.5567

geons in training in France. World J Urol. 2020; 1-2. https://doi.org/10.1007/s00345-020-03207-x

15. Degraeve A, Lejeune S, Muilwijk T, Poelaert F, et al. When residents work less, they feel better: Lessons learned from an unprecedent context of lockdown. Prog Urol. 2020; 30 (16): 1060-1066. https://doi.org/10.1016/j.purol.2020.08.005
16. Porpiglia F, Checcucci E, Amparore D, Verri P, et al. Slowdown of urology residents' learning curve during the COVID-19 emergency. BJU Int. 2020; 125 (6): https://doi.org/10.1111/bju.15076
17. Tan YQ, Wang Z, Tiong HY, Chiong E. The Good, the Bad, and the Ugly of the COVID-19 Pandemic in a Urology Residency Program in Singapore. Urology. 2020; 142: 244-245. https://doi.org/10.1016/j.urology.2020.05.027
18. Proietti S, Gaboardi F, Giusti G. Endourological Stone Management in the Era of the COVID-19. Eur Urol. 2020; 78 (2): 131-133. https://doi.org/10.1016/j.eururo.2020.03.042
19. Wallis CJD, Novara G, Marandino L, Bex A, et al. Risks from Deferring Treatment for Genitourinary Cancers: A Collaborative Review to Aid Triage and Management During the COVID-19 Pandemic. Eur Urol. 2020; 78 (1): 29-42. https://doi.org/10.1016/j.eururo.2020.04.063
20. Carrión DM, Gómez Rivas J, Rodríguez-Socarrás ME, Mantica G, et al. Implementación de la teleconsulta en la práctica urológica durante la era Covid-19: ¿qué hemos aprendido? [Implementation of Remote Clinics in urology practice during the COVID-19 era: What have we learned?]. Arch Esp Urol. 2020; 73 (5): 345-352.
21. Mehrotra A, Ray K, Brockmeyer DM, Barnett ML, Bender JA. Rapidly Converting to "Virtual Practices": Outpatient Care in the Era of Covid-19. NEJM Catal. 2020; 1. https://doi.org/10.1056/CAT.20.0091.
22. Connor MJ, Winkler M, Miah S. COVID-19 pandemic - is virtual urology clinic the answer to keeping the cancer pathway moving?. BJU Int. 2020; 125 (6): E3-E4. https://doi.org/10.1111/bju.15061
23. Katz EG, Stensland KD, Mandeville JA, MacLachlan LS, et al. Triaging Office Based Urology Procedures during the COVID-19 Pandemic. J Urol. 2020; 204 (1): 9-10. https://doi.org/10.1097/JU.0000000000001034
24. Rodriguez Socarrás M, Loeb S, Teoh JY, et al. Telemedicine and Smart Working: Recommendations of the European Association of Urology. Eur Urol. 2020; 78 (6): 812-819. https://doi.org/10.1016/j.eururo.2020.06.031
25. Ribal MJ, Cornford P, Briganti A, Knoll T, et al. European Association of Urology Guidelines Office Rapid Reaction Group: An Organisation-wide Collaborative Effort to Adapt the European Association of Urology Guidelines Recommendations to the Coronavirus Disease 2019 Era. Eur Urol. 2020; 78 (1): 21-28. https://doi.org/10.1016/j.eururo.2020.04.056
26. Amparore D, Claps F, Cacciamani GE, Esperto F, et al. Impact of the COVID-19 pandemic on urology residency training in Italy. Minerva Urol Nefrol. 2020; 72 (4): 505-509. https://doi.org/10.23736/S0393-2249.20.03868-0
27. Danilovic A, Torricelli FCM, Dos Anjos G, Cordeiro MD, et al. Impact of COVID-19 on a urology residency program. Int Braz J Urol. 2021; 47 (2): 448-453. https://doi.org/10.1590/S1677-5538.IBJU.2020.0707
28. Fero KE, Weinberger JM, Lerman S, Bergman J. Perceived Impact of Urologic Surgery Training Program Modifications due to COVID-19 in the United States. Urology. 2020; 143: 62-67. https://doi.org/10.1016/j.urology.2020.05.051
29. Khusid JA, Weinstein CS, Becerra AZ, Kashani M, et al. Well-being and education of urology residents during the COVID-19 pandemic: Results of an American National Survey. Int J Clin Pract. 2020; 74 (9): e13559. https://doi.org/10.1111/ijcp.13559

Special Content

Legislation and Legal Framework for oncology patients in Latin America.

Kenji López-Cuevas

Abstract

OBJECTIVE: To expose legal framework as a valuable and high-impact tool for the defense of oncology patient's rights before the public health system.

METHODOLOGY: Executive summery of the Digital Seminar "The use of law and legal mechanisms against cancer in Latin America" by Cáncer Warriors de México in alliance with Fundación Barra Mexicana with the support of 25 organizations from Latin America members of the Union for International Cancer Control (UICC).

CONCLUSIONS: Legal framework is sometimes an underrated tool in the fight against cancer, but it is proved that public policies, legal initiatives and patients' advocacy have positively influenced the lives of cancer patients by granting them legal rights that allow access to better treatments and better healthcare practices.

KEYWORDS: Patients' advocacy; Legal framework; Legislative practices; Lawmakers; Legal mechanisms; Public policies; Human rights; Public health systems.

Resumen

OBJETIVO: Exponer el marco legal como una herramienta valiosa y de alto impacto para la defensa de los derechos del paciente oncológico ante el sistema público de salud.

METODOLOGÍA: Resumen ejecutivo del Seminario Digital *"El uso de la ley y los mecanismos legales contra el cáncer en América Latina"* de Cáncer Warriors de México en alianza con Fundación Barra Mexicana, con el apoyo de 25 organizaciones de América Latina, miembros de la Unión Internacional para el Control del Cáncer (UICC).

CONCLUSIONES: El marco legal es una herramienta subestimada en la lucha contra el cáncer, pero está comprobado que las políticas públicas, las iniciativas legales y la defensa de los pacientes han influido positivamente en la vida de los pacientes con cáncer, otorgándoles derechos legales que les permiten acceder a mejores tratamientos y prácticas de salud.

PALABRAS CLAVE: Defensa de los pacientes; marco legal; prácticas legislativas; legisladores; mecanismos legales; políticas publicas; derechos humanos; sistemas de salud pública.

Cáncer Warriors de México.
Union for International Cancer Control (UICC).

Correspondence
Kenji López Cuevas
contacto@cancerwarriorsdemexico.org

INTRODUCTION

Last Wednesday, March 3, in the Oval Office of the White House, U.S. President Joe Biden met with a bipartisan group of lawmakers to discuss how to end cancer once and for all.

I quote him: "*The fight against cancer is personal for me, as it is for many Americans. And I am committed to doing everything I can as President to end cancer as we know it. This afternoon, I brought together a bipartisan group of lawmakers to discuss how we can get it done*".

I begin this article with this issue because of three aspects to highlight. Firstly, because he is the political leader with the greatest possible impact at a global level, so his political will is and will be decisive in the field of cancer control.

On the other hand, his struggle, like that of so many people around the world, like the reader's, or like my own, is personal. Biden lost his son Beau, 46, who passed away as a result of brain cancer in 2015.

In January 2016, while still in the Barack Obama adminis-

tration, with great enthusiasm an initiative to find a definitive cure for cancer was announced. Through the 21st Century Cures Act, which was passed in the U.S. Congress, at least $1.6 billion was endowed to, quote, "make the United States the country that finds the cure for cancer once and for all."

Barack Obama appointed Biden as the leader of this initiative, which was colloquially called Moonshot, since they made an analogy about the challenge for human beings to reach the moon in 1969 and now, what the challenge of overcoming cancer means in the 21st century.

Projects were put on hold, however, now, with the arrival of Biden to the presidency of the United States, we can say that we are getting closer to the moon again.

The 21st Century Cures Act represents hope in the cancer control field through the use of law. World leaders are, more and more every day, betting on legislation, regulations and/or frameworks, seen as real instruments that can defeat the common enemy, we all have regardless of our nationality, language or culture: cancer.

The right to health protection is a fundamental human right. Several international instruments establish this right which, in turn, must be protected and guaranteed by the governments of the state's parties.

The Universal Declaration of Human Rights, proclaimed by the United Nations General Assembly in Paris on December 10, 1948, establishes in its article 25 that: *"Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family [...]"*.

Similarly, the Constitution of the World Health Organization (WHO), affirms that *"the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being"*.

In Mexico, the Political Constitution of the United Mexican States establishes in Article 4: "Every person has the right to the protection of health".

In the Constitution of the Federative Republic of Brazil, Article 6 states that: *"Social rights are education, health, work, rest, security, social welfare, maternity protection"*.

However, at least half of the global population do not receive the health services they need.

The Pan American Health Organization (PAHO) has warned on several occasions that those countries that have made the greatest improvements towards universal coverage have a health expenditure of 6% or more of their Gross Domestic Product (GDP).

In its messages, PAHO highlights the investments of developed countries in this area. The United States invested 14.38% of its GDP in health in 2019, followed by others, such as Germany, which allocated 9.91%, or Japan, with 9.32%.

Mexico, for example, in the last 10 years had registered a contraction in public health spending by gradually going from 2.8%, in 2012, to 2.5% by 2020.

Last year, Mexico changed that situation and increased health spending for the 2021 budget, but despite the 1.87% increase in the health sector, Mexico maintains a budget gap of 3.2 points of GDP. Health spending reallocations, in general, are concentrated in increases in personal services and the payment of professional, scientific and technical services, and in cuts in subsidies, materials, equipment and infrastructure. **Table 1**

Public health spending increase between 2020 and 2021.(Mexican pesos). **Figure 1**

Legal framework in the world

The use of the law, as a facilitating and influential mechanism for health protection and sustainable development, is one of the most necessary tools available to governments to protect and promote the health of their population and, in particular, to guarantee the necessary spending.

As stated by the McCabe Centre for Law & Cancer Austra-

Table 1. The Health Budget´s in Mexico

Public health institutions	PEF 2020	PPEF 2021	Difference (mmxp)	Real Variation (%)
IMSS	330,282	325,507	-4,775.57	-1.45
SSA	133,239	145,415	12,175.85	9.14
FASSA	106,912	109,501	2,589.25	2.42
ISSSTE	65,351	64,203	-1,147.74	-1.76
Contribution to SS**	21,169	21,260	90.95	0.43
PEMEX	13,036	17,541	4,504.84	34.56
SEDENA	6,907	6,463	-444.38	-.6.43
SEMAR	2,776	2,540	-235.91	-8.50
Total	**679,672**	**692,430**	**12,757**	**1.87**

*Table Design : Information – SHCP: (Secretary of Finance and Public Credit) 2020d and 2019 d. PEF: Budget Expenses of the Federation; PPEF: Project Budgets of Expenses of Federation; mmxp: Millions of Mexican Pesos. IMMS: Instituto Mexicano del Seguro Social; SSA: Secretaria de Salubridad y Asistencia; FASSA:Contribution Funds for Health Services; PEMEX: Petróleos Mexicanos; SEDENA: Secretaria de Defensa Nacional; SEMAR: Secretaria de Marina **SS: Health Service . ***Note 1.- The 2021 Budget corresponds to the amount proposed in the PPEF*****Note 2.-Amounts expressed in millions of constant Mexican pesos.

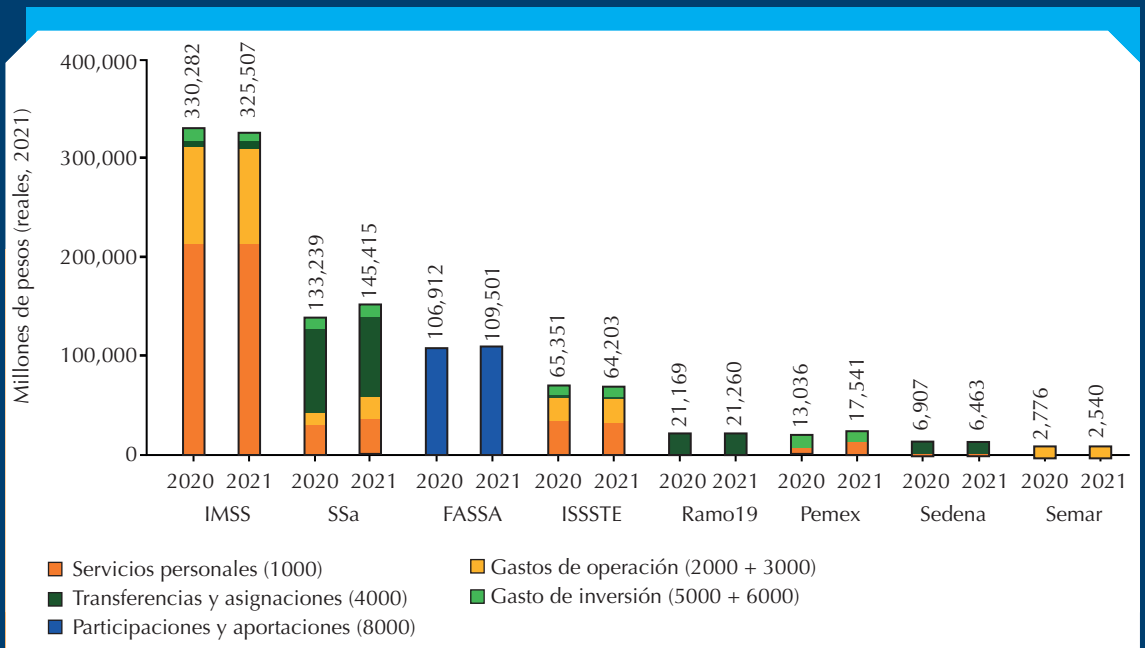

Figure 1. Classification by Spending and Subsystem. Public Health Spending PEF 2020 *vs* PPEF 2021. PEF: Budget Expenses of the Federation; PPEF: Project Budgets of Expenses of Federation. Comparison between 2020's and 2021's public health spending in different public health institutions (In Mexican pesos).

lia: "The law has the power to shape the norms and behavior of individuals, organizations and governments".

And also, the McCabe Centre establishes: "When it comes to health, engaging with law is crucial at all stages. The exposure of individuals and communities to risk factors, such as tobacco and alcohol; equitable access to health care; collec-

tion and use of health information, and experiences of people affected by cancer and NCDs, are all powerfully influenced by laws and legal frameworks, from domestic regulations to global commitments".

In the framework of the last World Cancer Day 2021, I had the opportunity to lead the organization of several activities as Member of the Union for International Cancer Control (UICC) 2020-2022 Board of Directors, with the Latin America region. One of the most relevant, from my point of view, was the organization of the Digital Seminar: "Use of laws and legal mechanisms against cancer in Latin America", along with Fundación Barra Mexicana A.C. and 25 other organizations focused on cancer control in the region.

The Seminar was focused on sharing successful legal and legislative practices linked to the field of cancer control in the Latin American region, as well as exposing useful information for civil society organizations on the implementation of legal mechanisms to defend the human rights of patients facing this disease.

Lawyers, oncologists, lawmakers, advocates and former court ministers exposed different initiatives and legal mechanisms to protect the rights of cancer patients from Mexico, Peru, Chile, Argentina, El Salvador and Australia.

For example, Md. Daniel Verdessi, Chile's Congressman, presented Chile's Cancer Law, which came into force on October 3, 2020, and whose objective is to establish a regulatory framework for the planning, development and execution of programs, public policies and actions aimed at preventing cancer. Mr. Verdessi spoke about the main obstacles to implementing the law which are linked to budgetary issues.

Úrsula Letona Pereyra, lawyer and former Congresswoman of Peru, talked about the promotion of the Law on Medical Urgency and Comprehensive Cancer Care for Children and Adolescents in her country. She stated that the active participation of society through platforms such as change.org, social movements and network campaigns were key to the enactment of this law, which came into force on September 3rd, 2020.

On the other hand, Dolores Aguinaco, Vice President of the Fundación Barra Mexicana A.C. and Marilo Aja Aguinaco, Founding Partner of the Firm Aguinaco+Aja, presented the legal protection mechanism as a way to protect the right to health of patients diagnosed with cancer.

We know that the right to health protection is a right that must be guaranteed by state governments, however, in the face of the COVID19 pandemic and other diverse factors of a public-administrative nature, in Mexico, for example, we face the scarcity or shortage of oncological medicines, which is why we have had to resort to the presentation of this resource.

The “Amparo” is a constitutional procedural mean of the Mexican legal system, which has the specific purpose of making real, effective and practical, the protection of human rights established in the Constitution, seeking to protect from the acts of all authorities without distinction of rank, including the highest, when they violate such rights, which is regulated by the Constitution and the Legal Protection Law, Regulatory of Articles 103 and 107 of the Political Constitution of the United Mexican States.

It is a legal mechanism for the protection of human rights, such as the right to access or protection of health.

As a result of the shortage of oncology medicines in Mexico, triggered in 2019, the Fundación Barra Mexicana A.C., together with the support of organizations such as ours and pro bono lawyers, began the promotion of legal protection lawsuits, with which, to date, it has filed more than 400 lawsuits so that oncology patients receive the corresponding medicine or treatment.

Following the filing of the legal protection, the judges granted

the suspension so that within 48 hours, the corresponding hospital would provide the oncology patient with the necessary treatment or medication.

However, we should not normalize the use of this legal mechanism, but rather demand that the government address and solve the shortage.

Hayley Jones, Acting Director of the McCabe Centre for Law & Cancer in Australia, presented the case of the Brazilian prosecutor, Davi Bressler, who, along a team of Brazilian lawyers is leading landmark legal action the tobacco industry since 2019, when Brazil's government filed a lawsuit against several tobacco companies seeking to recover the money it spends on public healthcare for tobacco-related illnesses. She also mentioned that this unique and massive lawsuit had been planned for many years and the tobacco industry is fighting at every stage but whatever the outcome, such a high-profile case will surely have positive implications for cancer control efforts around the world.

As I have mentioned in other spaces: "*that no girl, boy or adolescent in Mexico has to add a third combatant to their struggle, because today they are facing cancer, COVID-19 and shortages*".

One of the main initiatives promoted by the organization that I have the honor of presiding and directing, Cáncer Warriors de México, was also presented.

The occupational leave for parents of children diagnosed with cancer. We presented this initiative trough the Mexican Senate in 2017. Afterwards, we promoted it until its adoption by unanimity, both at the Senate, in April 2018, and the House of Representatives, in April 2019. During the legislative process, the initiative was supported by more than 400.000 signatures through Change.org on Internet and we secure $20 million to warranty 10.000 occupational leave per year. The Mexican Government provide parents of children diagnosed with cancer that request this new Mexican right with 60% of their salary during the occupational leave (thus, this will not represent an economic impact to employers).

After one year of its enhancement, we carried out an impact study with the pro bono support of a public policies Mexican firm.

The impact study confirmed that the childhood cancer treatment abandon decreased up to 70% thanks to the occupational leave. On the other hand, the study showed that the mood of the childhood cancer patient increases consistently in order to face the treatments. You can imagine the satisfaction we have as a team and as promoters of this Bill!

As we can witness, fortunately the law has a crucial and positive impact in the lives of patients diagnosed with cancer.

According to an article published in "The Cancer Atlas", public policies and legislations are essential to address the burden of cancer locally and globally, it also mentions that the effective use of law to achieve certain health goals require collaboration across sectors.

As a clear example of this is the World Health Organization Global Action Plan on NCDs which was presented in 2013. This plan emphasized society-approached actions to reduce the major drivers of preventable NCDs, as well as a monitoring system including nine targets such as reduction of salt/sodium intake, reduction of harmful use of alcohol, reduction of physical inactivity and reduction of tobacco use.

Cases like Australia's plain packaging laws challenges on tobacco products and Urguay's defense against a tobacco company's legal action are evidence of how countries can manage to implement successful tobacco control measures following the WHO's Global Action Plan on NCDs.

COVID-19's affectations in health systems

The global health crisis of COVID-19 pandemic has re-

vealed considerable weaknesses in health systems around the world.

The study "Rapid assessment of service delivery for NCDs during the COVID19 pandemic" executed in May 2020 by the WHO showed that 56% of the 155 countries who participated in the assessment had partially or completely disrupted services for cancer treatment during that phase of the pandemic.

According to the mentioned study, the top 5 most common disruptions to services across the non-communicable diseases noted by WHO were:

- the cancellation of elective care
- the closure of population-level screening programs
- transport lockdowns, closure of disease-specific consultation clinics
- insufficient protective equipment
- NCD related clinical staff deployed to provide COVID-19 relief, and closure of outpatient disease specific consultation clinics

CONCLUSIONS

NCD related clinical staff deployed to provide COVID-19 relief, and closure of outpatient disease specific consultation clinics, delayed treatment screenings, diagnostics and trials can lead to a later increase in cancer incidence, later diagnosis and therefore potentially more serious outcomes and ultimately higher mortality rates.

Less support and navigation assistance mean that patients won't necessarily receive the appropriate treatment at the appropriate time or develop co-morbidities. Less research means not only that the development of possible future medications will be delayed, but also that patients who rely on clinical trials will not be treated.

Those of us who work in the field of cancer control and cancer patient advocacy now also face the challenges posed by the COVID-19 pandemic. This is the moment in which we need to unite greater efforts from all sectors of society to face the new global reality we live in and to maintain as a priority the care of patients living with non-communicable diseases such as cancer.

Time, cases and results have shown us that the law and legal mechanisms give certainty and strength to governments, patients and advocates to face cancer. I am sure that the medical, political, legal and social will to find a definitive cure for cancer is what will bring us closer every day to achieving that goal. However, as long as we continue on this path of battle, our battle will continue.

REFERENCES

1. Sonmez F, Itkowitz C, Wagner J. House Scraps plans for Thursday session after security officials warn of possible plot to breach Capitol. The Washington Post, March 3, 2021, https://www.washingtonpost.com/politics/2021/03/03/joe-biden-live-updates/.
2. Shear MD. Beau Biden, Vice President Joe Biden's Son, Dies at 46, The New York Times, May 30, 2015. https://www.nytimes.com/2015/05/31/us/politics/joseph-r-biden-iii-vice-presidents-son-beau-dies-at-46.html.
3. Méndez-Méndez JS, Llanos-Guerrero A. Presupuesto para salud 2021: Prioridad en la creación de plazas médicas, Centro de Investigación Económica y Presupuestaria. 2021, https://ciep.mx/presupuesto-para-salud-2021-prioridad-en-la-creacion-de-plazas-medicas/.
4. National Cancer Institute, "Cancer Moonshot", 2016. https://www.cancer.gov/research/key-initiatives/moonshot-cancer-initiative.
5. The Cancer Atlas. Policies and Legislation. 2021. https://canceratlas.cancer.org/taking-action/policies-and-legislation/
6. World Health Organization. Rapid assessment of service delivery for NCDs during the COVID19 pandemic. 2020, https://www.who.int/publications/m/item/rapid-assessment-of-service-delivery-for-ncds-during-the-covid-19-pandemic
7. Cámara de Diputados. Gaceta Parlamentaria, 2393-I. Mexico, 2007.

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The uro-oncology patient and vaccination against SARS-CoV-2.

Pacientes con neoplasias urológicas y la vacuna contra el SARS-CoV-2

Moisés Rodríguez-Socarrás,[1] Juan Gómez-Rivas,[1,2] Ana María Autrán-Gómez[3]

Abstract

As of March 1, 2021, 116 million cases of COVID-19 and 2.58 million deaths have been reported worldwide. On December 21, the Pfizer-BioNTech® vaccine was approved for use in the European Union with an efficacy of 95% protection against COVID-19 infection. As of the date of this article, there are currently 12 vaccines in use worldwide and another 77 under study phase I - III. In addition to elderly patients, oncology patients represent a vulnerable population in which COVID-19 infection may be more severe. However, due to the design of the initial studies the evidence in terms of safety and efficacy of vaccination against SARS-CoV-2 in these patients is scarce and recommendations are based on the opinion of associations, stakeholders and experts, extrapolating information and experience from other vaccines, especially influenza. Despite the limited evidence, the consensus is that the vaccine is safe and vaccination of oncology patients as well as their close relatives is recommended, although in patients with impaired immune response, efficacy may be lower and the need for additional booster doses is not clear yet. It is recommended to avoid the use of vaccines based on viral vectors in patients with impaired immune response, to defer vaccination in immunosuppressed patients or to administer prior to immunosuppression, as well as not to administer chemotherapy between the two doses of vaccine or to receive the vaccine on the same day that chemotherapy is administered. These recommendations can be extrapolated to urological patients and although there is no evidence, there should not be greater interference of the SARS-CoV-2 vaccine in patients under androgen deprivation therapy or who have received intravesical BCG. However, large studies that provide strong evidence in uro-oncology patients are needed.

KEYWORDS: European Union; Vulnerable population; Vaccination; SARS-CoV-2; Influenza; Immune response; Immunosuppressed patient; Androgen deprivation therapy; Calmette-Guerin Bacillus.

Resumen

Hasta el 1 de marzo de 2021 se habían registrado 116 millones de casos de COVID-19 y 2.58 millones de muertes en todo el mundo. El 21 de diciembre, la vacuna de Pfizer-BioNTech® fue aprobada por la Unión Europea, con una eficacia de 95% contra el COVID-19. A la fecha de publicación de este artículo existen, aproximadamente, 12 vacunas en uso en todo el mundo y otras 77 en estudio. Además de los pacientes de edad avanzada, los oncológicos representan una población susceptible en quienes la infección por COVID-19 puede ser más grave. Sin embargo, debido al diseño de los estudios iniciales, la evidencia en términos de seguridad y eficacia de la vacunación contra el SARS-CoV-2 en estos pacientes es escasa y las recomendaciones se basan en la opinión de asociaciones, partes interesadas y expertos, extrapolando la información y la experiencia de otras vacunas, especialmente la de la gripe. A pesar de la escasa evidencia, el consenso es que la vacuna es segura y se recomienda su aplicación en pacientes oncológicos y sus familiares cercanos, aunque en quienes tengan respuesta inmunitaria deteriorada, la eficacia puede ser menor y la necesidad de dosis adicionales de refuerzo aún no está clara. Se recomienda evitar la aplicación con vectores virales en pacientes con respuesta inmunitaria deteriorada; diferir la vacunación en pacientes inmunodeprimidos o administrarla antes de la inmunosupresión, así como no administrar quimioterapia entre las dos dosis de la vacuna o recibirla el mismo día que se

[1] Instituto de Cirugía Urológica Avanzada (ICUA) – Clinic CEMTRO, Madrid, Spain.
[2] Urology Department, Hospital Clínico San Carlos, Madrid, Spain.
[3] Research Office of Confederación Americana de Urología.

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Correspondence
Moisés Rodríguez Socarrás
moisessocarras@hotmail.com

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administra la quimioterapia. Estas recomendaciones son extrapolables a los pacientes urológicos y, aunque no hay evidencias, no debería existir mayor interferencia de la vacuna contra el SARS-CoV-2 en los pacientes que reciben tratamiento de privación de andrógenos o que hayan recibido BCG intravesical. Se requieren estudios a mayor escala, que aporten pruebas sólidas en pacientes con neoplasias urológicas.

PALABRAS CLAVE: Unión Europea; población susceptible; vacunación; SARS-CoV-2; influenza; respuesta inmunitaria; paciente inmunodeprimido; tratamiento de privación de andrógenos; Bacillo de Calmette-Guerin.

INTRODUCTION

After more than a year into the pandemic, as of March 1, 2021; 116 million cases of COVID-19 and 2.58 million have been reported worldwide.[1] Fortunately, after an unprecedented effort and speed, the first Pfizer-BioNTech® vaccine was approved in December 2021[2] and there are currently 12 vaccines in use worldwide.

SARS-CoV-2 infection appears to be more severe in vulnerable patients such as elderly patients and in some groups of oncology patients. Preliminary data suggest that severe acute respiratory syndrome SARS-CoV-2 infection is associated with higher mortality among cancer patients,[3] especially those receiving anticancer treatment 14 d before infection.[4] The evidence is currently sparse in terms of effectiveness and safety of the COVID-19 vaccine on oncology patients. The reason is that in the first studies performed with the vaccine to date, oncology patients were excluded for obvious reasons of affecting efficacy rates of efficacy in patients with an impaired immune response.

The recommendations from various associations[5-7] are based on the opinion of experts and stakeholders, as well as experience and information extrapolated from other vaccines especially influenza. However, the efficacy, immune response and protection afforded may be diminished especially in patients with hematological cancers, patients with neutropenia, lymphopenia and patients who have received anti CD20 antibodies such as Rituximab.[7]

The general consensus is that the vaccine against COVID-19 is considered safe in oncology patients and they and their close relatives should be vaccinated,[5-7] although some considerations should be made depending on the stage of the disease, patients under chemotherapy, immunotherapy and immunosuppression, that will be described further on in this article, aimed at uro-oncology patients.

Vaccines available and under study

By March 1, 2021, there are 12 vaccines in use, another 77 under study in Phase I (24), Phase I/II (26), Phase II (7), Phase III (16), Phase IV (4) and 277 in pre-clinical study.[8]

Vaccines are based on RNA (38), DNA (26), Vector (non-replicating) (37), Vector (replicating) (24), Inactivated (20), Live-attenuated (4), Protein subunit (99), Virus-like particle (22), Other/Unknown (39).

Table 1 summarizes the characteristics of 5 of the available vaccines against COVID-19. **Figure 1** presents vaccination rates by country to date, at least 1 dose received, adjusted by Income (GDP/capita in USD).

Safety and efficacy in oncology patients

The consensus is that the COVID-19 vaccine is safe in oncology patients, but with some special considerations. However, the main concern is that efficacy may be diminished in patients with weakened immune systems, and it is not

Table 1. Information and status of main available vaccines against COVID-19

	BioNTech-Pfizer BNT162b2	Gamaleya Gam-COVID-Vac-Sputnik V	Janssen Ad26.COV2.S	Moderna mRNA-1273	Oxford-AstraZeneca ChAdOx1-S
Developer (s)	*BioNTech, Pfizer, Fosun Pharma*	*Gamaleya Research Institute*	*Jassen pharmaceutical Companies*	*Moderna, NIAID*	*University of Oxford, AstraZeneca*
Platform	RNA	Non-replicating viral vector	Non-replicating viral vector	RNA	Non-replicating viral vector
Dosing	2 doses, intramuscular	2 doses, intramuscular	1 or 2 doses (to be determined), intramuscular	2 doses, intramuscular	2 doses, intramuscular
Eficacy data	Vaccine efficacy against COVID-19 of 95% based on primary efficacy analysis of 170 confirmed cases	Vaccine efficacy against COVID-19 of 92% based on primary efficacy analysis of 78 confirmed cases	Vaccine efficacy against moderate to severe COVID-19 reported to be 66% in a press release on 29 Jan 2021; estimates based on 468 confirmed cases	Vaccine efficacy against COVID-19 of 94% based on primary efficacy analysis of 196 confirmed cases	Vaccine efficacy against COVID-19 reported to be 62-90% based on interim data from 131 cases
Storange requirements	Ultra-cold (-60 °C to -80 °C)	Being produced in lyophilised formulation requiring refrigeration (2 °C to 8 °C)	Refregeration (2 °C to 8 °C)	Refrigeration (2 °C to 8 °C) for up to 30 days or frozen (-15 °C to -25 °C) for long-term storage	Refrigeration (2 °C to 8 °C)
Manufacture projections	Up to 2 bollion doses in 2021 (02 Feb 2021)	No information on institute website; up to 1 billion doses in 2021 according to media reports (24 Nov 2020)	1 billion doses per year as of 2021 (05 Jan 2021)	Up to 1 billion doses in 2021 (25 Feb 2021)	3 billion doses in 2021 (30 Dec 2020)
Approval status	Full or emergency use in numerous contries; granted emergency use approval by the WHO on 31 Dec 2020	Early or emergency use in numerous countries, including Russia, Belarus, Argentina, Serbia, and Algeria	Earlyor emergency use in Full or emergency use in South Africa, Bahrain, and numeous countires, including USA, Canada, EU, UK, and Israel		Emergency use in numerous countires, including UK, EU, India, Argentina, Dominican, Reoublic and El Salvador

yet clear whether these patients need additional booster doses of the vaccine.[2,7] Some cancer treatments, such as chemotherapy, radiation, stem cell or bone marrow transplantation or immunotherapy, can affect the immune system, which could make the vaccine less effective.[6,7]

The initial studies testing COVID-19 vaccines did not include people being treated with immunosuppressive drugs, chemotherapy, or people with impaired immune response for other reasons. This is because the studies first needed to see if the vaccines work in people with healthy immune systems.[2,7] Therefore, it is not yet clear how well the vaccines work in these groups of people.

Considering the risk-benefit balance and knowing that SARS-CoV-2 infection in oncology patients can be more severe, the recommendation is that these patients and their relatives be vaccinated.

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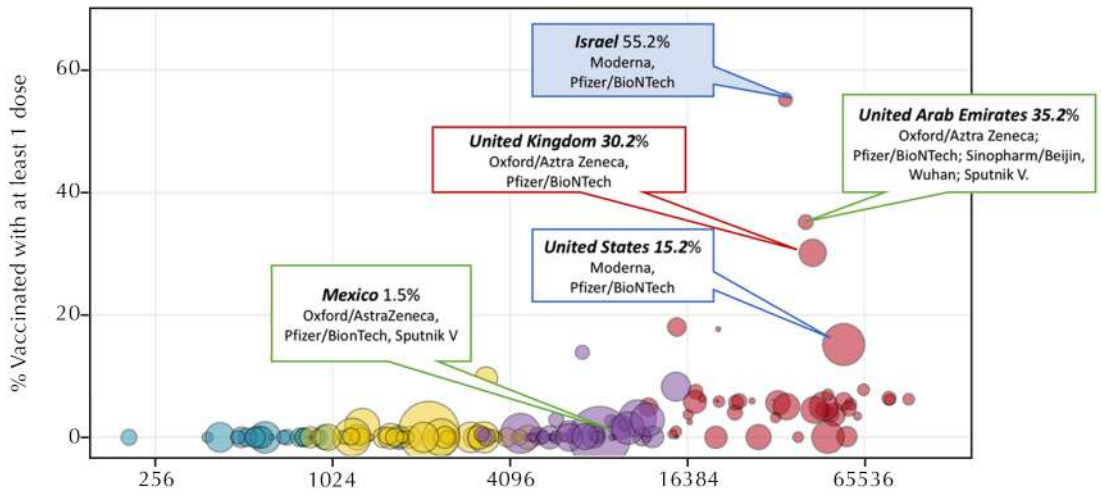

Vaccination rates per country, at least 1 dose, adjusted by Income (GDP/capita in USD). High income= red bubbles, Upper middle income= purple bubbles, Lower middle income= yellow bubbles, Low income= blue bubbles. Modified from: COVID-19 vaccine tracker http://vac-lshtm.shinyapps.io/ncov_vaccine_landscape/#

Figure 1. Vaccination per country.

Should people with cancer receive a specific vaccine against COVID-19?

There are no studies that directly compare different types of vaccines in oncology patients. Therefore, it is not clear whether any of the vaccines are safer or more effective than the others. It is also not yet clear whether any of the vaccines will be more (or less) effective against some of the new variants of COVID-19.[5]

The efficacy data available from pivotal studies suggest higher immunity in the approved mRNA vaccines from Pfizer-BioNTech® and Moderna than the Oxford-AztraZeneca®, based on efficacy in older people.[7]

The general expert recommendation is to avoid vaccines based on viral vectors in oncology patients with decreased immunity, under chemotherapy, immunotherapy and immunosuppression.

Recommendations and considerations in oncology patients[2,5-7]

Considering the safety and risk-benefit balance, the general recommendation is that cancer patients should be vaccinated even if the immunity achieved is diminished, as this may prevent the risk of severe disease caused by COVID-19 infection.

Health care workers, family members and people around people with cancer should be vaccinated.

Vaccines based on live attenuated and replicating viruses should not be used.

Future studies should be directed to study the most effective vaccine in the oncology population and this could have implications in the selection of the type of vaccine used in cancer patients, if possible.

The decision to receive COVID-19 vaccine should be stratified by age, type of cancer, stage of disease, and type of cancer.

It is best for patients to be vaccinated before they are immunosuppressed. Chemotherapy should not be given between the two doses of COVID-19 vaccine. This should always be individualized taking into account the risk of progression. At least the expert opinion is that the vaccine should not be given on the same day as chemotherapy.

Reasonable criteria for postponing COVID-19 vaccination:[2,7]

Patients who have received anti-CD20 antibodies in the past 6 months, recent therapy with immunotherapy and immunosuppressants.

Patients after stem cell transplantation, with a high degree of T-cell suppression who generally respond poorly to vaccines.

It is recommended to postpone in patients receiving high doses of corticosteroids (1 mg/kg prednisolone or equivalent > 60 mg/day) due to decreased efficacy.

Considerations in uro-oncologic patients

Radiotherapy and androgen deprivation therapy in prostate cancer patients should not interfere with the vaccine response.

The opinion is that the COVID vaccine can be safely administered in patients receiving intravesical BCG.[6,7]

Data suggest that the higher risk of COVID-19 death associated with systemic therapy in cancer may not apply to patients receiving immune checkpoint inhibitors (ICIs) Checkpoint Inhibitors[9] and clinicians should not stop ICI therapy for vaccination.

According to some stakeholders in Bladder Cancer the following groups should be prioritised for vaccination: patientes undergoing active systemic chemotherapy radiotherapy, treatment with pembrolizumab/atezolizumab/avelumab, and people who have planned cancer surgery scheduled in the near future.[6]

The COVID-19 vaccination programme aims to first vaccinate the people who are at the greatest risk of harm from COVID-19 infection. Although, the question is how long does the response last in oncology patients and do they need more booster doses? It would be desirable to be able to quantify somehow the immune response and protection against COVID-19 on an individualized basis.

CONCLUSION

Although the evidence is sparse, vaccination against COVID-19 is recommended in oncology patients and their close relatives. It is expected that the immunologic effect may be lower in patients with altered immune response, but the need for extra booster doses is unclear. Some measures such as avoiding the use of vaccines based on viral vectors, postpone vaccination in immunosuppressed states and receiving the two doses of vaccine between periods free of chemotherapy are recommended. Longer studies providing strong evidence in oncology patient populations are needed.

REFERENCES

1. Covid19 Worldwide [Internet]. Covid19 Worldwide. https://www.google.com/search?q=covid+muertes+-mundo&oq=covid+muertes+mun&aqs=chrome.0.0j69i57j0j0i22i30l6j0i390.16695j0j7&sourceid=chrome&ie=UTF-8

https://doi.org/10.24245/bcmurol.v36iS1.5485

2. Kuderer NM, Hill JA, Carpenter PA, Lyman GH. Challenges and Opportunities for COVID-19 Vaccines in Patients with Cancer. Cancer Invest. 2021; 39 (3): 205-13. https://doi.org/10.1080/07357907.2021.1885596
3. Liang W, Guan W, Chen R, Wang W, et al. Cancer patients in SARS-CoV-2 infection: a nationwide analysis in China. Lancet Oncol. 2020; 21 (3): 335-7. https://doi.org/10.1016/S1470-2045(20)30096-6
4. Zhang L, Zhu F, Xie L, Wang C, et al. Clinical characteristics of COVID-19-infected cancer patients: a retrospective case study in three hospitals within Wuhan, China. Ann Oncol. 2020; 31 (7): 894-901. https://doi.org/10.1016/j.annonc.2020.03.296
5. COVID-19 Vaccines in People with Cancer [Internet]. American Cancer Society. https://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/low-blood-counts/infections/covid-19-vaccines-in-people-with-cancer.html
6. Covid-19 Vaccination Programme [Internet]. Fight bladder cancer. https://fightbladdercancer.co.uk/get-help/covid-19-coronavirus
7. Immune efficiency, Interaction with therapy and administration of SARS CoV2 vaccine in patients with caner [Internet]. ESMO. https://webinars.esmo.org/esmo-webinar-immune-efficiency-interactions-therapy-and-administration-sars-cov-2-vaccine-patients?hit=some
8. COVID-19 vaccine tracker. COVID-19 vaccine tracker. https://vac-lshtm.shinyapps.io/ncov_vaccine_landscape/ Szabados B, Abu-Ghanem Y, Grant M, Choy J, et al. Clinical Characteristics and Outcome for Four SARS-CoV-2-infected Cancer Patients Treated with Immune Checkpoint Inhibitors. European Urology. 2020; 78 (2): 276-80. https://doi.org/10.1016/j.eururo.2020.05.024

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Localized prostate cancer in the COVID-19 era: A current review.

Cáncer de próstata local durante la pandemia de COVID-19: revisión actual

Ricardo Antonio González-Pérez,[1] Daniel Parra-Acevedo,[1] Edgar Verdín-Correa,[1] Sergio Contreras-Martinez,[1] Eick Sierra-Díaz[2]

Abstract

In February 2020 the first reported case of COVID-19 was reported in Mexico, where there have been 2.01 million cases and 177,000 deaths. Prostate cancer is a major public health problem. Diagnostic measures and timely detection and treatment had to be modified in the context of the current pandemic. During 2020 here in Mexico, Prostate Cancer ranked first among all cancers in the male population, according to incidences and mortality, with a total of 26,742 new cases (an incidence of 42.2 cases per 100,000 males), and 7,457 deaths respectively. According to the NCCN, European Association of Urology, and Canadian Framework, routine screening of asymptomatic males is advised against until the pandemic ends. In late 2020, the EAU published a summary of recommendations regarding prostate cancer in the COVID-19 pandemic in terms of harm or clinical risk (progression, metastasis, and functional decline). For those individuals who have been evaluated and have high PSA and/or those who have undergone an abnormal digital rectal examination (DRE), the NCCN and Canadian Framework recommend suspending tests and biopsis until the pandemic is over. It is important to highlight that active surveillance and radiotherapy have been the most recommended treatment models during the development of the pandemic, since exposure in an operating room to perform radical surgeries carries with it a greater risk for medical personnel. The management of localized prostate cancer is based on grouping patients into two main groups. The first is very low-risk, low-risk, favorable intermediate-risk, and the second group is unfavorable intermediate-risk and high-risk.

KEYWORDS: COVID-19; Prostate cancer; Public health; Male population; Incidence; Radiotherapy; Operation room.

Resumen

En febrero de 2020 se reportó en México el primer caso de COVID-19, y hasta la fecha se han contabilizado 2.01 millones de casos y 177,000 fallecimientos. El cáncer de próstata es un problema importante de salud pública. El diagnóstico, la detección y el tratamiento oportunos tuvieron que modificarse en el contexto de la pandemia actual. Durante el 2020, en México, el cáncer de próstata ocupó el primer lugar entre las neoplasias en la población masculina, según la incidencia y la mortalidad, con un total de 26,742 casos nuevos (incidencia de 42.2 casos por cada 100,000 hombres) y 7457 muertes, respectivamente. La NCCN, European Association of Urology y Canadian Framework desaconsejan la detección de rutina en hombres que no manifiestan síntomas hasta finalizar la pandemia. A finales de 2020, la Asociación Europea de Urología publicó una serie de recomendaciones acerca del cáncer de próstata durante la pandemia por COVID-19 en términos de daño o riesgo clínico (progresión, metástasis y deterioro funcional). Las personas que se han evaluado y tienen un PSA alto, y cuyo resultado de tacto rectal es anormal (DRE), la NCCN y la Canadian Framework sugieren suspender las pruebas y la biopsia hasta terminar la pandemia. La vigilancia activa y la radioterapia representan el tratamiento de elección durante la pandemia, porque la exposición en un quirófano conlleva riesgos para el personal médico. El tratamiento de pacientes con cáncer de próstata local consiste en clasificar a los pacientes en: *1)* muy bajo riesgo, bajo riesgo, riesgo intermedio favorable, y *2)* riesgo intermedio desfavorable y alto riesgo.

PALABRAS CLAVE: COVID-19; cáncer de próstata; salud pública; población masculina; incidencia; radioterapia; quirófano.

[1] Resident of Urology.
[2] Urological surgeon.

Urology Department, Hospital de Especialidades Centro Médico Nacional de Occidente (IMSS), Guadalajara, Jalisco.

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Correspondence
Erick Sierra Díaz
erksland@hotmail.com

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INTRODUCTION

During February 2020, the first case of COVID-19 was reported in Mexico, presenting an exponential increase since then and up until now, where there are 2.01 million cases and 177,000 deaths. The epidemiological behavior changed throughout the year, with mortality that was characteristically higher, and complications in those patients with multiple comorbidities or oncological diseases.

Prostate cancer is currently considered a serious public health problem since it is the principal malignant genitourinary neoplasm that affects men that has a wide spectrum of presentation, and is a localized disease with the most common clinical presentations, due to timely screening, diagnosis, and treatment measures. However, all of the above had to be modified in the context of the current pandemic, which will be addressed separately below.

Epidemiology

Prostate cancer is an important cause of disease and mortality among men all around the world. According to GLOBOCAN 2020, globally prostate cancer is ranked the second most cancer in incidences just below lung cancer, with a total of 30.7 cases per 100,000 men (1,414,259 new cases), and the fifth in mortality.[1]

During 2020 in Mexico, this type of cancer was ranked first among all cancers in the male population based on incidence and mortality, with a total of 26,742 new cases (incidence of 42.2 cases per 100,000 men), and 7,457 deaths respectively.[1] In our country there are no epidemiological data from previous years that allow us to clarify the changes in the aforementioned variables conditioned by the current pandemic.

Screening

To reduce the risk of infection of COVID-19 during the pandemic, the National Comprehensive Cancer Network (NCCN), the European Association of Urology (EAU), and the Canadian Framework advise against routine prostate cancer screening in asymptomatic men until the pandemic ends because a delay in diagnosis between 6-12 months would be marginal for the prognosis for most prostate cancer patients.[2]

In late 2020, the EAU published a summary of recommendations about prostate cancer in the COVID-19 pandemic for screening and diagnosis, based on priority groups which are classified depending on the risk of clinical harm (progression, metastasis, and decreased performance status). **Table 1**

When to biopsy?

For individuals already evaluated and who harbor an elevated PSA and/or abnormal digital rectal exam (DRE), the NCCN and the Canadian Framework advise suspending further testing and biopsy until the pandemic ends. In exceptional circumstances when prostate biopsy is deemed essential for diagnosis of a potentially lethal PC, an urgent biopsy may be considered.[4]

According to the EAU, when PSA is < 10 ng/ml and DRE feels benign, further evaluation may be postponed until the pandemic subsides. When PSA is > 10 ng/ml or DRE is abnormal, a biopsy may be performed in 3-4 months. For men with a PSA > 20, PSA DT < 6 months, and DRE is suggestive of T3 disease, a biopsy should be delayed up to 3 months, using a transperineal approach to avoid fecal exposure. If a DRE suggests a locally advanced disease or if the patient is symptomatic, then a biopsy would need to be performed within 6 weeks. For individuals presenting symp-

Table 1. Prostate cancer priority groups[5]

Screening and early detection				
Priority category	**Low priority**	**Intermediate priority**	**High priority**	**Emergency**
	Clinical harm (progression, metastasis) very unlikely if postponed 6 months	Clinical harm (progression, metastasis) possible if postponed 3-4 months but unlikely	Clinical harm (progression, metastasis) and (cancer related) deaths very likely if postponed > 6 weeks	Life-threatening situation or opioid-dependent pain
Level of evidence	2			
COVID-recomendation	Defer by 6 months	Diagnose before end of 3 months	Diagnose within < 6 weeks	Diagnose within <24 h
	To be postponed until the end of the pandemic (at least as long as the confinement is ongoing)			

toms of metastasis, the EAU advocates imaging for staging in < 6 weeks, and if metastasis is confirmed, commencing with androgen deprivation therapy (ADT) while postponing biopsy.[5]

Treatment

The COVID-19 pandemic has forced us to change the treatment of all pathologies without prostate cancer being an exception.

What is sought with these changes in the management of the disease is to have the least possible exposure to both the doctor and the patient.

It is important to emphasize that active surveillance and radiotherapy have been the most recommended treatment models during the development of the pandemic, since exposure in an operating room to perform radical surgeries in the management of prostate cancer carries a higher risk for all health staff.[6]

Radiation therapy has been shown to reduce the risk of COVID-19 infection during cancer treatment and to promote disease control during the pandemic.

The recommended strategies for the management of localized prostate cancer are based on grouping the patients into two main groups; The first: very low-risk, low-risk, favorable intermediate risk and the second group: Unfavorable intermediate risk and high-risk.

The management of the first group should be based on active surveillance, delaying the new assessment for 3-6 months according to the clinical behavior of each patient.

The management of the second group will be based on androgen deprivation therapy, + Radiation therapy, the latter of which, may even be delayed for up to 6 months once deprivation therapy has been started.[7]

The European recommendations according to the European Society of Urology do not differ from what was previously said. Low-risk patients should be reevaluated in 6 to 12 months with a digital rectal examination, PSA, or a new biopsy if required. For intermediate-risk patients, hypofractionated external-beam radiotherapy should be considered the management standard, thus granting neoadjuvant ADT for up

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to 6 months, thereby postponing any invasive procedure until the end of the pandemic. For high-risk patients, management can be carried out in the same way for those of intermediate risk, however, if the patient is anxious, radiotherapy can be started along with the ADT.[5]

CONCLUSION

From the beginning of the COVID-19 pandemic, challenges have been presented regarding the management of most oncological pathologies, prostate cancer being notable for its epidemiological importance, and to which adjustments to international management guidelines have been made. However, its application in our country is far from being applied in a homogeneous way. In this text, emphasis is placed on the critical points to consider for the management of this pathology, and its application is left to the consideration of the specialist.

REFERENCES

1. International Agency for Research on Cancer. World Health Organization. https://gco.iarc.fr/today/online-analysis-dual-bars-2?v=2020
2. Obek C, Doganca T, Argun OB, Kural AR. Management of prostate cancer patients during COVID-19 pandemic. Prostate Cancer Prostatic Dis. 2020; 23 (3): 398-406. https://doi.org/10.1038/s41391-020-0258-7
3. Stopsack KH, Mucci LA, Antonarakis ES, Nelson PS, Kantoff PW. TMPRSS2 and COVID-19: Serendipity or Opportunity for Intervention?. Cancer Discov. 2020; 10 (6): 779-782. https://doi.org/10.1158/2159-8290.CD-20-0451
4. Ribal MJ, Cornford P, Briganti A, Knoll T, et al. EAU Guidelines Office Rapid Reaction Group: an organisation-wide collaborative effort to adapt the EAU guideline recommendations in the COVID-19 era. Eur Urol. 2020; 78: 21-8. https://doi.org/10.1016/j.eururo.2020.04.056
5. Caicedo-Martínez M, González-Motta A, Gil-Quiñones SR, Galvis JC. Desafíos del manejo del cáncer de próstata debido a COVID-19 en países con economías de ingresos bajos a medianos: una perspectiva de la oncología radioterápica. Rev Mex Urol. 2020; 80 (4): 1-14. https://doi.org/10.48193/rmu.v80i4.663
6. Zaorsky NG, Yu JB, McBride SM, Dess RT, et al. Prostate Cancer Radiation Therapy Recommendations in Response to COVID-19. Adv Radiat Oncol. 2020; 5 (4): 659-665. 2020. https://doi.org/10.1016/j.adro.2020.03.010

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How has modified the assistance of uro-oncological patient in Chile during COVID-19 era?

¿Cómo se ha modificado la asistencia en pacientes con neoplasias urológicas en Chile durante la pandemia de COVID-19?

Nicolás Sáez-Cortez,[1] Sebastián Iñiguez-Robles,[1] Diego Henríquez-Montoya,[1] Juan Carlos Román-Sobarzo,[1,2] Andrés Vega-Ávalos,[2] Nivia Morales-Ángulo,[2] Tomás Olmedo-Barros[1]

Abstract

Currently, cancer is the second cause of death in the Chilean population. Since the identification of the first cases of COVID-19 in Chile in March, the number of cases increased significantly, causing a redistribution of human, financial and physical resources. In the area of urology, it was decided to prioritize the care of emergency and uro-oncology patients, making an adjustment in the times of open and closed care. We show the experience of the National Cancer Institute (INC), where protocols based on national and international recommendations were established. Through triage of patients in the outpatient area and PCR screening of SARS Cov2 in hospitalized patients, the implementation of clear flowcharts of care was achieved. The data obtained show a decrease in new consultations of 25% and of 27% in controls. In addition, through telemedicine, the uro-oncology committee increased care by 15%. Bacillus Calmette-Guerin (BCG) treatment was maintained in 100% of the patients. Regarding cystoscopies, it decreased by 18%, partly due to fear of going to the hospital. In closed care, the number of surgeries performed decreased by 21%, essentially due to a decrease in income and availability of the ward. The COVID-19 pandemic globally mobilized the health system in Chile. Urology, being a surgical specialty, was widely affected, having to be efficiently organized to respond to patients with urological cancer and thus maintain the care and surgical resolution of these patients.

KEYWORDS: COVID-19; Chile; Urology; Oncology; National Cancer Institute; Triage; PCR; Telemedicine; Bacillus Calmette-Guerin; Cystoscopie.

Resumen

El cáncer es la segunda causa de mortalidad en la población chilena. Desde la identificación de los primeros casos de COVID-19 en Chile, en marzo de 2020, la cantidad aumentó de manera significativa, provocando una redistribución de recursos humanos, financieros y espacios físicos. En el área de la Urología se decidió dar prioridad a la atención de pacientes con urgencias y neoplasias urológicas, realizando un ajuste en los tiempos de atención abierta y cerrada. Este estudio muestra la experiencia del Instituto Nacional del Cáncer (INC), donde se establecieron protocolos basados en recomendaciones nacionales e internacionales mediante Triage a pacientes en área ambulatoria y pesquisa con PCR de SARS-CoV-2 que estaban hospitalizados, con la implementación de flujogramas claros de atención. Los datos obtenidos señalan disminución en consultas nuevas, de 25 y 27% en controles. Además, mediante telemedicina, el Comité de Uro-oncología aumentó las atenciones en 15%. El tratamiento con Bacilo de Calmette-Guérin (BCG) se mantuvo en 100% de los pacientes. Respecto de las cistoscopias, disminuyeron 18%, en parte por temor de asistir al hospital. En atención cerrada disminuyó la cantidad de cirugías en 21%, esencialmente por disminución de ingresos y disponibilidad del pabellón. La pandemia por COVID-19 movilizó en forma global el sistema de salud en Chile. La Urología, por ser una especialidad quirúrgica, se vio ampliamente afectada; por tanto, tuvo que organizarse eficientemente para atender a los pacientes con neoplasias urológicas y mantener la atención y procedimientos quirúrgicos.

PALABRAS CLAVE: COVID-19; Chile; Urología; Oncología; Instituto Nacional del Cáncer; Triage; PCR; Bacillo de Calmette-Guérin; cistoscopia.

[1] Hospital Clínico, Universidad de Chile.
[2] Instituto Nacional del Cáncer, Chile.

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Correspondence
Tomás Olmedo Barros
tolmedo67@gmail.com

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INTRODUCTION

At present cancer is the second most common cause of death of the Chilean population, after the affections of the circulatory and cardiovascular system, projecting that at the end of the next decade, it would become the primary cause of death in the country. On 2018 The National Cancer plan was proclaimed 2018- 2028, which addressed strategies that include consider the natural history of the disease, enhancing promotional and preventive action to arrive before the appearance, and diagnose on the early stages, in order to provide a comprehensive and timely attention to people throughout their way of life.

Since December 2019, when the first cases of the scheduled clinical picture as COVID-19 were identified, the causative agent SARS-CoV-2 was identified later; the world has entered a health crisis, where all the resources had to prioritize themselves for addressing of this pandemic.

There are several urological pathologies whose management had to be paused, however, is in the area of Oncology where time and opportunity is a key factor in the prognosis of patients. That is why an important challenge is to adapt the handling of Uro-Oncologic patients during a Pandemic.

Adjustment on the Urology Services

After the first case reported in Chile on March 3rd, 2020 were begun reconverting services, including Urology, to respond to the requirements of the Pandemic. On April a conversion of beds gradually began to complete a 100% Service Urology in acute beds for patients with intercurrent SARS-CoV-2 and medical conditions.

In addition, the surgical activity was limited to a maximum daily quota of 1 surgery room for emergencies or patients with oncologic priority, which had to be taken exclusively by an urologist. A partial return to the activities were initiated on September.[1]

Surgery uro-oncological and COVID-19

The Pandemic by SARS-CoV-2 significantly affected the development of surgery in patients with urological malignancies. A sum of efforts of several aspects was due to be able to keep the attention of this type of patients, including reduced hours of surgery rooms, limited availability of ICU beds, conversion of human resources for care of patients COVID, to incorporate the PCR of SARS-CoV-2 within the preoperative examinations, among others. This is why during the year 2020 the Urology Deparment gave guidelines, as they were the peak times that could postpone certain surgeries. Within the EAU gave specific guidelines for pathologies of oncological area (**Table 1**) based on the opinion of experts.

In Chile, there is a cover for treatment opportunity guaranteed by Law 19,664 of Explicit Guarantees in Health (GES, enacted in 2004). This includes four pathologies of the area of

Table 1. Recommendation to defer cancer surgery for pandemic COVID -19

Pathology	Maximum waiting times
NMIBC	3-6 months
MIBC	weeks (Surgery or chemotherapy)
Prostate cancer Low risk Intermediate-high risk	Active Surveillance 3-6 months (Consider RT o)
Kidney cancer T1/T2 T3	3-6 weeks Do not differ
Urotelial carcinoma	12 weeks
Penile cancer	3 months
Testicular cancer	Do not differ

Modified: Wallis CJD, et al.[2]

Uro-Oncology (Testicular cancer, Kidney cancer, Prostate cancer and Bladder cancer) and defines surgical peak times for resolution that are detailed below:

- Testicular cancer, there is a maximum of 2 weeks, from the surgical indication, orquiectomía.
- Kidney cancer a period of 4 weeks for Nefrectomía exists.
- Prostate cancer 60 days (for Radical Prostatectomy once the patient has been etapificado)
- Bladder cancer patient has covered by Law with histological result, so there is no specific time that guarantees the realization of RTU-V, however, once noted the Radical Cystectomy surgery should be made within 30 days (in case of not making neoadyuvancia).

The legislation before described, it allowed the uro-oncologic team to stay active for the resolution of these patients.

Without a doubt, patients undergoing surgery are a group of risk of exposure to SARS-COV-2. In a study conducted by the group of Universidad catolica, the number of cancer surgery performed within a certain period of a normal year with the number of surgeries performed during the period of confinement was compared. The results reported that there was a 165 per cent decrease to 85 interventions. Secondly outcomes surgical and morbidity and mortality were evaluated, finding only statistically significant differences in the number of reoperaciones, being higher in a normal year that pandemic. Despite this significant loss of Uro-oncologic surgical production, this type of surgery was such that remained more during the pandemic. In conclusion it is recommended to solve patient uro-oncologic during the pandemic, always followed the established protocols.[3]

The impact that generated by the pandemic was not only lived in Santiago, but it affected in transversal way to all regions of Chile. In an experience of Hospital Guillermo Grant Benavente of Concepción the highest number of cases COVID with the same period in a normal year was compared. Year 2019 showed a decrease of 445 surgeries 228 year 2020 due to the reduction in weekly hours available pavilion (40 *vs* 16 hours), but keeping the percentage of oncological surgeries v/s (29% 30%).[4]

Due to the measures implemented by the ministry of health to try to stem the growing number of infection by SARS-COV, which affected directly appropriate care of cancer patients who were not in tertiary care, given the occupation of the ICU beds by 95% in the period of greatest peak of infection. This generated a large number of situations:

- Decrease in hours of attention to outpatients.
- Difficulty in entry to tertiary care.
- Maximum gaugings in open attention pre and post limited operating control. It appears telemedicine as an ally.
- Apprehension on the part of patients to attend health institutions.
- Changing roles of health personnel to cover the ICU units.
- Decrease in surgical opportunity for lack of availability of pavilion at both infrastructure and human resource.
- Lack of beds business-critical postoperative one.

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- Reduced availability of anesthesiologists and anesthesia machines that were intended to units with severe patients by COVID-19.

- Logistical difficulties PCR to any patient who go to undergo surgery.

The services of urology focused on giving priority to cancer patients according to the ministerial standards, which represented a delay of patients with benign pathologies. In addition, it meant for several patients a delay in resolving their pathologies, a situation that was reflected once attentions started to normalize themselves; Being observed patient oncology with more advanced disease.

With regard to technological means use, uro-oncologic field monitoring by telephone remained or devices of telemedicine or tele-help, incorporating technologies like Zoom® and Google Meet®. A point was to highlight the possibility of maintaining continuously developing Uro-oncologic Committees comprising focused multidisciplinary teams in making decisions from patients with oncologic pathology. In a study conducted by the Universidad de la Frontera in Chile requested the urologists perception of this tools, a 61% responded to agree with maintaining the use of Telemedicine upon completion of the Pandemic.[5]

Strategies

On March 25th the Chilean ministry of health issued a decree «Release of fulfilling the opportunity guarantee Height for those 85 diseases, which can expect, while it does not mean a risk for people ». For this reason, at the national level, the measure was taken to suspend the elective surgery, and both prioritize oncological pathologies in outpatient care as surgical.

In the urology area, one deferred all nononcologic surgeries, treating only nonpostergables emergency pathologies as complicated calculi, testicular torsion and uro-oncologic benefits under the terms set out in **Table 1**.

Specific measures in the attention of Patient Uro-Oncologic at national level, these measures were implemented are summarized in **Table 2.**

Table 2. Measures implemented in attention of uro-oncologic patient during pandemic COVID -19

Measures Implemented in Attention of uro-oncologic Patient during Pandemic COVID -19
General recommendations for the services of oncology of adults (chemotherapy, radiotherapy, hematology, palliative care).
Preventive isolation in address for cancer patients.
Vaccine administration against influenza for cancer patients.
Asymptomatic population (screening).
Transversal general measures to all the services of clinical support.
General protection measures for health staff:

Recovered from: Recommendations for the management of COVID-19 for oncology services and associates.[6]

As an example, we will refer to the experience of the National Cancer Institute (Inc), centre of national referral uro oncology in: Bladder cancer, Lumboaortic Lymphadenectomy, Radiotherapy and in cancer patients Service North Metropolitan health.

In order to obtain a proper and safe care of patients, they worked in internal management protocols in cancer patient's eurounifying care guidelines. These were based on international recommendations and those arising from the health ministry.

The top 4 internal protocols INC:[7]

I. Questionnaire triage COVID-19.
II. Management of patients COVID-19 with acute respiratory failure, hospitalized in the unity of intermediate care.
III. Management of patients with suspicion and confirmation of COVID-19 v (01).

IV. Management of patients COVID-19 with acute respiratory failure, hospitalized in the unity of intermediate care.

One of the main measures was the definition of «free CovidHospital», tried to keep the priority to cancer patients to maintain the strength of extra criticism for surgical patients post or decompensation its uro-oncologic pathology. Continuous training to staff for the care of patients COVID were scheduled for -19.

With these measures the attention of uro-oncologic patients with the same percentage of new ambulatories consultation 12% and 88% when compared with the figures for the period 2019-2020 could be sustained.[1] Could also be observed a decrease of approximately 20% surgeries, uro-oncologicos committee. Treatment of BCG, cystoscopies and hormone therapy administrations.

Usually the delivery of clear information to patients, companions and/or relatives was tested using the tool of detection in TRIAGE: To identify isolate and report, which provides a glance rapid relation with how to handle these cases. A circuit differentiated attention from patients without suspicion set apart from those with suspected COVID 19. **Tables 3 and 4**

Open attention

- All patients with scheduled hour in general hospital triage is made to them, to determine the risk of being sick (symptomatic or asymptomatic). If the questions were negative an hour will be schduled.

- Performance was changed from four to two patients per hour, with a decrease in the total number of patients seen in 2020. Controls decreased by 27,8% and new consultations by 25%.

- Access was limited in addition companions making exceptions in the following cases.

  - Patient in a wheelchair or difficulty of mobility
  - Beware of Palliative (indication given by unit)
  - First consulting Medical Oncology (indication given by unit)
  - First Chemotherapy, Brachytherapy, Simulation or radiotherapy (indication given by unit). Since the second therapy the companion must expect to be requested by the Nurse of the unit.
  - Patients who enter examinations or procedure with anesthesia, such as Endoscopies, Colonoscopies, Biopsies or installing catheter.
  - Minor patients require to enter with responsible adult.
  - Patients who have permission of treating doctor or nurse.

- With regard to the uro-oncologic committee was conducted under the modality of Zoom® without disruption. This measure was achieved an assistance of 100% participants and 15% per cent increase in the attentions compared with previous years. The end of the committee's resolution reported by phone and future subpoenas were given.

- The administrations of intravesical BCG remained at 100% of patients, making room sanitization procedure. The yield fixed a patient per hour to sanitize room procedure accordingly.

- Treatment with therapy androgen deprivation remained without controls of antigens in patients who had at least two previous controls without uprisings.

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Table 3. General handling of everyone attending at INC

Everyone who attends INC must wear a mask
All patients, companions or relatives who enter the INC will be sent by guards to the TRIAGE room. If there is a line to enter the TRIAGE Room, a distance of 1 meter must be maintained between each person. At the entrance of the TRIAGE room, the patient will be taken: Temperature and will be asked questions determined, to be classified without or with suspected COVID-19.
Within the TRIAGE Room, the provision of a maximum of 9 washable chairs (for patients, companions and / or relatives) must be respected, ensuring the required physical distance The Nursing staff who perform TRIAGE must wear surgical mask and goggles or face shield. The Nursing personnel who carry out PCR sampling must wear: KN95 mask, goggles or face shield, plastic bib and disposable gloves. Each patient receives precise indications according to the post-TRIAGE classification. Each patient will be quickly directed to the INC facilities as needed, thus avoiding crowds within the TRIAGE Room.

Recovered from: Operation TRIAGE pandemic COVID-19, National Cancer Institute[8]

Table 4. Triage Covid oncology patients

First Phase: (The following 4 Default Questions will be asked to each person)
1. Have you had a temperature greater than or equal to 37.8 °C in the last week? 2. Have you had a cough or shortness of breath in the past week? 3. Have you had one or more of the following symptoms: headache, malaise, loss of taste or smell, chest pain, abdominal pain, chills, diarrhea or vomiting, sore throat when eating or swallowing fluids, in the last few days?
If the person PRESENTS SYMPTOMS, ask question 4A 4A. Have you been in contact with a confirmed case with COVID-19, between 2 days before the onset of symptoms and 14 days after the onset of symptoms of the patient?
If the person is ASYMPTOMATIC, question 4B is asked 4B Have you been in contact with a confirmed case with COVID-19, during the 14 days following the taking of the PCR test of the patient?
Second Phase: (Close contact will be qualified when answering (YES), in one or more of the following questions
4. Did you maintain face-to-face contact for more than 15 minutes, within a meter, without a mask? 5. Did you share a closed space for 2 hours or more, in places such as offices, jobs, meetings, schools, among others, without a mask? 6. Do you live or spend the night in the same home or places similar to home, such as hostels, boarding schools, closed institutions, nursing homes, hotels, residences? 7. Have you traveled in any closed means of transport closer than one meter with another occupant of the means of transport who is infected, without a mask?

Recovered from: Management protocol for patients with suspected and confirmed COVID-19. National Cancer Institute[9]

Close Attention

- The urological patients requiring hospitalization were divided in two ways:
  - Patient with programmed hospitalization; Or for surgery, chemotherapy or radiotherapy. PCR with 48 hours of prior was requested, shows that was taken in the hospital.
  - Patients who need hospitalization by some decompensation their oncological pathology: They were hospitalized in isolation rooms to take PCR; If the result was negative moved to a free room COVID-19, otherwise it kept in isolation.
- In the case of patients who met criteria of case I suspect or close contact some

patient with COVID-19. The surgery was suspended immediately.

- For patients attending portrait of acute respiratory infection, confirmed by a doctor, was suspended surgery.

- With these measures had managed to maintain the programming of oncological surgeries safely, with a decrease of 21% per cent compared with 2019. The reasons for this decline was by loss of a surgical day, suspension of positivity PCR and rejection of surgery for fear of contract COVID-19.

CONCLUSION

The COVID-19 pandemic globally mobilized the entire health system in Chile. Urology, being a surgical specialty, was widely affected, both at the ambulatory and hospital care level. The Uro-oncology area had to be organized efficiently to respond to patients with urological cancer. Thanks to the guarantee of opportunity granted by the GES law and the rapid organization of institutions such as the National Cancer Institute, it was possible to maintain the care and surgical resolution of these patients without a significant decrease in benefits.

REFERENCES

1. Santander D, Finterbuch C, Alarcon L.Impacto de pandemia SARS COV-2 em la conversion de um servicio de urologia em um hospital público. Revista Chilena de Urología. 2020; 85(3):38
2. Wallis CJD, Novara G, Marandino L, et al. Risks from Deferring Treatment for Genitourinary Cancers: A Collaborative Review to Aid Triage and Management During the COVID-19 Pandemic. *Eur Urol*. 2020;78(1):29-42. doi:10.1016/j.eururo.2020.04.063
3. Bravo J, Navarro, R, Rojas, P, Sanhueza, D, Schalper, M, Zúñiga, A, San Francisco I. Morbimortalidad comparativa en período con y sin pandemia covid19 en pacientes sometidos a cirugía urooncológica: años 2019-2020. Revista Chilena de Urología. 2020; 85(3):23
4. Neyra Vallejos A, Calvo Bernasconi I, Álvarez Sanhueza R, Aguilera Salinas J, Arias Orellana E, Quintana Lacoste E, Chaparro Ramos E, Torrado Rico K, Bustamante Basso C, Bezama Urriola P, Manzanares Sánchez V, Pichott Montano F, Herrera Canales L, Sáez Galaz G. Actividad quirúrgica de un servicio de urología en un hospital público chileno durante la pandemia covid19: incertidumbre en el pronóstico de las patologías oncológicas y acumulación de patologías benignas sin resolver. Revista Chilena de Urología. 2020; 85(3):49
5. Inzunza Navarro J, González Billault M, Monsalve Gayoso A, Valenzuela Viale R, Inostroza Aqueveque C. Experiencia urólogos nacionales en utilización de teleconsulta en periodo pandemia COVID-19. Revista Chilena de Urología. 2020; 85(3):45
6. Indicaciones MINSAL vacunación para pacientes oncologicos. Sociedad Chilena de Cancerología. http://cancerologia.cl/wpcontent/uploads/2020/04/recomendaciones-para-manejo-de-covid-19-para-servicios-de-oncologia-y-asociados-2.pdf
7. Miriam Castro Mayorga, Silvia Bautista Catalán. Funcionamiento Traige pandemia Covid -19. Instituto Nacional del Cáncer. Agosto 2020, Santiago, Chile. https://www.minsal.cl/plan-de-accion-coronavirus-instituto-nacional-de-cancer/
8. Gonzalo Veloso, Karla Collao, Maria de los Angeles González. Manejo de pacientes covid-19 con falla respiratoria aguda, hospitalizados en la unidad de cuidados intermedios, Instituto Nacional del Cáncer. Abril 2020, Santiago, Chile. https://www.minsal.cl/plan-de-accion-coronavirus-instituto-nacional-de-cancer/
9. Claudia alegre Navas. Protocolo de manejo de pacientes con sospecha y confirmación de covid 19. Instituto Nacional del Cáncer. Abril 2020, Santiago, Chile. https://www.minsal.cl/plan-de-accion-coronavirus-instituto-nacional-de-cancer/

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Special Content

Societies and associations of oncology patients: Support tools and mentoring.

Leticia Aguilar-Green, Mayra Galindo-Leal

Asociación Mexicana de lucha contra el cáncer

Correspondence
Leticia Aguilar Green
letyaguiar@gmail.com

contacto@amlcc.org
www.facebook.com/CancerMexico
https://twitter.com/cancermex
https://www.instagram.com/amlccorg/

Receiving a cancer diagnosis is never easy. The emotional impact and an uncertain future along with the need to make quick decisions can be overwhelming.

Cancer patients in Mexico face accessibility barriers in receiving medical care. A saturated healthcare system, lack of medical specialists, drug shortages, long wait times to perform diagnostic tests and to make medical appointments create an emotional strain on the patient and his/her family.

In light of this situation, civil society support programs not only help in understanding the disease process, but to also navegate the healthcare system and empower those people who are living with the disease to invoke their rights.

Some of the support tools and mentoring that the Mexican Association Against Cancer [in Spanish: la Asociación Mexicana de Lucha contra el Cáncer] offers are:

Consulting and guidance: We are built upon the premise of the human approach and consider the real needs of the population, social changes, demographics, the decisions of the authorities, medical advances, and all other factors that affect healthcare, focusing on those people who are the most disadvantaged.

Treatments: We combine our efforts with different sectors of society to support patients with Cancer in Mexico by negotiating with associates to obtain drugs, and to make them more accessible to patients as quickly as possible if they require them.

Patient Education Center: We create changes in attitudes, habits, and behavior through dialogue sessions with experts and other patients to provide information and training so that participants can learn how to exercise their healthcare rights in Mexico. The Patient Education Center is an essential resource for sharing this path with a Cancer patient.

The Mexican Association Against Cancer has a proven track record

of over 48 years and is working to improve Cancer conditions in Mexico through these 4 programs:

1. Educate, raise awareness, and inform patients, caregivers, medical sponsors, and the general public about Cancer by suggesting intervention processes that are in accordance with the population it will have an impact on.
2. Promote Cancer prevention and perform screening tests in a timely manner.
3. Provide consulting and comprehensive support to patients with Cancer through treatments, product donations, advice, guidance, and referrals depending on the situation and needs of the patient.
4. Advocate for and influence public policies on cancer control and prevention by unifying efforts with different participants at both the national and international level.

Review article
Bol Col Mex Urol 2021; 36 (Supl. 1): 113-118.

Management of oncology patient´s in Mexico during the COVID-19 pandemic: Evidence of a battered and beaten system.

Tratamiento de pacientes con cáncer en México durante la pandemia: evidencia de un sistema maltratado y golpeado

Hugo A. Manzanilla-García,[1] Ana María Autrán-Gómez[2]

Abstract

Cancer is one of the leading causes of death worldwide. It has positioned itself as the first or second cause of death in 112 countries, and as third or fourth in 23 more. Breast cancer ranks first in the highest rate of incidences followed by lung, colorectal, prostate, and stomach cancer as the five most frequent. Lung cancer has remained the leading cause of death followed by colorectal, liver, stomach, and breast cancer respectively. Cancer in Mexico currently represents a serious health concern, but in addition, it has become a real socio-economic problem for the Mexican population. It is very important not to stigmatize patients with cancer who are diagnosed with the disease transmitted by the SARS-CoV-2 virus and are in an organ-confined stage of cancer, since the behavior of the disease is the same for those that do not have this antecedent, especially when these patients need to occupy a bed in intensive therapy in any of these hospitals. It is of the utmost importance that treatment be maintained for those patients who have cancer without incurring reductions, delays, or modifications to frameworks that were previously began, since otherwise it could affect the evolution and prognosis of the disease to the detriment of the patient.

KEYWORDS: Causes of death; Breast cancer; Incidence; SARS-CoV-2; Prognosis.

Resumen

El cáncer es una de las principales causas de muerte en todo el mundo. Representa la primera y segunda causa de mortalidad en 112 países y la tercera o cuarta en 23 más. En cuanto a la incidencia, el cáncer de mama ocupa el primer lugar en la tasa de incidencia, seguido del cáncer de pulmón, colorrectal, de próstata y de estómago. En México supone un serio problema de salud, incluso se ha convertido en un verdadero problema socioeconómico para la población. Es importante no estigmatizar a los pacientes con cáncer y SARS-CoV-2, en espera de algún trasplante de órgano, porque el comportamiento de la enfermedad es el mismo para quienes no tienen este antecedente, especialmente cuando requieren una cama en el área de terapia intensiva. Es importante mantener el tratamiento en los pacientes con cáncer, sin incurrir en las reducciones, retrasos o modificaciones de los protocolos que se iniciaron previamente, pues de lo contrario podría afectar su evolución y pronóstico.

PALABRAS CLAVE: Causas de muerte; cáncer de mama; incidencia; SARS-CoV-2; pronóstico.

[1] Uro-genital Tumors Unit, Urology Department, Hospital General de México Dr. Eduardo Liceaga, Mexico City.
[2] Research Office of, Confederación Americana de Urología.

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Correspondence
Hugo A. Manzanilla García
hamanzanilla@gmail.com

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Cancer in Mexico during the pre-pandemic stage

Cancer is one of the leading causes of death worldwide. It has positioned itself as the first or second cause of death in 112 countries, and as third or fourth in 23 more. In 2020, the International Agency for Research on Cancer, through its esteemed colleague GLOBOCAN 2020, reported 19.3 million new cases with 10 million deaths from the same disease. More than half of these deaths were present in developing countries. Breast cancer ranks first in the highest rate of incidences followed by lung, colorectal, prostate, and stomach cancer as the five most frequent. Lung cancer has remained the leading cause of death followed by colorectal, liver, stomach, and breast cancer respectively.[1] Cancer in Mexico currently represents a serious health concern, but in addition, it has become a real socio-economic problem for the Mexican population. Over the past decade, this illness, that has effected a large portion of the Mexican population, has seen an increase in the rate of incidences and mortality. Since 1998, Julian y cols. have identified an upward trend in mortality related to cancer, increasing per year at 0.08 per 10,000 habitantes.[2] Rizo-Rios reported that the mortality trends for cancer in Mexico have shown an upward trend reaching 11.8% of the total number of deaths in general, and occupies second place as the cause of death in Mexico. The most frequent types of cancer in men are prostate, lung, and stomach (ASMR of 10.4, 8.0 and 5.8 respectively); and for women: breast, cervical, and liver cancer (ASMR of 9.8, 12.6 to 6.6 and 4.9 respectively).[3,4] This increase in incidence and cancer mortality in Mexico is attributed to different causes and factors: *a)* Socio-demographic factor- Like many countries today, life expectancy in Mexico has increased due to the advances inherent in medicine that allow a more timely diagnosis of illnesses with access to therapeutic options that have permitted an extended lifespan.[5] However, for chronic non-communicable diseases such as cancer, the number of cases have skyrocketed due to an extended lifespan, and changes inherent in lifestyle such as diet have allowed these risk factors to reveal themselves more frequently, and therefore, mortality for the same reason is greater and greater.[6] Inequality and social development throughout the different states of the Mexican Republic make health care services unequal at a national level, together with the uneven geography of the states where primary health care is not accessible to the population, especially for a rural population.[7,8] *b)* Factors attributed to a patient: Mexican populations were born and developed inside of a social sphere where a culture of preventative health does not exist, and where society views pain as an illness and chauvinism still exists. As a result, patients make first-time diagnostic appointments very late, and together with a low minimum wage that they receive and multi-symptom illnesses that they show, they still don't visit a doctor for fear of losing their job or for no longer having the economic income for their family.[9,10] *c)* Factors attributed to doctors: in the vast majority of medical schools in the country, Oncology is a course that is not in the academic programs as a core subject, and future physicians are trained without the thought processes that are inherent in Oncology. When they begin to practise their profession they don't prioritize a timely diagnosis of the different cancers in their daily consultations with patients. Medical student candidates are immersed in the phenomena of more women entering medicine. Decades ago there were 3 women for every 7 men studying medicine. Today these percentages have become inverted. Female physicians, because of modesty or out of risk, avoid an examination of the genital area of men who go to them requesting their services.[11] There is an uneven geographical distribution of medical specialists. The vast majority of them settle in large cities with residential or industrial complexes that are inherent in major cities, and very few want to practise

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their profession in rural areas. As a result, having access to a specialist in areas where there is a social gap is more difficult and less accessible.[12] *d)* Factors attributed to the government: Mexico suffers from national political policies for the diagnosis and treatment of cancer. Consequently, there is no homogenous healthcare policy. Each public healthcare institution bases its diagnoses and treatments on a consensus of its own group of physicians that are included in the same, and there are no guidelines for diagnosis or universal treatment that are so necessary for oncological conditions.[13]

In this context, it is worth mentioning that today in Mexico 7 out of every 10 patients diagnosed for the first time with cancer are in a locally advanced stage or advanced stage, which means you have a health system dedicated to patient treatment that incurs high costs, and not a health system that promotes and strengthens prevention and early diagnosis of existing cancers, thus resulting in a heavy financial burden for the state and for Mexican families, since 50% of the diagnoses and treatment of diseases stem from out-of-pocket costs paid for by the patient.[14]

Epidemiological surveillance began in the 1930s in Mexico, and over time it has been strengthened and improved for communicable diseases, and it is not the same for non-communicable diseases. At the end of the 1990s, an attempt was made to create a database for neoplastic diseases which was called: the Histopathological Registry of Malignant Neoplasms [in Spanish: el Registro Histopatológico de Neoplasias Malignas]. However, it was discontinued at the end of 2000. In the same year, the General Health Law, [in Spanish: la Ley General de Salud], was reformed, and Public Health Insurance, [in Spanish: el Seguro Popular], was created in 2004. It aimed to provide health care to the population for those who had no type of social security, which represented almost 60 million Mexicans. Starting in 2010, a list of diseases, among which included the most frequent oncologic problems in Mexico, was being used that was able to provide them with the necessary medical attention.[15,16] However, the Public Health Insurance had severe deficiencies in ensuring its implementation that would provide treatment for a predetermined combination of services limiting the concept of universal health care. The role of the Secretariat of Health, [in Spanish: la Secretaría de Salud], was defined as the financing and regulating of health care for individuals, with insufficient consideration given to disease prevention and health promotion, combined with little control over budget periods which lent itself to the misuse of resources and corruption. In light of these arguments, the government of Mexico in 2019 made another major reform in the General Health Law based on Sustainable Development Goals, [in Spanish: los Objetivos de Desarrollo Sostenible], drawn up by the World Health Organization, specifically goals 3, 3.4, and 3.8 for achieving universal health coverage against financial risks, free access to health care, and quality-assured essential medicines and insurances that are both effective and affordable. Through this modification, Public Health Insurance was replaced by the newly-created National Institute of Health for Welfare, [in Spanish: el Instituto de Salud para el Bienestar], (INSABI), which came into existence on January 01 when they already had data from the first countries where the COVID-19 disease was appearing, which is attributed to the SARS-CoV-2 virus.[17,18,19]

Cancer in Mexico during the pandemic stage

Oncology patient´s during the pandemic in Mexico have faced different and unfortunate events in the field of health care in terms of pathology. First I will mention those patients that were in their diagnostic stage. From the beginning, we mentioned that the vast majority of patients seek medical attention at a late-

stage. With the suspension of consultations on a walk-in basis in public hospitals or assistance provided by medical specialists who are undergoing training in these consultations, a timely diagnosis has fallen into oblivion. The uncertainty of medical personnel on how to act in their daily work during a consultation and in a physical examination of a patient, as well as the fear of medical personnel of becoming infected in the performance of their duties, emphasize late diagnoses of different cancers at a national level. As the pandemic continued to advance, health care workers in Mexico saw not only a large number of infected personnel, but also a large number of COVID deaths, which has unfortunately placed Mexico in first place worldwide in terms of the number of deaths of health care workers. In December 2020, the Mexican Social Security Institute, [in Spanish: el Instituto Mexicano del Seguro Social] (IMSS), reported that 500,000 employees of this institute had 212,000 suspected cases, with 82,000 confirmed and 742 deaths from the disease. Of these IMSS employees, 25,469 are reported as nurses and 13,968 are physicians, with a crude relative risk of infection of 1.46 (1.43-1.50) IC95%, and 1.14 (1.11-1.18) respectively. Similarly, 132 deaths among members of the nursing staff were reported, along with 139 deaths of medical personnel, with a crude mortality rate due to the disease of 0.81 (0.59-1.12) IC95%, and 1.57 (1.15-2.14) IC95% respectively.[20] If we extrapolate from this data that IMSS provides medical care to almost 60 million individuals from the Mexican population, it is more worrisome for those who provide medical care to Mexicans, and as such, there are no reports from other public institutions that currently care for cancer patients in our country. Another problem of the health care institutions is that many of the health care personnel who treat cancers do so from groups that are from a higher risk or correspond to diseases such as hypertension or diabetes. Consequently, they have left primary care service areas that has resulted in medical-surgical staff struggling to keep up with a workload of necessary surgical procedures that need to be performed, thereby causing mental and physical exhaustion, which in turn wreaks havoc in the treatment of neoplastic diseases.

Another problem for oncology patient´s in Mexico is for those who are undergoing medical treatment with different types of cancer drugs. Two years ago today the Public Health Insurance, (Seguro Popular), was abolished. It was replaced by the newly-created National Institute of Health for Welfare, (INSABI), which still has no cancer treatment protocols in this Institute. Moreover, a specific budget is yet to be assigned from the federal budget for Mexican health care, and with the arrival of the pandemic the need for a budget allocation and the purchase of equipment and supplies has arisen for treating COVID-19, resulting in procurement, allocation, and distribution delays in administering basic cancer drugs. New high-cost cancer drugs have been an additional factor in the shortage of suitable drugs in an already depleted national market of basic cancer drugs, owing to a lack of financing in the annual federal government budget.

A specific problem that presents itself for oncology patient´s for those diagnosed with the disease due to SARS-CoV-2 is the stigma that a patient with cancer has a poor prognosis and a short time to live, and therefore, when a patient with these characteristics needs to occupy an intensive care bed, and is with another patient who has not been diagnosed with cancer but with COVID-19, preference is immediately given to the latter. Van Damm reported that those oncology patient´s in stages that are organ-confined have the same life expectancy than those who do not have this medical history, and the probability of death due to SARS-CoV-2 increases up to 28% for those patients who have a metastatic disease.[21,22]

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It should be mentioned that those patients with advanced-stage cancer can show symptoms that are very similar to the SARS-CoV-2 disease but not have the disease, since these symptoms can be attributed to the same disease in its advanced stage with the side effects of cancer drugs being applied, or to some common viral disease that occurs seasonally for which the cancer patient shows symptoms. In such a case, the necessary test must be performed that shows that the patient has this diagnosis and that immediate action was taken for early intervention in order to avoid a fatal outcome.

What is certain is that many things are still lacking in order to understand this disease which is affecting the entire world. To the extent that there is greater information regarding physiopathogenesis, there may be drugs that work effectively against the virus, or we may have the necessary and effective vaccines to halt the aggressiveness of this infection. Those patients who have this virus must continue to take the necessary precautions in order to avoid passing on this virus.

Mexico urgently needs to create national public policies that aid in the early diagnosis of cancer, and for those patients who have already received this diagnosis and contracted the SARS-CoV-2 disease, they should be able to receive the appropriate care anywhere that they are being cared for.[23]

CONCLUSIONS

It is necessary to create a national population-based cancer registry that ensures good planning and the allocation and distributon of medical service resources in order to care for those patients who require them the most. It is very important not to stigmatize patients with cancer who are diagnosed with the disease trasmitted by the SARS-CoV-2 virus and are in an organ-confined stage of cancer, since the behavior of the disease is the same for those that do not have this antecedent, especially when these patients need to occupy a bed in intensive therapy in any of these hospitals. It is of the utmost importance that treatment be maintained for those patients who have cancer without incurring reductions, delays, or modifications to frameworks that were previously began, since otherwise it could affect the evolution and prognosis of the disease to the detriment of the patient.

REFERENCES

1. Sung H, Ferlay J, Siegel RL, Laversanne M, ET AL. Global Cancer Statistics 2020:GLOBOCAN Estimates of Incidence ans Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J Clin 2021. https://doi.org/10.3322/caac.21660
2. Julian GS, Carneseca EC, Sicchieri MP, Pomerantz D, et al. Cancer Mortality Trends in Brazil and México. Value Health. 2018; S1-S268. https://doi.org/10.1016/j.jval.2018.04.231
3. Rizo-Ríos P, González-Rivera A, Sánchez-Cervantes F, Murguía-Martínez P. Trends in Cancer Mortality in México. 1990-2012. Rev Med Hosp Gen 2015; 78 (2): 85-94. https://www.elsevier.es/es-revista-revista-medica-del-hospital-general-325-articulo-trends-in-cancer-mortality-in-S0185106315000293
4. Gómez-Dantés H, Lamadrid-Figueroa H, Cahuana-Hurtado L, Silverman-Retana O, et al. The Burden of Cancer in Mexico, 1990-2013. Salud Pública Mex. 2016 58:118-131. https://saludpublica.mx/index.php/spm/article/view/7780
5. INEGI. Censo Poblacional de México. 2020. https://www.inegi.org.mx/programas/ccpv/2020/
6. Mohar-Betancourt A, Reynoso-Noverón N, Armas-Texta D, Gutiérrez-Delgado C, et al. Cancer Trends in Mexico. Essential Data for the Creation and Follow-Up for Public Policies. J Glob Oncol 2017; 3 (6): 740-748. https://doi.org/10.1200/JGO.2016.007476
7. Alcalde-Rabanal JE, Nigenda G, Bärnighausen T, Velazco-Mondragón HE, et al. The gap in human resources to deliver the guaranteed package of prevention and health promotion services at urban and rural primary care facilities in Mexico. Hum Resour Health. 2017; 15: 49. https://doi.org/10.1186/s12960-017-0220-5.
8. Mino-León D, Gutiérrez-Robledo LM, Velazco-Roldán N, Rosas-Carrasco O. Mortalidad del Adulto Mayor. Análisis Espacial basado en el grado de Rezago Social. Rev Med Inst Mex Seg Soc. 2018; 56 (5): 447-455. http://revistamedica.imss.gob.mx/editorial/index.php/revista_medica/article/view/1349
9. King-Okoye M, Arber A, Faithfull S. Routes to diagnosis for men with prostate cancer: men´s cultural belief about how changes to their bodies and symptoms influence

help-seeking actions. A narrative review of the literature. European J of Ocol Nursing. 2017; 30: 48-58. https://doi.org/10.1016/j.ejon.2017.06.005

10. Evans J, Blye F, Oliffe JL, Gregori D. Health, Illness, Men and Masculinities (HIMM): a theoretical framework for understanding men and their health. J Men Health. 2011; 8 (1):7-15. https://doi.org/10.1016/j.jomh.2010.09.227
11. Consenso Inter Institucional para la Formación de Médicos Especialistas en México. Universidad Nacional Autónoma de México. Sept. 2012.
12. Consenso Interinstitucional para la Formación de Médicos Especialistas en México. Análisis de las necesidades de formación de médicos especialistas. Subsecretaría de Integración y Desarrollo del Sector Salud. Secretaría de Salud. México.
13. Castro R. Health Care delivery System: Mexico. ResearchGate. Chapter Feb 2014 https://doi.org/10.1002/9781118410868.wbehibs101.
14. Gutierrez NC. Mexico: Availability and Cost of Health of Care. Legal Aspects. The Law Library of Congress, Global Legal Research Center. LL File No. 2014-010632. http://www.law.gov.
15. Galárraga O, Sosa-Rubí SG, Salinas-Rodríguez A, Sesma-Vázquez S. Health insurance for the poor: impact on catastrophic and out-of-pocket health expenditures in Mexico. Eur J Health Econ. 2010; 11: 437-447. https://doi.org/10.1007/s10198-009-0180-3.
16. García-Apendini IC. Effects of Mexico's Seguro Popular Program on Health-Related Outcomes: Ten Years After its Implementation. UCLA Electronics theses and dissertations. 2017 https://escholarship.org/uc/item/2sp6w3rz.
17. Decreto por el se reforman, adicionan y derogan diversas disposiciones de la Ley General de Salud y de la Ley de los Institutos Nacionales de Salud.DOF 29 de noviembre de 2019. www.gob.mx/cms/uploads/attachment/file/521359/2019_11_29_MAT_salud.pdf-
18. 18).www.gob.mx/cms/uploads/attachment/file/601958/PROGRAMA_INSTITUCIONAL_2020-2024_INSTITUTO_DE_SALUD_PARA_EL_BIENESTAR_21122020.pdf.
19. https://www.who.int/topics/sustainable-development-goals/es/
20. Academia Mexicana de Cirugía. Sesión conjunta con la Secretaría de Salud. 9 feb. 2021. www.amc.org.mx.
21. Assaad S, Avrillon V, Fournier ML, Mastroianni B, et al. High mortality rate in cancer patients with symptoms of COVID-19 with or without detectable SARS-COV-2 on RT-PCR. Eur J of Cancer. 2020; 135: 251-259. https://doi.org/10.1016/j.ejca.2020.05.028
22. van Damm PA, Huizing M; Papadimitriou K; Prenem H, et al. High mortality of cancer patients in times of SARS-CoV-2: Do not generalize! Letter to the Editor. Eur J of Cancer. 2020; 138: 225-227. https://doi.org/10.1016/j.ejca.2020.07.021
23. The Economist. Intelligence Unit. Tackling the burden of prostate cancer in Latin America. https://eiuperspectives.economist.com/healthcare/tackling-burden-prostate-cancer-latin-america-prospects-patient-centred-care

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Changes in bladder cancer management and follow up during SARS-CoV-2 pandemic.

Cambios en el tratamiento y seguimiento de pacientes con cáncer de vejiga durante la pandemia por SARS-CoV-2

Israel Presteguín-Rosas,[1] Ángel Arreola-Hernández,[2] Ignacio López-Caballero,[3] Aranza Suárez-Ortega[4]

Abstract

The disease caused by SARS- CoV-2 (COVID-19) has brought about a delay in management and treatments provided to patients suffering from a great number of pathologies in order to focus resources in tending to COVID-19 patients and to decrease the spread of this virus among potentially vulnerable patients. Oncological patients have been especially affected since delaying diagnosis and/or treatment may be fatal. In relation to bladder cancer, said situation has forced health professionals to put forward new diagnosis, treatment and follow-up patterns, categorizing patients according to risk groups regarding their chance of recurrence, progression and/or death. This, with the objective of standardizing guidelines as to which procedures or attentions may or may not be postponed. This article's objective is to outline the changes that have been done in bladder cancer diagnosis, treatment and follow-up throughout the COVID-19 pandemic.

KEYWORDS: COVID-19 pandemic; Bladder cancer; SARS-CoV-2.

Resumen

La enfermedad causada por el SARS- CoV-2 ha ocasionado una demora en la atención y el tratamiento de pacientes con diversas alteraciones, y se ha concentrado en la atención de quienes padecen COVID-19, así como en la disminución de la transmisión de la infección en sujetos potencialmente vulnerables. Las enfermedades oncológicas tienen repercusión importante, pues el retraso en la atención y el diagnóstico pueden provocar la muerte. En pacientes con cáncer de vejiga, la situación obligó a los facultativos a crear nuevas pautas de diagnóstico, tratamiento y seguimiento, clasificándolos según el grupo de riesgo de recurrencia, progresión y muerte, con la finalidad de obtener recomendaciones de los procedimientos o el tipo de atención necesarios. El objetivo de este artículo fue revisar los cambios generados en el tratamiento, seguimiento y diagnóstico de pacientes con cáncer de vejiga durante la pandemia por COVID-19.

PALABRAS CLAVE: Pandemia por COVID-19; cáncer de vejiga; SARS-CoV-2.

[1] Urological surgeon for the Urology Department in Centro Médico Nacional "La Raza".
[2] Private urological surgeon.
[3] Head of the Urology Department in Ángeles Lomas Hospital. President of Mexico's National Urology College.
[4] Doctor assigned to the COVID-19 area in the temporary COVID-19 unit in "Centro CITIBANAMEX", Mexico City.

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Correspondence
Ignacio López Caballero
lopezcaballero@icloud.com

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INTRODUCTION

2019's coronavirus disease (COVID-19), caused by SARS-CoV-2, has had an important impact for the population and for health systems worldwide.[1] The virus was first detected in China's Wuhan province in December 2019.[2] In January 30th, 2020, the World Health Organization (WHO) declared COVID-19 as a new international public health emergency and in March the 11th of the same year, it was declared a pandemic.[3] Up to February, 2021, 118 million cases and 2.61million deaths have been confirmed world-wide.[4] Due to this situation, management protocols in hospitals have been limited as to reduce the disease's spread.[5] This is why patients have opted to have their doctor's appointments through telemedicine.[6]

In Mexico, the population shows a high prevalence of chronic illness and obesity, placing them in particular risk of experiencing severe

symptoms due to COVID-19. Up until 2018, 18.4% of mexican adults suffered from systemic arterial hypertension and 10.3% of them suffered from Diabetes Mellitus. 36.1% of the adult population was documented as being obese and 11.4% were reported to be tobacco smokers.[7,8] Obesity is the predicting factor most associated to COVID-19 complications in mexican society.[9] The average reported BMI of the patients hospitalized in just one intensive care unit was of 30.7 kg/m^2.[10]

Bladder cancer is the tenth most common cancer world-wide, with an estimated 549,000 new cases and 200,000 deaths each year.[11] Urothelial carcinoma is the most common histological subtype, being non muscle-invasive bladder cancer (NMIBC) 75% of cases.[12]

Due to the COVID-19 pandemic, as well as to protect patients, the oncological community responded quickly and made provisional changes on oncological management guidelines and practices.[13] Some of these measures include: treatment delay or omission, surgery delay by the implementation of neoadjuvant chemotherapy or less-effective treatments that carry a lower risk of immunosuppression.[14] In addition to this, the population's concern of infection by COVID-19 and the fear of the virus' presence in health centers has caused patients not to get timely medical attention, especially in patients over 60 years.[15]

On account of this situation, the European Association of Urology (EAU) came up with a four-group classification according to oncological treatment priority during the COVID-19 pandemic:[16]

1) Low priority: patients with very low probability of progression or metastasis in case of a six-month treatment delay.

2) Medium priority: patients with possible, but unlikely progression or metastasis in case of a three-to-four-month delay in treatment.

3) High priority: patients with high probability of progression, metastasis or cancer-related death in case treatment is delayed for a period longer than six weeks.

4) Emergency: patients under a life-threatening situation or who require opioid-based pain management.

However, there are other factors to be considered. Many hospitals have reduced patient-admission capability whether to follow social distancing,[17] or to ensure there are readily available rooms for COVID-19 patients.[18] Therefore, throughout this critical period, patient admission to the Urology, Oncology, and Radiotherapy departments has been reduced,[17] so only bladder cancer patients who require urgent care have been treated.[19]

Bladder cancer patients under treatment suffer from several issues that make them vulnerable to COVID-19 infection compared to the general population.[20] Firstly, patients must forsake the safety of their homes to attend a hospital and risk being exposed to SARS-CoV-2. Secondly, platinum-based chemotherapy regimens, commonly used for bladder cancer management, cause immunosuppression and increase patients' infection risk.[20,21] On its own, it has been suggested that a history of cancer may be the worst prognostic in case of a COVID-19 infection.[22]

It has been proposed that these situations will deal a strong blow to world-wide public health since there has been a delay in cancer management and treatment during the COVID-19 pandemic. The risk of thousands of bladder cancer cases not being detected or treated could potentially increase advanced bladder cancer incidence within the next months. Medical attention demand for this pathology as well as

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cancer-specific mortality could also possibly increase.[23]

The International Brazilian Journal of Urology published a review article that contained the next suggestions for bladder cancer treatment during the COVID-19 pandemic:

- Postponing surveillance and endoscopic resection of the bladder tumor can be safe for bladder cancer patients of low and medium risk.
- Patients presenting hematuria from de novo must undergo urinary cytology, ultrasound of the entire urinary tract or, if necessary, cystoscopy in order to ascertain risk degree.
- For patients with high-grade NMIBC, BCG and maintenance therapy must be offered as a first-line treatment.
- Re-resection of the bladder must be limited to the most aggressive cancer cases or to patients who are in risk of presenting residual tumors.
- High-risk cases must undergo radical cystectomy if hospital admittance and the number of COVID-19 patients allow it.
- Radical cystectomy may be delayed up to 12 weeks without posing a risk for the patient.
- Neoadjuvant chemotherapy must be considered through a risk-and-benefit analysis concerning secondary immunosuppression.
- Trimodal therapy can play an important role in patient management as long as the hospital has the necessary resources and infrastructure.[24]

As has been documented, new obstacles have manifested themselves among the bladder-cancer community when it comes both to receiving and to providing care and attention. Thus, health professionals, patients and care givers must be involved in the decision-making process in order to optimize results during the pandemic.[20]

CONCLUSION

The arrival of the new SARS-CoV-2 pandemic has brought upon us an important change in health management protocol at a world-wide scale, delaying general care-giving as to prioritize COVID-19 patients and their needs. This is especially important when it comes to cancer since this pathology can be fatal if not properly treated. In bladder cancer cases, the implementation of special measures has been necessary. Previously-established treatment protocols have been modified due to a reduction in hospital admittance and capacity and to the high risk of infection these patients have. However, it is not yet possible to accurately measure the impact these decisions will have since they could lead to increased advanced-bladder-cancer incidence, a rise in undetected recurrence and/or progression, as well as an increment in cancer-specific mortality

REFERENCES

1. Wang D, Hu B, Hu C, Zhu F, et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China. JAMA 2020; 323:1061-9. https://doi.org/10.1001/jama.2020.1585
2. Worldometer, COVID-19 coronavirus pandemic. https://www.worldometers.info/coronavirus/
3. World Health Organization. Coronavirus disease 2019 (COVID-19) Situation Report – 40 2020. https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200229-sitrep-40-covid-19.pdf?sfvrsn=849d0665_2.
4. WHO Coronavirus (COVID-19) Dashboard. http://covid19.who.int
5. Stensland KD, Morgan TM, Moinzadeh A, Lee CT, et al. Considerations in the Triage of Urologic Surgeries During

the COVID-19 Pandemic. Eur Urol. 2020; 77: 663-6. https://doi.org/10.1016/j.eururo.2020.03.027

6. Boehm K, Ziewers S, Brandt MP, Sparwasser P, et al. Telemedicine Online Visits in Urology During the COVID-19 Pandemic-Potential, Risk Factors, and Patients Perspective. Eur Urol. 2020; 12: 6049-57. https://doi.org/10.1016/j.eururo.2020.04.055
7. Instituto Nacional de Estadística y Geografía (INEGI). Encuesta Nacional de Salud y Nutrición (ENSANUT). 2018. https://www.inegi.org.mx/programas/ensanut/2018/.
8. Instituto Nacional de Salud Pública. Encuesta Nacional de Salud y Nutrición 2018 Presentación de resultados. 2019. https://ensanut.insp.mx/encuestas/ensanut2018/doctos/informes/ensanut_2018_presentacion_resultados.pdf
9. Hernandez-Garduño E. Obesity is the comorbility more strongly associated for Covid-19 in Mexico. A case-control study. Obes Res Clin Pract. 2020; 14 (4): 375-379. https://doi.org/10.1016/j.orcp.2020.06.001
10. Ñamendys-Silva SA, Alvarado-Ávila PE, Domínguez-Cherit G, Rivero-Sigarroa E, et al. Outcomes of patients with COVID-19 in the intensive care unit in Mexico: A multicenter observational study. Heart Lung. 2020; 50 (1): 28-32. https://doi.org/10.1016/j.hrtlng.2020.10.013
11. Bray F, Ferlay J, Soerjomataram I, Siegel RL, et al. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2018; 68: 394-424. https://doi.org/10.3322/caac.21492
12. Witjes JA, Lebret T, Compérat EM, Cowan NC, et al. Updated 2016 EAU Guidelines on Muscle-invasive and Metastatic Bladder Cancer. Eur Urol. 2017; 71: 462-75. https://doi.org/
13.
14. Rassy E, Khoury-Abboud RM, Ibrahim N, Kattan C, Assi T, Kattan J. What de [the] oncologist needs to know about COVID-19 infection in cancer patients. Future Oncol. 16(17), 1153-1156 (2020). https://doi.org/10.1016/j.eururo.2016.06.020
15. The Lancet Oncology. Safeguarding cancer care in a post-COVID-19 world. Lancet Oncol. 21(5), 603 (2020). https://doi.org/10.1016/S1470-2045(20)30243-6
16. CDC COVID-19. Response Team. Severe outcomes among patients with coronavirus disease 2019 (COVID-19) – United States, February 12-March 16, 2020. MMWR Morb. Mortal. Wkly Rep. 2020; 69 (12): 343-346. https://doi.org/10.15585/mmwr.mm6912e2
17. Ribal MJ, Cornford P, Briganti A, Knoll T, et al. European Association of Urology Guidelines Office Rapid Reaction Group: An Organisation-wide Collaborative Effort to Adapt the European Association of Urology Guidelines Recommendations to the Coronavirus Disease 2019. Era. Eur Urol. 2020: S0302-2838;30324-9. https://uroweb.org/wp-content/uploads/EAU-Guidelines-Office-Rapid-Reaction-Group-An-organisation-wide-collaborative-effort-to-adapt-the-EAU-guidelines-recommendations-to-the-COVID-19-era.pdf.
18. Wee LE, Conceicao EP, Sim XYJ, et al. Minimizing intra-hospital transmission of COVID-19: the role of social distancing. J Hosp Infect. 2020; 105 (2): 113-115. https://doi.org/10.1016/j.jhin.2020.04.016
19. Mendoza-Popoca CU, Suárez-Morales M. Reconversión hospitalaria ante la pandemia de COVID-19. Rev Mex Anestesiol, 2020; 43 (2): 151-156. https://www.medigraphic.com/cgi-bin/new/resumen.cgi?IDARTICULO=92875
20. Méjean A, Roupret M, Rozer F, Murez T, et al. [Recommendations CCAFU on the management of cancers of the urogenital system during an epidemic with coronavirus COVID-19]. Prog. Urol. 2020; 30 (5): 221-231. https://doi.org/10.1016/j.purol.2020.03.009
21. Wang Tina, Liu S, Joseph T, Lyou Y. Managing Bladder Cancer Care during the COVID-19 Pandemic Using a Team-Based Approach. J Clin Med. 2020; 9 (5): 1574. https://doi.org/10.339/jcm9051574
22. Zhou F, Yu T, Du R, Fan G, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: A retrospective cohort study. Lancet 2020; 395 (10229): 1054-1062. https://doi.org/10.1016/S0140-6736(20)30566-3
23. Xia Y, Jin R, Zhao J, Li E, et al. Risk of COVID-19 for patients with cancer. Lancet Oncol. 2020, 21, e181. https://doi.org/10.1016/S1470-2045(20)30150-9
24. Sarkis J, Samaha R, Kattan J, Sarkis P. Bladder cancer during the COVID-19 pandemic: the calm before the storm? Future Sci OA. 2020; 6 (8): FSO615. https://doi.org/10.2144/fsoa-2020-0101
25. Esperto F, Pang KH, Albisinnis S, Papalia R, Scarpa RM, et al. Bladder Cancer at the time of COVID-19 Outbreak. Int Braz J Urol. 2020; 46 (Suppl. 1): 62-68. https://doi.org/10.1590/S1677-5538.IBJU.2020.S107

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The tangible effects of COVID-19 in Europe: Care and management in urologic oncology patients.

Efectos notorios del COVID-19 en Europa: atención y tratamiento en pacientes con neoplasias urológicas

Francesco Esperto,[1] Francesco Prata,[1] Deanesi Noemí,[1] Cacciatore Loris,[1] Francesco Tedesco,[1] Roberto Mario Scarpa,[1] Ana María Autrán-Gómez,[2] Rocco Papalia[1]

Abstract

The COVID-19 pandemic after more than a year from its beginning continues to claim victims and keep modern society on its knees. Health systems around the world are facing a tremendous emergency for our times. The ease of people and things mobility has also allowed the virus to spread so rapidly in history as never before with the rapid onset of more aggressive and virulent variants of the original virus. Progress has been made in treating and preventing spread through the use of PPE and social distancing. With the advent of vaccines, we begin to see the hope of stemming and limiting this global scourge. The difficulty of managing cancer patients remains due to the stress of health systems secondary to high rate of hospitalizations for COVID-19. The purpose of our study is to show the strategies implemented in the urological world to manage cancer patients in a climate of constant health emergency as well as to show the possible alternatives to the pursuit of a valid urological training for urologists in training.

KEYWORDS: COVID-19 pandemic; Social distancing; Vaccines; Cancer patients; Hospitalizations; Urologist.

Resumen

La pandemia por COVID-19, después de un año de haber iniciado, sigue cobrando víctimas y doblegando a la sociedad moderna. Los sistemas de salud de todo el mundo se enfrentan a un terrible estado de urgencia en estos días. La facilidad con la que las personas y cosas se mueven ha permitido al virus propagarse rápidamente, con el desarrollo de variantes agresivas y de alta virulencia. Los avances en el tratamiento y prevención se deben al uso de dispositivos de protección individuales y a medidas de distanciamiento social. Con el advenimiento de la vacuna existe esperanza de contener y acorralar esta pandemia. La dificultad en el tratamiento de pacientes con neoplasias continúa y los sistemas de salud de todo el mundo se encuentran preocupados por el alto índice de hospitalizaciones por COVID-19. El objetivo de este estudio es exponer las estrategias adoptadas en pacientes con neoplasias urológicas en un entorno de constante urgencia sanitaria, y mostrar las posibles alternativas para alcanzar la formación adecuada para los residentes de Urología.

PALABRAS CLAVE: Pandemia por COVID-19; distanciamiento social; vacunas; paciente oncológico; hospitalizaciones; Urólogos.

[1] Urology Department, Campus Bio-medico University of Rome, Rome, Italy.
[2] Research Office Confederación Americana de Urología.

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Correspondence
Francesco Prata
f.prata@unicampus.it

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INTRODUCTION

Coronavirus disease 2019 (COVID-19) pandemic is still affecting globally human health infecting large numbers of people, resulting in morbidity and mortality especially among elder and vulnerable people, sometimes with severe long-term sequelae. After China, Italy was one of the first countries in Europe to be affected and forced to adopt restrictive measures to confine this novel coronavirus propagation[1] and is still facing a health emergency status, as well as other health systems around the world. After more than a year into COVID-19 pandemic, the

virus continues to spread rapidly, however measures and restrictions adopted to contain it. Scientists and health experts have developed effective and safe vaccines, including the BNT162b2 by BioNTech and Pfizer that, in a multinational placebo-controlled observer-blinded pivotal efficacy trial on more than 43 thousand people, proved to be 95% effective at least 7 days after the second dose.[2] Moreover, by the second half of 2020, WHO received several reports of SARS-CoV-2 variants linked to unusual public health events.[3] Despite all measures implemented, COVID-19 pandemic continues to claim victims worldwide, infecting over 120 million people and being responsible for more than 2.7 million deaths, with a mortality rate around 2%.[4] This pandemic scenario has left thousands of cancer patients to their fate, without a safe and prompt cure, often negating them access to healthcare services. Initial recommendations of public health authorities and medical societies were to postpone, sometimes indefinitely, non-urgent medical care due to the increased risk of COVID-19 exposure. Even elective surgery for malignancies has been delayed in order to maintain the health systems' capacity and to preserve personal protective equipment (PPE), avoiding unnecessary hazardous exposures.[5,6] To support urologists, the Rapid Reaction Group of EAU Guidelines published recommendations provided tools to ease the decision-making process while minimising the impact and risks for both patients and health professionals.[7] Cancers, in the background, continue to kill and future course of COVID-19 is still an enigma. For patients with urologic malignancies, is crucial to receive well-timed intervention because much of the survival benefit is derived through the surgical extirpation of the primary tumor. In the near future, the delay of uro-oncological procedures due to COVID-19 will impact on waiting lists and surgeries should dramatically increase to treat all patients "left behind". We aimed to show the strategies implemented in the urological world to manage cancer patients in a climate of constant health emergency as well as to show the possible alternatives to the pursuit of a valid urological training for urologists in training.

Healthcare providers and hospitalization

To analyse the current uro-oncological management in Europe during the COVID-19 pandemic, many surveys have been performed including centres from different countries. Oderda M. et al conducted a survey among 57 European urological referral centres in March 2020. Urologists were asked to report their activity concerning the main uro-oncological pathologies and comparing them with a regular month before COVID-19 outbreak. 82% of European centres declared to be dramatically affected, with uro-oncological consultations for newly diagnosed cancers and follow-up drastically reduced or almost suspended respectively in 55% and 71% of centres. Urothelial cancers were less affected, given their aggressive behaviour, and the restriction for transurethral resections of bladder tumors (TURBT) was smaller but even still significant, with a mean decrease of 12 procedures per month (46% overall). Surgery for prostate and renal cancer were more than halved.[8] To investigate the global impact of COVID-19 on urological providers and the provision of urological patient care, Teoh J.Y. et al performed a global survey from 30 March to 7 April 2020.[9] The primary outcome was the degree of reduction in urological services, the secondary outcome was the duration of delay in those services. A 55-item questionnaire was developed and 1004 participants involved, mostly from Asia, Europe, North and South America. Results showed a profound global impact on urological care and urology providers, with an increased degree of reduction for benign conditions treatment. Specifically, 28% of outpatient clinics, 30% of outpatient investigations and procedures, and 31% of urological surgeries had a delay of more than 8 weeks; 50% of

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participants thought the postponement of urological services would affect the treatment and survival outcomes of their patients.

COVID-19 pandemic had a huge impact on psychological health among patients because of the fear of delayed treatment, and healthcare providers didn't escape the risk too. In early 2021, a global web-based survey was conducted to investigate the psychological impact of COVID-19 among surgical providers[10]. The primary outcomes were the Depression Anxiety Stress Scale-21 (DASS-21) and Impact of Event Scale-Revised (IES-R) scores. 4283 participants from 101 countries responded among which 32.8%, 30.8%, 25.9% and 24.0% screened positive for depression, anxiety, stress and Post-Traumatic Stress Disorder (PTSD) respectively. Participants who knew someone positive or dead of COVID-19 were more likely to screen positive for 3 of 4 of the previously cited disorders ($p < 0.05$). Besides, head and neck surgeons showed higher psychological distress than other surgical specialists.

Italy was the first European country obliged to impose national lockdown on 9 March 2020 to stem contagions and, by the end of the month, most of centres with intensive care units were converted to COVID-19 hospitals to manage the outbreak. Hospitals not involved in COVID-19 patients' management, according to local healthcare system recommendations, held on accommodating urgent procedures to guarantee patients' safe. Hospitalization for urological patients scheduled for surgery was preceded by telephonic triage and medical history collection, as well as by nasopharyngeal swab before the admission and the discharge.[11] Moreover, when feasible, telemedicine follow-up was performed: in example assessing PSA by phone call in patients previously treated with radical prostatectomy. In addition, to guarantee uro-oncological patients the best choice of treatment, multidisciplinary team for management of genitourinary cancers were maintained through virtual meetings.[2] Intensive care units filled up and hospital beds occupancy rate rise have dropped the inflow of patients to hospitals, to the point that guidelines on priority for patient hospitalization have been proposed. To meet healthcare system demands and to aid physicians in the management and care of urological conditions during the COVID-19 outbreak, several groups provided their list of priorities for urological procedures.[12] Among them, the RUN group hierarchized uro-oncological procedures into categories, from non-deferrable to semi-non-deferrable, deferrable and replaceable with other treatments. Different factors can affect the choice of the best urological procedure, such as the need for post-operative intensive care, the need for blood transfusions and major comorbidities. Muscle-invasive or high-risk progression bladder cancer, upper urinary tract cancer ≥cT1, high-risk prostate cancer unsuitable for radiation therapy (RT), testicular cancer, penile cancer >cT1G3, and renal tumor >T2 must not be delayed, otherwise could mean poor cancer-related outcomes. Radical prostatectomy for intermediate and high-risk patients, transurethral resection of small or low-grade bladder cancer, and radical or partial nephrectomy for cT1b renal tumors were considered semi-non-deferrable. All the others could be postponed or replaced with other treatments.[13] On the other hand, high-complexity surgery carries higher rates of morbidity and mortality and, in cases where patient's health is not jeopardized, it should be delayed.[14] In fact, in selected patients not fit for radical cystectomy (RC), bladder-sparing treatments could provide comparable oncological outcomes without harming patients' safety.[15] Bladder cancer (BC) is one of the most frequent tumor of the genitourinary tract and 75% of BC patients have non-muscle invasive (NMIBC) disease at diagnosis, while muscle invasive (MIBC) disease accounts for 25% of BC diagnosed.[16] European Association of Urology (EAU) recommendations for BC during COVID-19 pandemic distinguished into 3 priority categories, where the higher priority cases

should be treated within 6 weeks and emergency cases in less than 24 hours, including TURBT of patients with visible haematuria and clot retention requiring bladder catheterization. For MIBC, prolonged delays (> 90 days) between TURBT and RC were associated with poor survival. However, RC can be delayed by up to 12 weeks without causing harm to the patient.[17] Some patients had surgery postponed due to COVID-19 pandemic with life quality consequences, particularly among whose suffering from uro-oncological pathologies. To investigate the health-related quality of life of uro-oncologic patients whose surgery was postponed without being rescheduled during the COVID-19 outbreak at a tertiary-care referral hospital, the SF-36 questionnaire was administered 3 weeks after the cancellation of the planned surgical procedures.[18] The questionnaires investigated 8 domains about physical characteristics, emotional and social aspects. Considering physical characteristics, physical functioning was 91.5 (50-100) and physical health was 82.75 (50-100) with a bodily pain of 79.56 (45-90). For emotional and social aspects, emotional problems were 36.83 (0-100) with a social functioning of 37.98 (12.5-90). All patients perceived a reduction of their health conditions, with general health perception of 49.47 (15-85). In conclusion, increased anxiety and decrement in health status have been shown in oncologic patients whose surgery was delayed, as well as the huge psychological impact on healthcare professionals. Guidelines provided to manage uro-oncological patients are useful and could surely help in the selection of patients before hospitalization. Alternative treatments were suggested too when the procedure is considered deferrable or surgery is too hazardous for general status, without jeopardizing patient's health.

Minimally invasive surgery

In the era of minimally invasive surgery (MIS), urologic major surgeries are currently performed with the aid of laparoscopy or robotics to improve post-operative discharge and to limit the need of peri-operative blood transfusions. Pavan N. et al performed a systematic review to evaluate the risk of virus spread due to surgical smoke for health care workers during surgical procedures.[19] No study was found investigating SARS-CoV-2 or any other coronavirus. Hepatitis B virus was identified in surgical smoke collected during different laparoscopic surgeries while for human papillomavirus (HPV) transmission risk there were conflicting results between clinical and preclinical studies. Authors concluded that theoretical risk of SARS-CoV-2 virus diffusion through surgical smoke cannot be excluded because its presence has been shown in blood and stools. A more recent systematic review performed by Cheruiyot I. et al in February 2021 aimed to evaluate the presence of SARS-CoV-2 in abdominal tissues or fluids and in surgical smoke during laparoscopic surgery.[20] The conclusion was the same: no currently available evidence supports the hypothesis that SARS-CoV-2 can be aerosolized and transmitted through surgical smoke; only one study investigated SARS-CoV-2 RNA presence in surgical smoke generated during laparoscopy reporting negative findings. Anyhow the possibility of contamination during MIS should always be considered and measures to reduce aerosolization in the operating room carried out. Avoiding the use of two-way pneumoperitoneum insufflators is suggested to prevent the colonization of circulating aerosol in the pneumoperitoneum circuit. Closed circuits fume extraction and low intraabdominal pressure are proven to be effective too.[21] Furthermore, MIS should be practised whenever is feasible because the filtration of aerosolized particles is easier than for open surgery, thus safer.[22] A clear correlation between surgical smokes and SARS-CoV-2 has not been proved yet, anyhow well-know precautions during MIS can ensure operating room staff's safety while the best minimally-invasive surgical procedures is guaranteed to the patient.

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Telehealth

Urologists are facing increasingly difficulty in outpatient activity and post-operative follow-up to limit the mobilization of patients in the COVID-19 scenario. In this context, telehealth medicine can provide adequate support to healthcare providers and patients. Using technological tools and simulating face-to-face consults with the use of smartphones, tablets and computers for phone calls or videocalls, patients are induced to stay at home, referring to hospital care when really needed. The benefits for telemedicine in urology consist of outpatient follow-up, providing recommendations and prescriptions, and the triage for who needs urgent hospitalizations and surgery. On the other hand, not all outpatient clinics and facilities are ready for telehealth yet, as well for elder patients which usually are unconfident with new technologies.[23] However, a systematic review of the available literature on urological applications of telehealth showed that telemedicine has been implemented successfully in several clinical scenarios, including non-metastatic prostate cancer (decision-making process, follow-up care after curative treatments), initial diagnosis of haematuria, uncomplicated urinary stones and uncomplicated urinary tract infections (management diagnosis and follow-up care), urinary incontinence (initial evaluation, behavioral therapies, and pelvic floor muscle training), stress urinary incontinence or pelvic organ prolapse (follow-up care after surgical treatments).[24] The COVID-19 pandemic gave a significant boost to the use of telemedicine in urology patients, in fact risk factors for a severe course of COVID-19 are common in these patients. A German group evaluated telemedicine online visits in urology from patients' perspective.[25] 84.7% of patients wished for a telemedical consultation rather than a face-to-face one. Among those favoring telemedicine, patients were younger (68 years, range 58-75 *vs* 76 years, range 70-79.2, $p < 0.001$) supporting the fact that elder patients can be used to struggle with technologies. No difference in preference was found of oncological (mean 86%) and benign diagnoses (mean 85%). In subgroup analysis, prostate cancer patients preferred telemedicine (mean odds ratio: 2.93, $p = 0.037$). Even if prostatic diseases seem to benefit the most, telemedicine appears to be a proper solution to guarantee a safe continuity of care for all kind of patients, especially for those more practical with novel technologies, while for elder patients the help of relatives and caregivers could mitigate the technological gap.

Training

Immediately after COVID-19 outbreak, the perspective of urology trainees regarding their usefulness was doubtful, and many residents involved in areas where virus spread wasn't damageable were constrained to give their support to intensive care units. Authorities have limited unnecessary access for residents to departments to avoid hazardous exposures. As senior physicians are engaged in the emergency's management, urology residents can't be tutored, thus training is strongly compromised. Moreover, benign pathologies, lower urinary tract surgery, and andrology are the fields affected the most by restrictions and at the same time the fields in which urology residents are usually first-hand involved. Operating room staff were reduced at the minimum to prevent worsen of air-turbulences so that surgical interventions are performed only by expert surgeons.[26] Emergency operations and highly selected elective cancer operations are carried out by senior surgeons to minimise operation time and complications. All this means a worsening of urology training transversally throughout the 5-year residency and an increase of urology residents' learning curve (LC) slope. In this unexpected scenario, urology trainees started asking themselves about new modalities to hold on working in COVID-19 areas as emergency doctors without

giving up their training. In order to stem the impact of COVID-19 pandemic on the residents' LCs, new alternative teaching methods have been introduced:[27]

- Pre-recorded videos of lessons or surgical procedures;
- Webinars, to interact and to enjoy multimedia content in real-time;
- Social Media (SoMe);
- Journal Clubs;
- Podcasts, with pre-recorded audio files of expert opinion;
- Web meetings;
- New telepresence robotic platforms, like the Intouch Vita by Intouch Health;
- Surgical simulation training programmes.

Smart-learning (SL) tools became more popular among residents to improve their urology background in the meantime of a pandemic situation. From the examination of these new learning modalities, it appears clear how the theoretical training of residents can continue, however the implementation of clinical SL appears to be more challenging.[27] In April 2020, to evaluate the urology residents' perspective on SL modalities and contents (frontal lessons, clinical case discussions, updates on Guidelines and on clinical trials, surgical videos, Journal Clubs, and seminars on leadership and non-technical skills), a cross-sectional, 30-item, web-based Survey was conducted through Twitter.[28] From 58 countries, more than 500 residents completed the survey, and, of these, 78.4%, 78.2%, 56.9 & and 51.9% of them considered pre-recorded videos, interactive webinars, podcasts and SoMe highly useful modalities of smart learning. The contents considered as highly useful by the greatest proportion of residents were updates on guidelines (84.8%) and surgical videos (81.0%). In addition, 58.9 and 56.5% of responders deemed seminars on leadership and on non-technical skills highly useful smart learning contents. That was the first global snapshot of SL modalities and contents to implement virtual urology training. Approximately one month after the first case of COVID-19 in Italy, a 48-hour 25-item online survey was sent to all Italian urology residents with the aim to provide an overview of the impact of COVID-19 pandemic on urology training in Italy.[29] Residents were asked to evaluate their routine involvement in different training activities in the pre-COVID-19 period (on-call duty, outpatient visits, diagnostic procedures, endoscopic surgery, open major surgery and MIS) and to score the percentage of decrease of their involvement in each of the above-mentioned activities during the COVID-19 pandemic in three categories: 0-40, 40 - 80 or 80 -100%. To report their involvement in COVID-19 wards and whether they received a specific training. In addition, participants were asked to indicate the number of hours per day available for SL. Of 577 residents from 35 Italian Urology Centers (27 Schools of Urology), 60.8% (351) completed the survey. Before the COVID-19 pandemic, residents routinely involved in clinical activities ranged from 79.8 to 87.2% while in surgical activities from 49.3% to 73.5%. After the COVID-19 outbreak, the proportion of residents experiencing a severe reduction (40-80%) or complete suppression (> 80%) of training exposure ranged 41.1-81.2% and 44.2-62.1% respectively for clinical and surgical activities. This study provided the first real-life data on urology residency training impairment in Italy during the COVID-19 emergency period and showed a higher reduction of activity involvement among residents attending the final year of training. An updated about SL modalities and contents of Italian trainees at the end of 2020 was made by Claps F. et al by a new online survey using a 5-tiered Likert scale.[30] The number of Italian urology residents participating the online survey was the same (351-577, 60.8%) and from the same number of centers. The majority of residents (85.2%) reported to have at least two hours per day for smart learning while

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32.5% even four or more hours. About SL modalities, videos on-demand where considered the most useful (77.8%), followed by webinars (69.8%) and podcasts (65.8%). Considering contents, updates on guidelines and surgical videos were the most appreciated (89.5% and 84.3% respectively), while clinical case discussion, frontal lesson and journal clubs had lower rates of preference. International congresses represent a formative experience for trainees. Due to COVID-19 pandemic, the majority of them were postponed, cancelled or rescheduled: the March annual EAU congress has been postponed to July as a virtual congress; the ESRU bi-annual meeting has been cancelled and other national conferences (i.e. SIU live) took place as webinars. National courses were cancelled and the UK postgraduate fellowship examination postponed.[31] In conclusion, this situation should represent an opportunity for residents to experience how to doctor during a global emergency that cannot be learnt from books and also an opportunity to put into practice skills acquired during under- and post-graduate training.[32] Possible alternatives to the pursuit of a valid urological education have been provided, theoretical training will not be left behind but clinical SL still remains the greatest challenge of this scenario.

CONCLUSION

COVID-19 pandemic has severely changed the way we used to imagine the management of uro-oncological patients. This new scenario had a strong impact on surgical waiting lists, compromising psychological health of both patients and healthcare providers. Urologic surgeries, firstly restricted to urgent procedures performed only by experienced surgeons, have now been revised by international groups whom provided helpful guidelines in the selection of patients. Residents found alternative teaching methods to hold on their education, among which updates on guidelines and surgical videos were the most successful. However clinical education seems to be more affected and precluded. Furthermore, telemedicine found its own place simulating face-to-face consults and guaranteeing frail patients a risk-free continuity of care. All these are current aspects that healthcare providers must consider when approaching patients with uro-oncological disease. A new era has just began and new frontiers are showing up to both doctors and patients.

REFERENCES

1. Esperto F, Papalia R, Autrán-Gómez AM, Scarpa RM. COVID-19's Impact on Italian Urology. Int Braz J Urol. 2020; 46 (Suppl.1): 26-33. https://doi.org/10.1590/S1677-5538.IBJU.2020.S103
2. Polack FP, Thomas SJ, Kitchin N, et al. Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine. N Engl J Med. 2020; 383 (27): 2603-2615. https://doi.org/10.1056/NEJMoa2034577
3. https://www.who.int/csr/don/31-december-2020-sars-cov2-variants/en/
4. https://www.worldometers.info/coronavirus/
5. de Leeuw RA, Burger NB, Ceccaroni M. COVID-19 and laparoscopic surgery: scoping review of current literature and local expertise. JMIR Public Health Surveill. 2020; 6 (2): e18928. https://doi.org/10.2196/18928.
6. Association of Surgeons of Great Britain and Ireland. Delivering the emergency general surgery service in the UK during the coronavirus COVID-19 pandemic. https://www.asgbi.org.uk/userfiles/file/news/asgbi-statement-the-delivery-of-emergency-general-surgery-and-covid-19.pdf
7. Ribal MJ, Cornford P, Briganti A, Knoll T, et al. European Association of Urology Guidelines Office Rapid Reaction Group: An Organisation-wide Collaborative Effort to Adapt the European Association of Urology Guidelines Recommendations to the Coronavirus Disease 2019 Era. Eur Urol. 2020; 78 (1): 21-28. https://doi.org/10.1016/j.eururo.2020.04.056
8. Oderda M, Roupret M, Marra G, Merseburger AS, et al. The Impact of COVID-19 Outbreak on Urooncological Practice Across Europe: Which Burden of Activity Are We Facing Ahead? Eur Urol. 2020; S0302-2838: 30299-2. https://doi.org/10.1016/j.eururo.2020.04.036
9. Teoh JY, Ong WLK, Gonzalez-Padilla D, Padilla D, et al. A Global Survey on the Impact of COVID-19 on Urological Services. Eur Urol. 2020;78(2):265-275. https://doi.org/10.1016/j.eururo.2020.05.025
10. Tan YQ, Wang Z, Yap QV, Chan YH, et al. Psychological Health of Surgeons in a Time of COVID-19: A Global Survey. Ann Surg. 2021. https://doi.org/10.1097/SLA.0000000000004775

11. Papalia R, Cataldo R, Alloni R, Pang KH, et al. Urologic surgery in a safe hospital during the COVID-19 pandemic scenario. Minerva Urol Nefrol. 2020. https://doi.org/10.23736/S0393-2249.20.03923-5.
12. Esperto F, Prata F, Civitella A, Pang KH, et al. Implementation and strategies to ensure adequate coordination within a Urology Department during the COVID-19 pandemic. Int Braz J Urol. 2020; 46 (suppl.1): 170-180. https://doi.org/10.1590/S1677-5538.IBJU.2020.S122
13. Ficarra V, Novara G, Abrate A, Bartoletti R, et al. Urology practice during COVID-19 pandemic. Minerva Urol Nefrol. 2020; 72 (3): 369-75. https://doi.org/10.23736/S0393-2249.20.03846-1
14. Tuech JJ, Gangloff A, Di Fiore F, Michel P, et al. Strategy for the practice of digestive and oncological surgery during the Covid-19 epidemic. J Visc Surg. 2020; 157 (3S1): S7-S12. https://doi.org/10.1016/j.jviscsurg.2020.03.008
15. Murali-Krishnan S, Pang KH, Greco F, Fiori C, Fiori C, et al. Bladder-sparing treatment in MIBC: where do we stand? Minerva Urol Nefrol. 2019; 71: 101-12. https://doi.org/10.23736/S0393-2249.19.03317-4
16. Cumberbatch MGK, Jubber I, Black PC, Esperto F, et al. Epidemiology of Bladder Cancer: A Systematic Review and Contemporary Update of Risk Factors in 2018. Eur Urol. 2018; 74 (6): 784-795. https://doi.org/10.1016/j.eururo.2018.09.001
17. Esperto F, Pang KH, Albisinni S, Papalia R, et al. Bladder Cancer at the time of COVID-19 Outbreak. Int Braz J Urol. 2020; 46 (suppl.1): 62-68. https://doi.org/10.1590/S1677-5538.IBJU.2020.S107
18. Greco F, Altieri VM, Esperto F, Mirone V, et al. Impact of COVID-19 Pandemic on Health-Related Quality of Life in Uro-oncologic Patients: What Should We Wait For? Clin Genitourin Cancer. 2020; S1558-7673 (20): 30168-3. https://doi.org/10.1016/j.clgc.2020.07.008
19. Pavan N, Crestani A, Abrate A, et al. Risk of Virus Contamination Through Surgical Smoke During Minimally Invasive Surgery: A Systematic Review of the Literature on a Neglected Issue Revived in the COVID-19 Pandemic Era. Eur Urol Focus. 2020; 6 (5): 1058-1069. https://doi.org/10.1016/j.euf.2020.05.021
20. Cheruiyot I, Sehmi P, Ngure B, Misiani M, et al. Laparoscopic surgery during the COVID-19 pandemic: detection of SARS-COV-2 in abdominal tissues, fluids, and surgical smoke. Langenbecks Arch Surg. 2021; 1-8. https://doi.org/10.1007/s00423-021-02142-8
21. Pryor A. Sages and eaes recommendations regarding surgical response to Covid-19 crisis. Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). https://www.sages.org/recommendations-surgical-response-covid-19/
22. Choi SH, Kwon TG, Chung SK, Kim TH. Surgical smoke may be a biohazard to surgeons performing laparoscopic surgery. Surg Endosc. 2014; 28 (8): 2374-80. https://doi.org/10.1007/s00464-014-3472-3
23. Carrión DM, Gómez Rivas J, Rodríguez-Socarrás ME, Mantica G, et al. Implementación de la teleconsulta en la práctica urológica durante la era Covid-19: ¿qué hemos aprendido? [Implementation of Remote Clinics in urology practice during the COVID-19 era: What have we learned?]. Arch Esp Urol. 2020; 73 (5): 345-352.
24. Novara G, Checcucci E, Crestani A, Abrate A, et al. Telehealth in Urology: A Systematic Review of the Literature. How Much Can Telemedicine Be Useful During and After the COVID-19 Pandemic?. Eur Urol. 2020; 78 (6): 786-811. https://doi.org/10.1016/j.eururo.2020.06.025
25. Boehm K, Ziewers S, Brandt MP, Sparwaseer P, et al. Telemedicine Online Visits in Urology During the COVID-19 Pandemic-Potential, Risk Factors, and Patients' Perspective. Eur Urol. 2020; 78 (1): 16-20. https://doi.org/10.1016/j.eururo.2020.04.055
26. Wong J, Goh QY, Tan Z, Lie SA, et al. Preparing for a COVID-19 pandemic: a review of operating room outbreak response measures in a large tertiary hospital in Singapore. Can J Anaesth. 2020; 67: 732-45. https://doi.org/10.1007/s12630-020-01620-9
27. Porpiglia F, Checcucci E, Amparore D, Verri P, et al. Slowdown of urology residents' learning curve during the COVID-19 emergency. BJU Int. 2020; 125 (6): E15-E17. https://doi.org/10.1111/bju.15076
28. Campi R, Amparore D, Checcucci E, Claps F, et al. Exploring the Residents' Perspective on Smart learning Modalities and Contents for Virtual Urology Education: Lesson Learned During the COVID-19 Pandemic. Explorando la perspectiva de los residentes sobre las modalidades y contenidos de aprendizaje inteligente para la educación virtual de urología: lección aprendida durante la pandemia de la COVID-19. Actas Urol Esp. 2021; 45 (1): 39-48. https://doi.org/10.1016/j.acuro.2020.08.008
29. Amparore D, Claps F, Cacciamani GE, Esperto F, et al. Impact of the COVID-19 pandemic on urology residency training in Italy. Minerva Urol Nefrol. 2020; 72 (4): 505-509. https://doi.org/10.23736/S0393-2249.20.03868-0
30. Claps F, Amparore D, Esperto F, Cacciamani G, et al. Smart learning for urology residents during the COVID-19 pandemic and beyond: insights from a nationwide survey in Italy. Minerva Urol Nefrol. 2020; 72 (6): 647-649. https://doi.org/10.23736/S0393-2249.20.03921-1
31. Pang KH, Carrion DM, Rivas JG, Mantica G, et al. The Impact of COVID-19 on European Health Care and Urology Trainees. Eur Urol. 2020; 78 (1): 6-8. https://doi.org/10.1016/j.eururo.2020.04.042
32. Esperto F, Papalia R, Pang KH, Cataldo R, et al. What is the role of residents during a pandemic?. Minerva Urol Nefrol. 2020; 72 (3): 387-388. https://doi.org/10.23736/S0393-2249.20.03903-X

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Review article
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Impact on the uro-oncological patient´s care in times of COVID-19 pandemic.

Repercusiones en la atención de pacientes con neoplasias urológicas durante la pandemia por COVID-19

Félix Santaella-Torres,[1] Jorge Francisco Herrera-Viveros,[2] Manuel Alejandro Torres-Paniagua, Itzel Rigel Sánchez-Ruvalcaba,[3] Edgar Beltrán-Suárez[3]

Abstract

The effects of the current COVID-19 pandemic in our country are more patent than ever, the impact in our sanitary system is unprecedented and we will continue seeing its repercussions in the coming years. Due to the established measures and guidelines in this health contingency, the majority of the healthcare activities at the hospital centers underwent changes aimed at directing material and human resources towards the treatment of COVID patients, therefore, medical-surgical activity in high-volume centers was affected. In the following work we present the relation of surgeries performed during 2019 and those performed in 2020 within the context of the current pandemic, we analyze the effects on the health of patients in which this translates and we justify the need for the return of medical and surgical activities in the urolgy department at our medical center.

KEYWORDS: COVID-19 pandemic; Healthcare activities; Human resources; Medical center.

Resumen

Los efectos de la pandemia actual por COVID-19 en México son más claros que nunca, el efecto en nuestro sistema de salud no tiene precedentes y sus repercusiones las seguiremos viendo en los años por venir. Fruto de todas las medidas y lineamientos que se establecieron durante esta contingencia sanitaria, la mayor parte de las actividades asistenciales en los centros hospitalarios sufrieron cambios encaminados a dirigir los recursos materiales y humanos hacia el tratamiento de pacientes con COVID-19, por consiguiente, la actividad médico-quirúrgica en centros de alto volumen, se vio afectada. A continuación se muestra la relación de cirugías efectuadas entre 2019-2020 y se analizan los efectos para la salud de los pacientes, en los que se traduce y justifica la necesidad del retorno a las actividades asistenciales y quirúrgicas en el servicio de Urología.

PALABRAS CLAVE: Pandemia por COVID-19; actividades asistenciales; recursos humanos; centro médico.

[1] Head of Urology Department.
[2] Urology resident.
[3] attached physician of urology

Unidad Médica de Alta Especialidad, Hospital de Especialidades Centro Médico Nacional La Raza, Mexico City.

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Correspondence
Félix Santaella Torres
fsantaella@hotmail.com

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INTRODUCTION

The first cases of th Novel Coronavirus Disease were reported in December 2019, in the province of Hubei, China. On March 11, 2020, the World Health Organization (WHO) characterized the COVID-19 disease as a pandemic, at that time the number of contagions was 118,000 throughout 114 countries and the number of deaths was 4291 Worldwide,[1] as of today, the number of infections amounts to 109,859,193 and deaths to 2,428,021.[2]

In Mexico, as of February 17, 2021, according to official figures, 2,012,563 infected people and 177,061 deaths are reported. The social impact that it has produced in our country translates into the largest economic contrac-

tion since the great depression of 1932, with a drop in the Gross Domestic Product of 8.6% in 2020, according to figures from the National Institute of Statistics and Geography (INEGI). It is estimated that in 2020, 647,710 formal jobs were lost, according to data from the Mexican Institute of Social Security (IMSS), increasing the unemployment rate to 4.6%. The economic sector most affected by COVID-19 in Mexico has been tourism and services, it is estimated that in 2020 it stopped receiving 13,000 million dollars. Other sectors with significant losses are manufacturing, mining and construction.

In our country, the pandemic has proven to be a challenge of unprecedented magnitude for the health system, which has put its infrastructure, personnel and supplies to the test. Since mid-March 2020, when the nationwide lockdown was instituted, hospital activities have undergone major changes. Many hospitals have undergone a conversion into specific centers for the treatment of COVID-19 patients, strict measures have been taken such as postponing elective surgeries, suspension of specialty consultations, as well as non-esencial outpatient procedures. Health personnel have had to adapt to new responabilities in the management of patients infected by COVID-19, this has generated a physical, emotional and psychological burden that has greatly impacted on their health. As of February 17, 2021, Mexico counts 2,996 deaths of its health personnel, the first place in the world in this area.

Oncological surgery within the context of the health contingency due to COVID-19 has to take into account the catabolic and intrinsic immunosuppression state of oncological patients, added to the pro-inflammatory mechanisms derived from surgical trauma and the greater risk of presenting more severe forms of COVID-19 infection. This presents us with a crossroads in which the risk for progression of the disease, the risk of contagion from COVID-19, and the risk for the health personnel must be balanced.[3]

At the department of Urology in the Hospital of Specialties of "La Raza" National Medical Center, as well as in many other healthcare centers worldwide, as a result of the instituted health policies, the number of patients treated, surgeries performed, outpatient procedures performed and specialty consultations granted, have drastically decreased, which translates into a significant deleterious effect on the people's health.

Urology handles the diagnosis, management and follow-up of genitourinary cancer such as renal, bladder, urothelial, penile, adrenal tumors and the two most important because of their incidence in Mexico: Prostate and Testicle cancer.[4]

For the oncological patient, the delay in the care of their conditions represents the loss of the opportunity to promptly treat and exposes them to a real risk of disease progression from curable to non-curable, with a real impact on quality of life, and in the cancer-specific and overall survival rates.[5] The initial massive suspension of healthcare activities in high-volume centers like ours, led to the creation of clinical practice guidelines, as well as specific recommendations for prioritizing patients according to their characteristics, to establish an acceptable period of time to postpone surgical procedures and thus minimize risks to healthcare personnel, while at the same time avoiding as much as possible delay in patient's treatment for whom time is of the essence. An example of these recommendations are those established by the European Urological Association (EAU), American Urological Association (AUA) and the American College of Surgeons (ACS).[6]

In this work we present the impact on medical and surgical care of oncological patients during 2020 in the Urology service of the Hospital of Specialties of "La Raza" National Medical Center, comparing the procedures performed in 2020 with those carried out in 2019.

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Data analysis results

The results derived from this work demonstrate the impact of the pandemic on the surgical productivity of our service during 2020 in the context of a health contingency, most of the surgeries performed were for oncological conditions, and in a smaller number, surgeries for real emergencies.

In the treatment of prostate cancer, we observed that the number of radical prostatectomies was in 2019 ninety retropubic radical prostatectomy and eight laparoscopic radical prostatectomy that means a decreased by 74.4% global procedures in 2020, compared to those performed in 2019. The number of transrectal prostate biopsies also decreased by 81.5% in the same period of time was 1412 in 2019 *vs* 260 in 2020. **Table 1, Figure 1**

Regarding the treatment of kidney tumors, we had a 71% decrease in the global number of nephrectomies performed in 2020 with respect

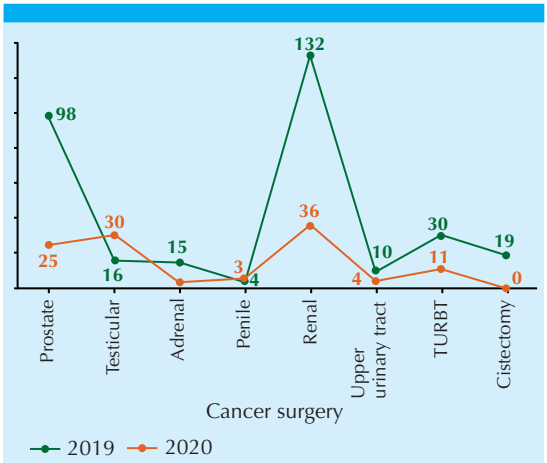

Figure 1. Comparison of surgeries performed in 2019 and 2020.

Table 1. Comparison of surgeries performed in 2019 and 2020

Surgeries	2019	2020	Variation
Transrectal prostate biopsies	**1412 (100%)**	**260 (100%)**	**-1152 (81.58%)**
Radical prostatectomies	**98 (100%)**	**25 (100%)**	**-73 (74.48%)**
Open retropubic	90 (91.83%)	25 (100%)	-65 (72.22%)
Laparoscopic	8 (8.16%)	0 (%)	-8 (100%)
Nephrectomies	**142 (100%)**	**40 (100%)**	**-102 (100%)**
Open radical	74 (52.11%)	28 (70%)	-46 (62.16%)
Laparoscopic radical	46 (32.39%)	8 (20%)	-38 (82.60%)
Open partial	4 (2.81%)	0 (%)	-4 (100%)
Laparoscopic partial	8 (5.63%)	0 (%)	-8 (100%)
open nephroureterectomy	2 (1.40%)	2 (5%)	0 (100%)
Laparoscopic nephroureterectomy	8 (5.63%)	2 (5%)	-6 (75%)
Adrenalectomy	**15 (100%)**	**3 (100%)**	**-12 (80%)**
Open	2 (13.33%)	0 (%)	-2 (100%)
Laparoscopic	13 (86.66%)	3 (100%)	-10 (76.92%)
Penectomy	**4 (100%)**	**6 (100%)**	**2 (50%)**
Radical	3 (75%)	5 (83%)	**2 (40%)**
Partial	1 (25%)	1 (16.66%)	0 (0%)
Radical orchiectomy	**16 (100%)**	**30 (100%)**	**14 (87.50%)**
Radical cistectomy	**19 (100%)**	**0 (100%)**	**-19 (100%)**
TURBT	**30 (100%)**	**11 (100%)**	**-19 (63.3%)**

to 2019, caracterized by 74 open radical nephrectomies in 2019 *vs* 28 in 2020; 46 laparoscopics radical nephrectomies in 2019 compared to 8 performed in 2020. **Table 2, Figure 2**

We found increase in penectomy for penile cancer. In 2019, 3 total penectomy were perfomed *vs* 5 procedures performed in 2020; in 2019 and 2020 was made the same number of procedures 1:1. Somenthin similar happened whit radical orchiectomy characterized by 16 procedures in 2019 *vs* 30 in 2020. **Table 1, Figure 3**

In the surgical treatment of bladder tumors, we found a 63.3% decrease in Transurethral Resection of Bladder Tumor. In 2019, 30 were performed *vs* 28 in 2020. In 2019 was performed 19 radical cystectomies compared to cero in 2020. **Table 1, Figure 4**

Reflections

In this analysis we can see that the total number of surgeries performed during 2020 was lower than those performed during 2019, this can be explained by various factors, among them, the suspension of activities and procedures performed in the outpatient clinic did not allow attention to patients sent from their general hospitals for treatment and follow-up by a tertiary referral hospital, therefore, it was not possible to protocolize patients who required surgery or procedures such as transrectal prostate biopsy and follow-up cystoscopies; Furthermore, given the current conditions, a good part of the patients who needed assessment by a tertiary medical center, decided not to seek care, either because of the fear of going to a hospital where the risk of contagion due to COVID-19 is high, or due to ignorance that they could have beeen taken care by going to the emergency department of our hospital.

We can realize that as a result of the current pandemic, the number of surgeries performed by our service decreased considerably compared to previous years, not only cancer surgery, but also procedures such as reconstructive surgery, those derived from lithiasic pathology, functional urology and kidney transplantation. Another important aspect to consider is that as a result of the decrease in the number of surgeries performed, the participation of urology residents in these surgeries was also decreased, which has an important impact on their aca-

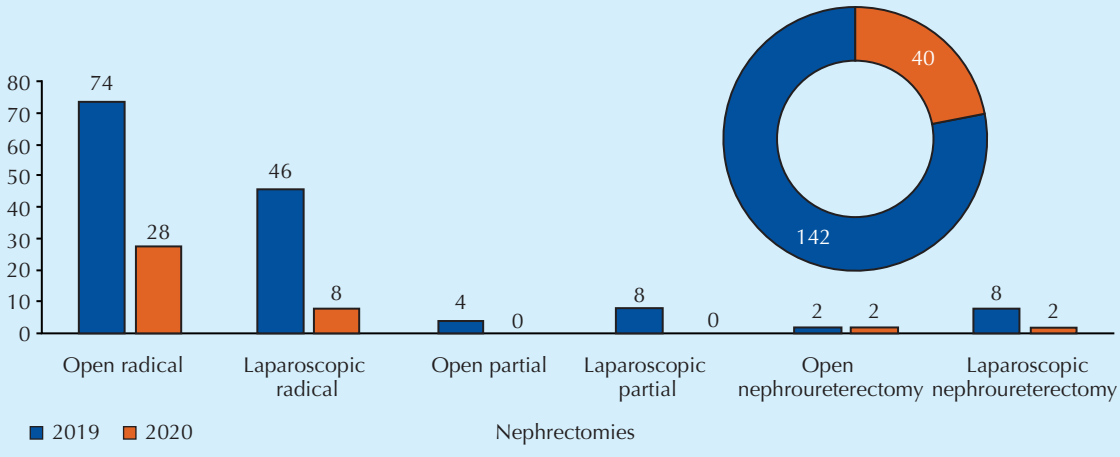

Figure 2. Breakdown of nephrectomies performed during 2019 and 2020.

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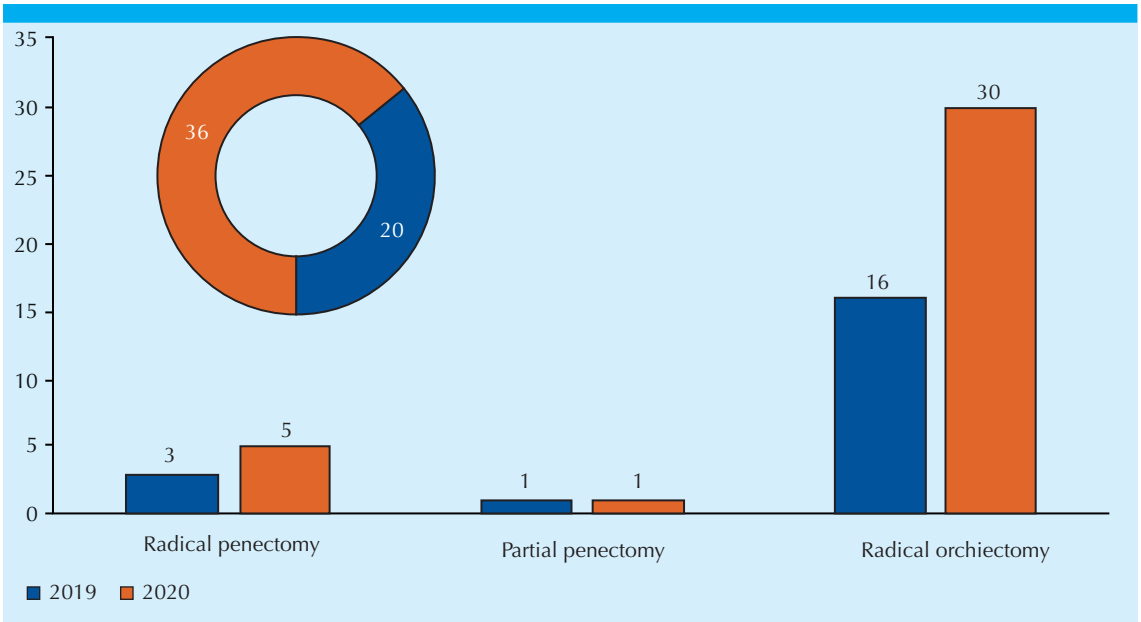
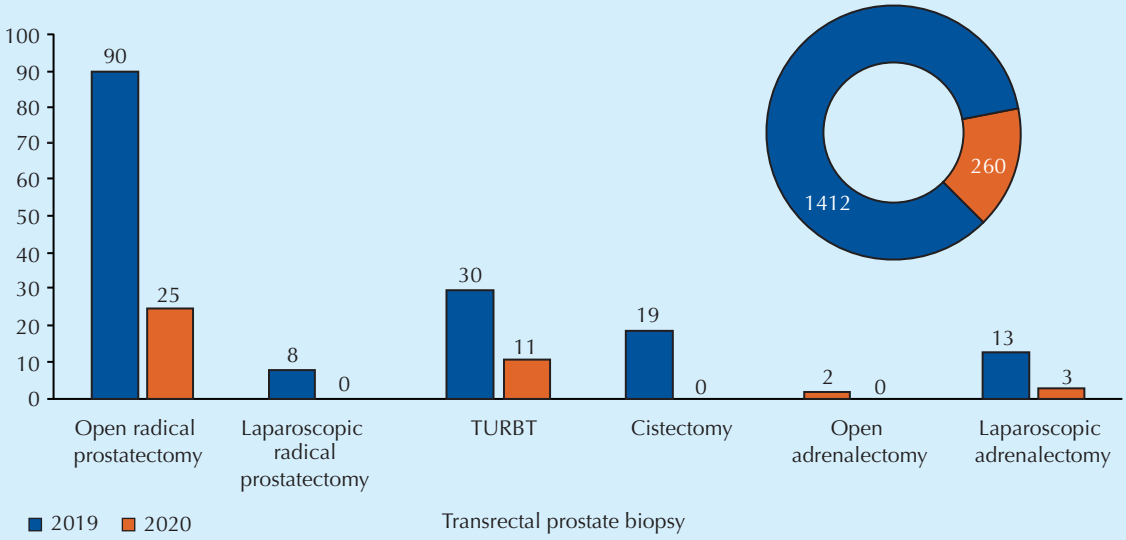


Figure 3. Representation of procedures that experienced an increase during 2020 compared to those performed in 2019.

demic development and the surgical skills acquired in the last year. The effects on health in general and specific organ function cannot be evaluated until the outpatient service is reinstated and patients are reassessed, many of whom will already have a delay in treatment greater than one year. Below we analyze some of the pathologies treated during the pandemic.

In the treatment of prostate cancer, we observed that the number of radical prostatectomies decreased by 74.4% in 2020, compared to those performed in 2019. The number of transrectal prostate biopsies also decreased by 81.5% in the same period of time. From the above we can comment that prostate cancer presents a clinical course from indolent to clinically significant unlike other types of genitourinary cancer, the delay in diagnosis and treatment would translate into a change in the treatment modality with an impact on the overall and cancer specific survival rates, which makes us question the interruption of the transrectal prostate biopsy program. We must also take into account that in some cases and due to the characteristics of each patient, as well as their personal preference or extra-institutional medical recommendation, many of them were treated with androgen deprivation therapy, thus avoiding or delaying surgical treatment.

Regarding the treatment of kidney tumors, we observed a 71% decrease in the number of nephrectomies performed in 2020 compared to those performed in 2019, of which the vast majority were carried out through an open approach while those performed by laparoscopy they were the least. From the this, we can conclude that as we have commented previously, due to current conditions, the number of patients with kidney tumors who were treated by our service was lower than in previous years, which translates into a delay in the treatment of these patients, this becomes important if we consider that the 5-year survival of patients with Stage I disease is 91%, compared to Stage IV, whose 5-year survival is 32%.[7]



Personnel	Positive cases
Residents	4th year: 4
	3rd year: 3
	2nd year: 0
	1st year: 2
Attendigs	4
	Severe cases: 2
	Deaths: 1

Figure 4. Representation of the procedures that experienced a decrease during 2020, compared to those performed in 2019.

Regarding the surgical treatment of bladder tumors, we found a 63.3% decrease in Transurethral Resection of Bladder Tumor and a 100% reduction in radical cystectomies. This is explained because during the pandemic, patients who required radical treatment, as well as neoadjuvant, adjuvant or palliative, were referred to an oncology center, the Oncology Hospital of the "Siglo XXI" National Medical Center (which is not dedicated to treat COVID patients), since the capacity of our service to treat this type of patients was diminished by various factors, among which are the reduction in beds available in the intensive care unit and a decrease in the amount of blood products available in the blood bank, since our center treats hemato-oncological patients. As we know in the case of urothelial carcinoma of the bladder, time is of the essence, as a delay in diagnosis and treatment has catastrophic effects on survival rates and disease progression.

The only two pathologies, which experienced an increase in the number of surgeries performed in 2020, compared to those performed in 2019, were penile and testicular cancer. Radical orchiectomies showed an increase of 50%, while penectomies an increase of 87.5%. These results

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could be explained because patients who under normal circumstances would have been treated in secondary care hospitals, now converted into COVID care centers, were referred to our hospital center for definitive treatment.

CONCLUSION

The total number of surgeries performed during 2020 was lower than those performed during 2019. Altohugnt oncology surgery did not stop, the attentions demand decrease. Today, one year after the start of the COVID-19 pandemic and after all its effects have been present in our daily lives, we face different challenges for our practice. It is not possible to measure the degree of damage due to a longer delay in the treatment of urooncological patients. Necessary measures must be taken and protocols and international recommendations must be followed to guarantee the safety of both the patient and the health personnel. It is necessary to recover the medical and surgical activities, prioritizing the care of patients according to established classification and staging systems.

REFERENCES

1. World Health Organization. WHO Director-General's opening remarks at the media briefing on COVID-19 – 11 March 2020. 2020. www.who.int
2. World Health Organization. Coronavirus disease (COVID-19) Situation Report. 2021. www.who.int.
3. Sud A, Jones ME, Broggio J, et al. Collateral damage: the impact on outcomes from cancer surgery of the COVID-19 pandemic. *Ann Oncol*. 2020;31(8):1065-1074. doi:10.1016/j.annonc.2020.05.009
4. Infocancer. El cáncer en el mundo y México. 2019. www.Infocancer.org.mx.
5. Hevia V, Lorca J, Hevia M, López-Plaza J, et al. Pandemia COVID-19: impacto y reacción rápida de la Urología [COVID-19 Pandemic: Impact and rapid reaction of Urology]. *Actas Urol Esp*. 2020;44(7):450-457. https://doi.org/10.1016/j.acuro.2020.04.006
6. Quiroz-Compeán A, Oropeza-Aguilar M, Cendejas-Gómez JJ, Rodríguez-Covarrubias F, et al. Recomendaciones para el manejo de los pacientes urológicos durante la pandemia por COVID-19 en México. Rev. Mex. Urol. 2020; 80 (3):1-16. https://revistamexicanadeurologia.org.mx/index.php/rmu/article/view/632
7. Sanchez-Lopez H. Manual de Uroonco. En: Cancer renal,. 1ª Ed. México: Cuellar Ayala, 2019; 182.

Special Content

Uro-Oncology practice in Peru: Challenges during COVID-19 Outbreak.

Alexis Alva-Pinto, Rubén Duin-Ortíz, Iván Aguilar-Marín

Urology Department, Clínica Delgado, Lima Perú

Correspondence
Alexis Alva Pinto
a.alva@spu.org.pe

On March 6th 2020, the COVID-19 pandemic start in Peru, a week later, a rigid lockdown was imposed by Peruvian government.[1] A state of health emergency, confinement, social isolation and border closure were established. The population was forced to stay at home and was allowed out only to acquire basic necessities as food and medicines.

The Peruvian government implemented a very aggressive financial rescue of approximately 9 billion dollars with the objective of mitigate the crisis, the economic resources were implemented as family bonds, business loans and tax postponements.

However, Peru was the first Latin American country to implement these strict measures, a rapid COVID-19 spread throughout the country was unavoidable and poor outcomes were observed. At this time Peru is facing to a second wave. The health system has collapsed, scarce intensive care unit (ICU) beds, lack of oxygen supplies and a very slow vaccination program lack of sanitary infrastructure and health professionals due a deficient leadership from governmental authorities.

In this context the Oncologic Patients are the most affected population by the restrictions imposed due to COVID-19, since up to 73% of them saw their treatment paralyzed or limited during the 2020, reaching up to 95% in the interior areas of the country.[2]

In March 21th 2021 Officially, 50,000 COVID-19 deaths have been reported by the Health Minister. Nevertheless, the national mortality system shows an excess of 134,000 non-violent deaths from March 2020 caused direct or indirectly by COVID-19. Indirect effects of pandemic have contributed to reducing health care in non-COVID patients affecting specially to cardiovascular disease.

From March to September 2021, all public and private

outpatient medical consultation were closed, establishing more the use of teleconsultations, ICU and general hospitalization beds were occupied by COVID patients and non-COVID pathologies were gradually mis attended. All treatments and attentions were restricted to emergencies.

In the urological setting, at the beginning of the first wave, Peruvian Society of Urology (SPU) defined priorities for Urologic patient´s care, adapted to our reality in concordance of American Association of Urology (AUA) and European Association of Urology (EAU) guidelines.[3] American College of Surgeons (ACS) and Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) proposed protocols for the reactivation of elective surgeries describing different pandemic phases . The health activity was developed based on sanitary resources (number of ICU beds occupied, availability of Personnel Protective Equipment (PPE), number of COVID cases distributed in geographic areas.[4,5] Unfortunately only 15% of Peruvian population has access to private medical care, percentage, that is decreasing due to the loss of formal jobs during this period.[6]

During the first wave, all public hospitals were in phase 3 of pandemic according ACS doing very difficult the treatment of urological pathology, and furthermore the already few urologists considered non at risk were treating COVID patients in non-ICU service. Uro-Oncology patient´s with diagnosis of prostate and kidney cancer were receiving their medication and the follow-up was performed by teleconsultation.[7]

However, the medical access to private health system has been gradually decreasing, most of the private clinics have continued to manage uro-oncology patients in phase 3 and a few of them in phases 1 or 2.

Oncosalud, is one of the most important private oncologic services in Peru, it has showed a progressively recuperation in the number of oncologicl surgeries from 52 cases per month in April 2020, to 288 cases in October 2020, and 295 cases in November 2020. This interesting report from Oncosalud in terms of oncologic surgery reported in the last three months of 2020 was topped by urologic surgery (followed by digestive, breast, head and neck surgeries). The most common uro-oncology surgeries performed in this period were radical prostatectomy (PRR) and transurethral resection of Bladder (TURB), is important to remark that advance and locally advance urological cancer has been treated more frequently; clinical picture completely different from 2019 where localized disease was at first place in the private setting.[7] **Table 1** shows some statistics about urologic oncology during the COVID-19 pandemics.

In March 2021, Peru has faced the second wave of COVID-19 Pandemic. Public health services have been collapsed for an increased number of COVID-19 patients requiring hospitalization and ICU beds, exhausting PPE supplies and at risk of oxygen shortage. The urologic surgery activity was reduced from 10-30% to only 10%.[8] Nevertheless, during the second wave, the outpatient care patients with advanced uro-oncological pathology has been maintained through a teleconsultation, screenshot different to private health system.

Actually, Peru is going to national government election process and the policies of health are delayed by its transitional process.

Table 1. Characteristics of Cancer Care and Oncologic Centers in Lima During COVID-19 Pandemic

Characteristics	HNERM	HMA	INEN	COA	CO	HMX
Type assistance	EsSalud	MINSA	MINSA	Private	Private	FFAA
Implementation of COVID19 measures*	X	X	X	X	X	X
Reschedule chemotherapy	X	X	X		X	X
Reschedule biopsies and Imaging studies	X	X	X	X	X	X
Implementation news treatments	X	X				X
Implementation of Chemotherapy Stage IV	X	X	X	X		
Mean treatments/week during Pandemic era	390	36	580	180	260	60
Mean treatments/week before pandemic era	720	80	1080	270	490	110

Oncologic Centers: HNERM.- Hospital Edgardo Reboglioti Martis; HMA.- Hospital Maria Auxiliadora; HMC.-Hospital Militar Central; INEN.- Instituto Nacional de Enfermedades Neoplásicas.
Type Assistance.- EsSalud.- Seguridad Social del Perú; MINSA.-Ministerio de Salud del Perú; FFA A.- Fuerzas Armadas.
*Implementation of COVID-19 Measures.- PCR Test. May 2020

REFERENCES

1. Ministerio de Salud. Análisis Epidemiológico de la Situación Actual de COVID-19 en el Perú, basado en información de la Vigilancia Epidemiológica y la Investigación de Campo. [Internet] Lima, Centro Nacional de Epidemiología, Prevención y Control de Enfermedades; 2020 [citado el 16 de marzo de 2020]. Disponible en: https://www.dge.gob.pe/portal/docs/tools/coronavirus/analisiscoronavirus080520.pdf.
2. https://gestion.pe/peru/los-pacientes-oncologicos-grandes-afectados-por-la-pandemia-en-peru-noticia/
3. Pronunciamiento de la Sociedad Peruana de Urología. https://spu.org.pe/pronunciamiento-spu-2020-covid-19/
4. National Comprehensive Cancer Network (NCCN). Best Practices Committee Infusion Efficiency Workgroup Toolkit: Providing Oncology Treatments in the Outpatient Setting [Internet]. NCCN; 2020. Disponible en https://www.nccn.org/about/news/ebulletin/ebulletindetail.aspx?ebulleti-nid=3745.
5. Recomendations regarding surgical response to COVID-19 CRISIS. March 29, 2020 by Aurora Pryor (https://www.sages.org/author/aurora-pryor/)
6. Área quirúrgica de Oncosalud. Centro Privado Especializado en Cáncer.
7. Resolución Ministerial N° 262-2020-MINSA que aprueba el Documento Técnico: Manejo de pacientes oncológicos en la pandemia por COVID-19. [Internet]. Diario Oficial El Peruano, 8 de mayo de 2020. [citado el 10 de mayo de 2020]. Disponible en https://www.gob.pe/institucion/minsa/normas-legales/563114-262-2020-minsa.
8. Vela-Ruiz J, Ramos W, De La Cruz-Vargas J. Desafíos en la atención de los pacientes con cáncer durante la pandemia COVID-19. Rev Peru Med Exp Salud Publica. 2020;37(3):580-1. doi: https://doi.org/10.17843/rpmesp.2020.373.5536.

Review article
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Urology in Bolivia in times of COVID-19.

Urología en Bolivia durante la pandemia COVID-19

Marcelo Torrico-de la Reza,[1] Yercin Mamani-Ortiz,[2] Ana María Autrán-Gómez[3]

Abstract

This review is to analyze the data in terms of the development of this health crisis, what weaknesses were confronted during the management of the disease, and the behavior of the pandemic in the Bolivian population, ending with an analysis of the reported data in the last week of February 2021. We show the number of diagnosed cases, the number of those deceased, the number of individuals who have recovered, and the recovery time for the same. We will analyze the vaccination campaign and when to expect a third wave, and consider the recommendations established by the Bolivian Society of Urology, [in Spanish: la Sociedad Boliviana de Urología], for managing Urology patients in the COVID-19 era. The information was obtained from officially published data during the first and second wave by the Ministry of Health of the Plurinational State of Bolivia [in Spanish: el Ministerio de Salud del Estado Plurinacional de Bolivia] from March 2020 to February 2021. During the first wave that began in March 2020, there were 114,592 diagnosed cases, and during the second wave that started on December 08, 2020 and lasted until February 28, 2021, there were 103,955 people. The number of deaths since the beginning until the end of February 2021 stands at 11,628 people, (8,949 patients have died during the first wave, and 2,679 during the second wave), with a cumulative mortality of 99 per 100,000 inhabitants and an average case fatality rate of 4.7% in the country, the latter being a virulence indicator or severity of the disease in a period and determined area. The key for entering a period of normalcy is to increase testing and to vaccinate the population on a large scale. Until this objective is achieved, we must maintain all biosecurity measures that are currently in force.

KEYWORDS: COVID-19; Bolivian; Vaccination campaign; Urology; Virulence.

Resumen

Esta revisión analiza los datos de la crisis de salud mundial, las debilidades durante el tratamiento, el comportamiento de la pandemia en la población boliviana, y se realiza un análisis de los datos reportados en la última semana de febrero de 2021. Se muestran la cantidad de casos diagnosticados, fallecidos, recuperados y tiempo de recuperación. Se evalúa la campaña de vacunación y cuándo esperar un tercer brote, y consideramos las recomendaciones establecidas por la Sociedad Boliviana de Urología para el tratamiento de pacientes con COVID-19. La información se obtuvo a partir de datos publicados durante el primero y segundo brote, por el Ministerio de Salud del Estado Plurinacional de Bolivia, de marzo de 2020 a febrero de 2021. En el primer brote, que inició en marzo de 2020, hubo 114,592 casos diagnosticados, y durante el segundo, iniciado en diciembre de 2020 y se prolongó hasta febrero de 2021, se registraron 103,955 personas. La cantidad de defunciones, desde el inicio hasta finales de febrero de 2021, asciende a 11,682 personas (han fallecido 8,949 pacientes durante el primer brote y 2.679 durante el segundo), con una mortalidad acumulada de 99 por cada 100,000 habitantes y media de 4.7% en el país (este último supone un indicador de virulencia o gravedad de la enfermedad en un período y área determinada). La clave para entrar en un período de normalidad es aumentar las pruebas y vacunar a la población a gran escala. Hasta lograr este objetivo, debemos mantener todas las medidas de bioseguridad que se encuentran actualmente vigentes.

PALABRAS CLAVE: COVID-19; Bolivia; campaña de vacunación; Urología; virulencia.

[1] Clínica Los Olivos, Universidad Mayor de San Simón. Cochabamba, Bolivia
[2] Departamento de Salud Global, Instituto de Investigaciones Biomédicas e Investigación Social Medicina. Universidad Mayor de San Simón .Cochabamba, Bolivia y Universidad de Umea, Suecia
[3] Research Office of the American Confederation of Urology.

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Correspondence
Marcelo Torrico de la Reza
mtorrico15hotmail.com

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INTRODUCTION

Bolivia, along with other countries, has not been unaffected by this pandemic. After the first case of COVID-19 was diagnosed in Wuhan, China on December 12,2019, the World Health Organization [in Spanish: la Organización Mundial de la Salud], announced on February 11 the official name of the COVID-19 disease caused by SARS-CoV-2.[1] From the first reported case until March 08, 2021, the number of diagnosed cases has risen to 116,907,508 people, and the overall mortality to-date is 2,594,721 people.[2]

In Bolivia, the first 2 cases of COVID-19 were diagnosed on March 10, 2019 in the cities of Oruro and Santa Cruz de la Sierra,[3] and the first 2 deaths occured on March 29 in the cities of Santa Cruz and La Paz. In this context, at the beginning of the pandemic the transitional government of President Jeanine Añez made timely decisions that helped flatten the epidemiological curve from the first outbreak. Schools were closed for 2 days, and airports for 7 days.[4] A partial quarantine was initiated for 7 days, and then obligatory for 12 days after the first case was diagnosed.[5] It was surprising how the population obeyed these determinations so responsibly that helped to avoid an exponential growth in cases since the beginning of the pandemic and prevent a total collapse of the National Healthcare System.

METHODOLOGY

The information obtained from officially published data during the first and second wave by the Ministry of Health of the Plurinational State of Bolivia is from March 2020 to February 2021. https://www.minsalud.gob.bo/4012

Data analysis results

According to the National Institute of Statistics, [in Spanish: el Instituto Nacional de Estadística], (INE), the population of Bolivia is 11,841,955 people,[6] and since the first reported case in March 2020 until February 28 2021, the cumulative number of COVID-19 cases is 248,547, with a cumulative incidence of 2,103 cases per 100,000 inhabitants, with this being the proportion of healthy individuals who developed the disease throughout the performed period.

During the first wave that began in March 2020, the number of diagnosed cases was 114,592, and during the second wave that started on December 08, 2020, the number of diagnosed cases until February 28, 2021 was 103,955. (**Graph 1**)

The cumulative incidence rate in 271 days in which the first wave lasted was 1,221 per 100,000 inhabitants in all cities in Bolivia, with the exception of Cochabamba, which was the only city that had a cumulative incidence below 1,000 cases. During the second wave measured at day 91, the cumulative incidence dropped to 878 per 100,000 inhabitants. This difference, between the first and second wave, can be attributed to a lack of laboratories and reagents for RT-PCR tests (a chain reaction of reverse transcription polymerase), during the first wave. **Figure 1 and 2**

The number of deaths from the beginning of the pandemic until the end of February 2021 was 11,628 people, (8,949 deceased patients during the first wave and 2,679 during the second wave), with a cumulative mortality of 99 per 100,000 inhabitants, and an average case fatality rate of 4.7% in the entire country; the latter being a virulence indicator or severity of the disease in a period and determined area. **Figure 1 and 2**

The number of recovered patients up to February 28 is 192,401 (121,280 patients during the first wave and 71,273 during the second wave). The number of active patients on the same date was 44,329.

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Plurinational State of Bolivia
Ministry of Health and Sports

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Departamento	Población	Casos acumulados primer ola	Casos acumulados segunda ola	Tasa de incidencia acumulada primer ola (271 días)	Tasa de incidencia acumulada segunda ola (271 días)	Descesos acumulados primer ola	Descesos acumulados segunda ola	Tasa de mortalidad acumulada primer ola (271 días)	Tasa de mortalidad acumulada segunda ola (91 días)	Tasa de letalidad primer ola (271 días)	Tasa de letalidad segunda ola (91 días)	Recuperados acumulados primer ola	Recuperados acumulados segunda ola	Tasa de recuperación primer ola (271 días)	Tasa de recuperación segunda ola (91 días)
La paz	3,023,791	35,489	25,002	(1,174)	827	1170	676	(39)	22	(3,3)	2,7	32299	5868	(91,0)	23,5
Oruro	548,537	6,155	5,326	(1,122)	971	324	232	(59)	42	(5,3)	4,4	4305	4955	(69,9)	93,0
Potosí	907,686	9,426	4,247	(1,038)	468	268	114	(30)	13	(2,8)	2,7	5335	5189	(56,6)	122,2
Cochabamba	2,086,930	14,238	10,179	(682)	488	1325	255	(63)	12	(9,3)	2,5	12478	8189	(87,6)	80,4
Chuquisaca	654,035	8,021	7,315	(1,226)	1,118	515	203	(79)	31	(6,4)	2,8	7108	2767	(88,6)	37,8
Tarija	591,828	16,651	4,195	(2,813)	709	408	128	(69)	22	(2,5)	3,1	13763	3333	(82,7)	79,5
Pando	158,676	2,402	1,477	(1,514)	931	166	57	(105)	36	(6,9)	3,9	651	1858	(27,1)	125,8
Beni	507,095	7,340	3,876	(1,447)	764	375	121	(74)	24	(5,1)	3,1	5708	1524	(77,8)	39,3
Santa Cruz	3,363,377	44,870	42,338	(1,334)	1,259	4398	893	(131)	27	(9,8)	2,1	39633	37590	(88,3)	88,8
Bolivia	**11,841,955**	**144,592**	**103,955**	**(1,221)**	**878**	**8949**	**2679**	**(76)**	**23**	**(6,2)**	**2,6**	**121280**	**71273**	**(83,9)**	**68,6**

Source: Ministry of Health and Sports General Directorate of Epidemiology.

1	Region	9	Cumulative mortality rate 1st wave (271 days)
2	Population	10	Cumulative mortality rate 2nd wave (91 days)
3	Cumulative cases 1st wave	11	Fatality rate 1st wave (271 days)
4	Cumulative case 2nd wave	12	Fatality rate 2nd wave (91 days)
5	Cumulative incidence rate 1st wave (271 days)	13	Cumulative recoveries 1st wave
5	Cumulative incidence rate 2nd wave (91 days)	14	Cumulative recoveries 2nd wave
7	Cumulative deaths 1st wave	15	Recovery rate 1st wave (271 days)
8	Cumulative deaths 2st wave	16	Recovery rate 2nd wave (91 days)

Figure 1. Plurinational State of Bolivia, Ministry of Health and Sports General Directorate of Epidemiology.

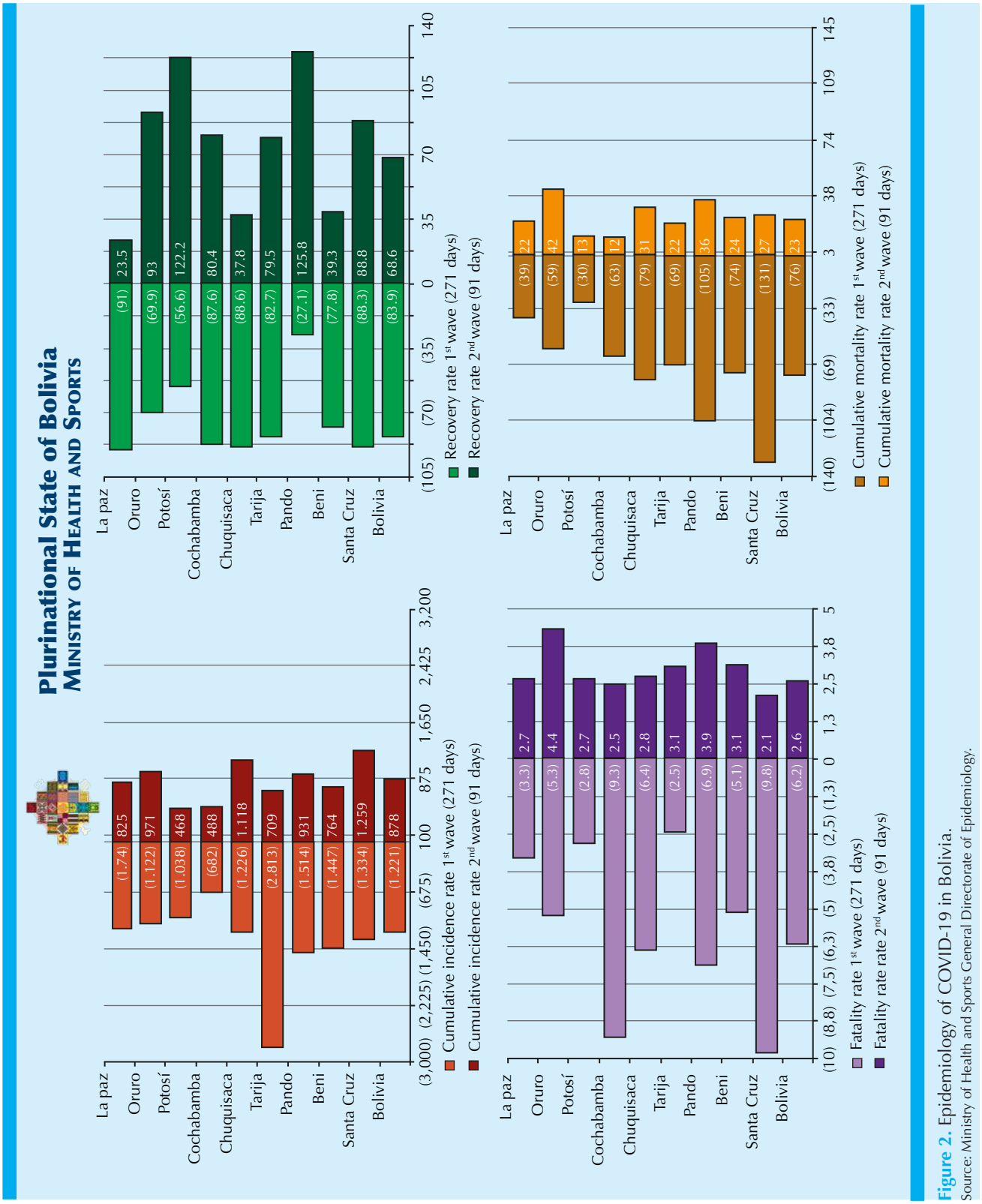

Figure 2. Epidemiology of COVID-19 in Bolivia.
Source: Ministry of Health and Sports General Directorate of Epidemiology.

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Recovery time during the first wave was approximately 28 days +/- 7 days, and during the second wave was 21 +/- 5 days. This improvement is certainly due to a better understanding of the disease, new medication management, public and private hospitals that have become better equipped, and early commencement of treatment, including self-treatment procedures with unrestricted and greater access to medications.

Average new cases per department during the first and second wave as described in **Figure 3**.

During the first wave, the highest number of diagnosed cases per day was in the first week of July 2020, and they managed to flatten this wave in November 2020. On Februrary 06, the second wave reached its peak in terms of diagnosed cases per day. During the second wave,

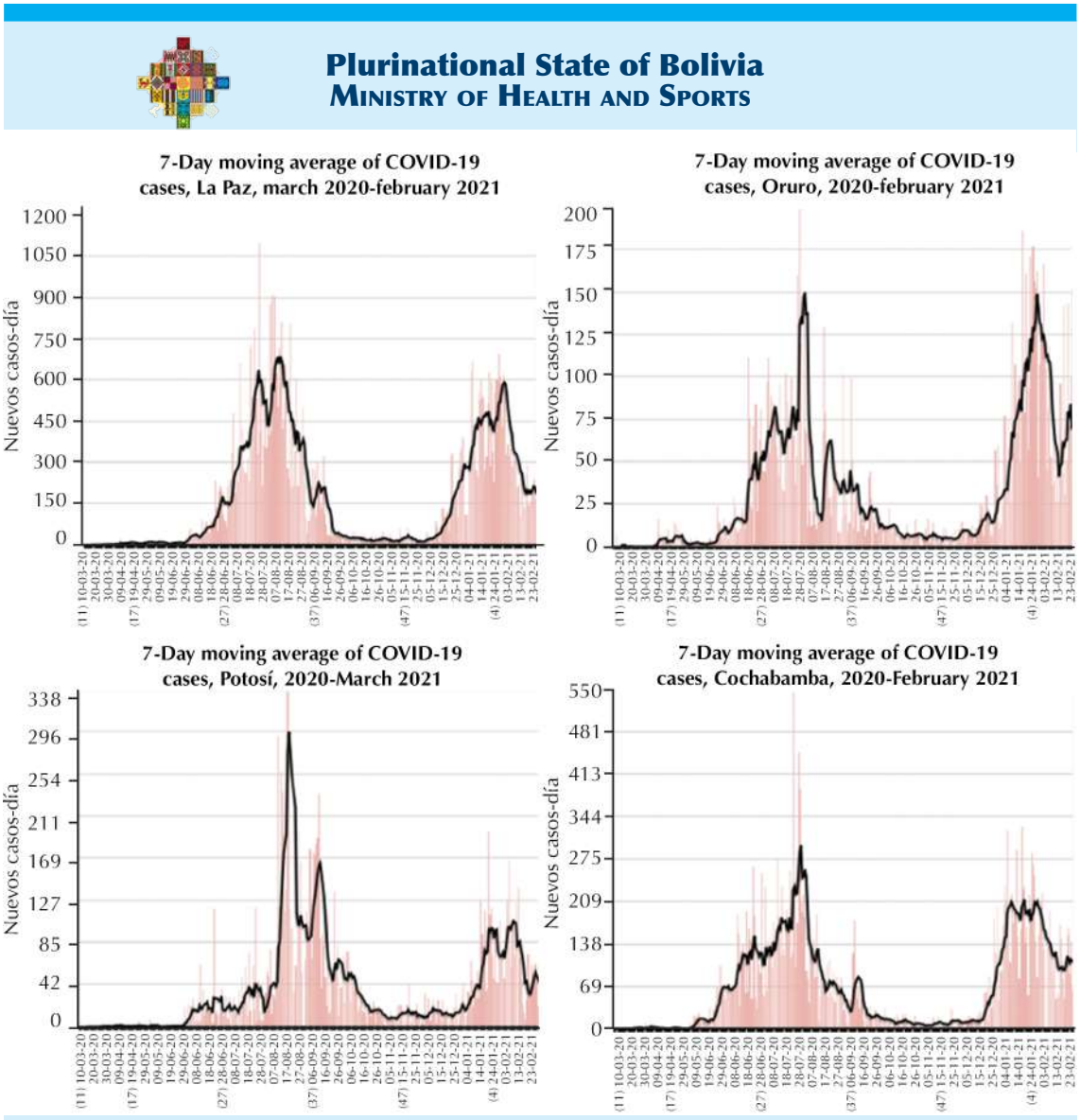

Figure 3. Days moving average of COVID-19 (continúa en la siguiente página).

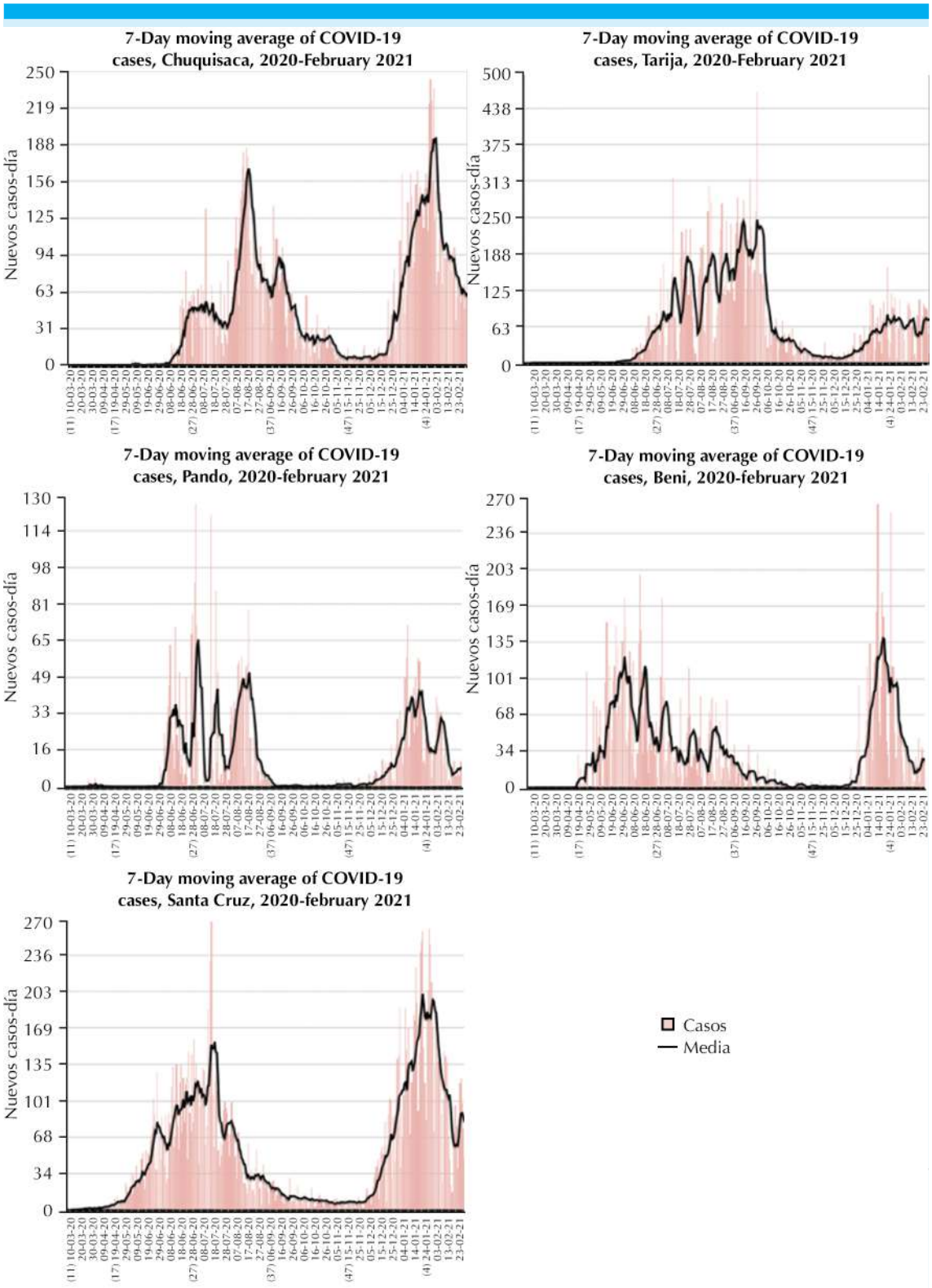

Figure 3. Days moving average of COVID-19 (continuación).

getting diagnosed were also patients that infected other people for extended periods of time.

The pandemic exposed many problems that have been present for several years in Bolivia. We have emerged from a government that assigned only 3% of the GDP to health. Therefore, we can see the shortage of hospitals, equipment, lack of personnel at all levels, and a minimum amount of personal protective equipment. Conversely, we see that intensive care units are underequipped in terms of the scarcity of beds, and what is most critical is the shortage of qualified medical personnel and nurses. The population of Bolivia is 11,841,955.[6] For this population, it is estimated that the number of intensive care beds it must have is 1,184, between public and private hospitals. At that start of the pandemic, there were around 301 beds and 193 specialists in intensive care.

Moreover, the government assumed control of the transitional government. It delayed a long time in making the arrangements to obtain reagents and equipment for RT-PCR and ventilators, thereby making it very difficult to confront this health crisis.

Scientific societies and medical associations played an important role in formulating guidelines for the management of this pandemic. The Bolivian Society of Urology did not overlook an analysis of the needs of patients, and it set about preparing a series of recommendations.

The first recommendation was social isolation, handwashing, and use of facemasks, especially during the first wave of the pandemic.

Another recommendation that was incorporated into the practice was the possibility of developing Telemedicine programs, which would allow patients to continue to be cared for remotely, without the risk of infection. These types of practices were quite efficient in private institutions that had a tertiary health care level, which in contrast, are very limited in public hospitals.

Patients were classified according to their pathology based on risk groups. The following were considered:

- True emergencies: Renal colic, renal abscesses, urinary retention, Fournier's gangrene (testicular torsion), penile fractures, priapism, gross hematuria.

- Genuine Oncologic emergencies: Tumors in different sites considered high risk, orchiectomy.

- Related Oncologic emergencies: Prostate biopsy, low and intermediate risk Prostatectomies. The rest were considered non-emergency for the patient. These procedures were postponed or they were referred to teleconsultation, where the technology was available.

Teleconferences carried out with peer associations where experiences were shared contributed to strengthening the actions and reactions of Urologists.

The Bolivian Society of Urology, (BSU), participated actively in these types of activities, which resulted greatly in the exchange of views with colleagues that were just exiting their first wave, especially those from North America and Europe. These experiences gained served as experience in how to manage a completely new disease about which little was understood.

We had to learn how to join medical education platforms and to participate in highly demanding educational activities through Webinars. As members of the BSU, we participated in all of the activities organized by the American Confederation of Urology (ACU), which since the

start of the pandemic has conducted more than 15 webinars with topics that deal not only with the COVID-19 pandemic, but also with updates in different areas of expertise.

Regarding vaccination, in Bolivia, as in all countries, more than one type of COVID-19 vaccine will be applied, since the demand is greater than the speed to manufacture the vaccines. Moreover, vaccinations will be received in various shipments: I) through the COVAX mechanism.[7] The first shipment will have 3% of the doses necessary to cover the population with two doses, and later on the rest will be in stages until 61% is reached. II) Through direct bilateral purchases in several shipments beginning in January and up until April.

COVAX is the acceleration mechanism for ensuring equal and timely access to safe COVID vaccines. It is managed globally by "the GAVI Alliance", and the supplier for the Americas region is the rotating fund of the Pan American Health Organization (PAHO), [in Spanish: la OPS].

In accordance with the Vaccine Law, No. 3300, vaccines are acquired safely and effectively, and are prequalified through a rotating fund of the PAHO, but since it concerns a global health crisis in which the said mechanism is not available to-date, COVID-19 vaccines will be acquired in a complementary manner with approval from more than a national regulatory authority.

The objective of the vaccination campaign is to reach 61% of the total population (7,222,982 people), according to their risk and the recommended ages for becoming immunized. We estimate that we will achieve herd immunity by September 2021. In the first phase, the most vulnerable groups will be vaccinated, which represents 37.25% of the total population, of whom are: Health care professionals (6.7%),[8] people with an underlying disease (49.3%), and all other people 60 years and older (43.8%). In the second phase, people between the ages of 18 to 59 who are at high risk, represent 62.75%.[9]

CONCLUSIONS

It is estimated that the third wave will begin at the end of May or the beginning of June 2021, which is the beginning of Winter in our country. The fatality rate will be determined by compliance with the vaccination program and by its ability to perform tests.

It is clear that we must achieve these objectives in order to gradually return to normal, but we must bear in mind that until we can achieve what is planned, we must follow all biosecurity measures.

REFERENCES

1. Dhama K, Khan S, Tiwari R, Sircar S, et al. Coronavirus Disease 2019–COVID-19. Clin Microbiol Rev. 202033 (4): e0002820. http://cmr.asm.org/.
2. COVID-19 Dashboard by the center for the System Science and Engineering (CSSE) at Johns Hopskins University (JHU). https://coronavirus.jhu.edu/map.html Ministerio de Salud y Deporte. Bolivia. Una mujer de 7 años es la primera víctim del coronaviros en el país: Ministerio de Salud. https://www.minsalud.gob.bo/4012
3. Coronavirus: Bolivia suspende labors educativas, vuelos desde y hacia Europa e intensifica el control en fronteras. 2020. https://www.presidencia.gob.bo/index.php/prensa/noticias/1235
4. Gobierno dicta cuarente total para cuidarsalud de los y las bolivianas en la lucha contra el coronavirus. https://www.presidencia.gob.bo/index.php/prensa/noticias/1244
5. Proyección de la población, revisión 2020. https://www.ine.gob.bo/index.php/censos-y-proyecciones-de-poblacion-sociales/
6. Organización Panamericana de la Salud. Naciones Unidas celebra que Bolivia sea uno de los primeros países en recibir vacunas del mecanismo COVAX. https://www.paho.org/es/noticias/30-1-2021-naciones-unidas-celebra-que-bolivia-sea-uno-primeros-paises-recibir-vacunas
7. Ministerio de Salud y Deporte. Bolivia. Ministerio de Salud y Deporte lanza nueva fórmula del alimento complementario "Nutribebé". https://www.minsalud.gob.bo/5208
8. Ministerio de Salud y Deporte. Bolivia. Ministerio de Salud implement pre registro para inmunización contra la COVID-19 de salubristas a nivel nacional. https://www.minsalud.gob.bo/5313

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Testicular cancer in the COVID-19 era: From diagnosis to treatment, points to consider.

Cáncer testicular durante la pandemia por COVID-19: del diagnostic al tratamiento, puntos a considerar

Cristobal Díaz-Gómez,[1] Edgar I. Bravo-Castro,[1] Maria F. Chein-Vázquez,[2] José Gadu Campos-Salcedo[3]

Abstract

Although the severity of the COVID-19 illness and the risk of death appears to be associated with older age, male sex, and preexisting comorbidities, cancer patients often share these risk factors could pose additional risk. Furthermore, most treatments in oncology cannot be postponed without compromising efficacy, especially for cancers with high cure rates, such as testicular germ cell tumors (GCTs). To date, GCT remains one of the most curable solid cancers, even in cases of metastatic spread, with approximately 95% of men surviving to 5 years, due to the exquisite sensitivity of these cancers to chemotherapy based on cisplatin, with the highest cure rate for patients with clinical stage I (ICS) exceeding 99%. Active surveillance, adjuvant chemotherapy, and retroperitoneal lymphadenectomy (LRP) should be prioritized depending on the clinical stage and hospital capacity.

KEYWORDS: Testicular germ cell tumors; COVID-19 pandemic; Hospital; Prognosis; Ultrasound; Radical orchiectomy; Chemiotherapy; Retroperitoneal lymph node dissection; Adaptation.

Resumen

Aunque la gravedad de la enfermedad por COVID-19 y el riesgo de muerte parecen asociarse con la edad avanzada, el género masculino y las comorbilidades preexistentes, los pacientes con cáncer suelen compartir estos factores de riesgo y al mismo tiempo pueden representar un riesgo adicional. Además, la mayor parte de los tratamientos en oncología no pueden posponerse porque se afecta su eficacia, especialmente para neoplasias con altas tasas de curación, como en sujetos con tumores testiculares de células germinales. Hasta la fecha, el tumor testicular de células germinales sigue siendo una de las neoplasias sólidas con mayor índice de curación, incluso en casos de metástasis, con aproximadamente 95% de supervivencia a 5 años, debido a la eficacia de la quimioterapia basada en cisplatino, principalmente en pacientes en estadio I (ICS), superior al 99%. Con base en lo anterior, debe priorizarse la vigilancia activa, quimioterapia adyuvante y linfadenectomía retroperitoneal (PRL), según el estadio clínico y la capacidad hospitalaria.

PALABRAS CLAVE: Tumores testiculares de células germinales; pandemia por COVID-19; hospital; pronóstico; ultrasonido; orquiectomía; quimoterapia; disección de ganglios linfáticos retroperitoneales; adaptación.

[1] Uro-oncologist attached to Urology service.
[2] Urology resident.
[3] Head of Urology service.

Hospital Central Militar, SEDENA, Ciudad de México.

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Correspondence
Cristobal Díaz Gómez
crisdigo@hotmail.com

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INTRODUCTION

On a global scale, life has been transformed since March 2020 by the rapid spread of the Coronavirus disease 2019 (COVID-19) caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). This has had significant effects on patients, physicians, and health care systems. Patients with COVID-19 and a history of cancer are at significantly increased risk of unfavorable outcomes,[1] with a severe COVID-19 phenotype seen more frequently in older men with comorbid conditions: a reflection of a large proportion of patients with genitourinary neoplasms.[2,3]

In response to the first wave of the pandemic, health care systems rationed ventilators, oper-

ating time, and personal protective equipment because of the rapid spread of the virus. As the pandemic has progressed, hospitals have attempted to return to oncologic management of patients; while many urology surgery procedures can be safely delayed, urologic oncology presents a particularly challenging dilemma. Although the entire population is at risk, cancer patients and those over age 60 are at increased risk of significant morbidity and mortality if infected with the virus. Many institutions have published their surgery priorities, and a group from the United States and Europe published preliminary recommendations on the classification of urology surgery.[4] The American College of Surgeons (ACS) and the European Association of Urology (EAU) have published further recommendations to guide appropriate treatment delays.[5,6]

Importantly, the impact of these treatment delays has led to increased patient distress.[7]

Most governing bodies have recommended continuing most oncology operations; however, this placed urologic oncologists in the situation of: *1)* deciding which operations can be safely delayed versus those that should be performed, *2)* making difficult treatment decisions at a time of resource rationing, and *3)* balancing the risk of disease progression versus the risk of COVID-19 infection (for the surgeon, the patient, and the health care system).[7]

We are facing a second wave of international public health emergency, caused by a novel coronavirus SARS-CoV-2. Up to February 22, 2021, a total of 111,419,939 confirmed cases and 2,470,772 confirmed deaths were reported in 223 countries, and in the Americas a total of 49,587,660 confirmed cases **Figure 1**, and 1,179,251confirmed deaths, according to World Health Organization (WHO) data.[8]

Testicular germ cell tumors (GCT) are the most common solid organ cancer in men aged 15 to 44 years. Since it is identified and treated quickly, the overall prognosis is excellent even after late diagnosis.[9]

Actually, the European Association of Urology (EAU),[9] the guidelines of the American Urological Association (AUA),[10] and the National Comprehensive Cancer Network (NCCN),[11] do not

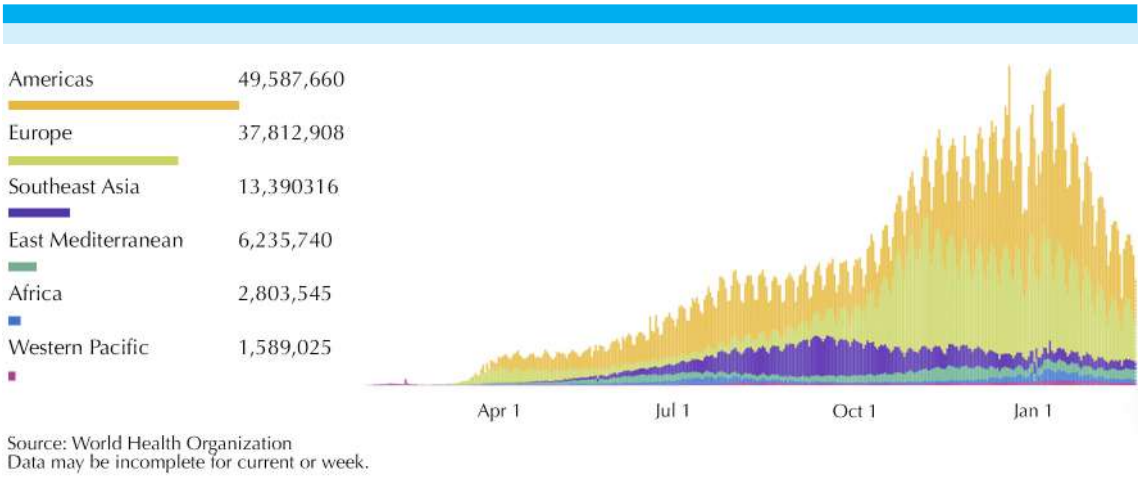

Figure 1. Confirmed cases in the Americas according to WHO.

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make specific considerations in terms of immediate treatment or the impact of treatment delay on outcome. Only, the EAU guidelines refer to "early treatment".[12]

However, it is generally assumed that delays in diagnosis affect the stage of disease at onset and thus the prognosis of the disease. Therefore, all patients with suspected GCT are recommended to be seen urgently (within two weeks) by a specialist.[13]

Diagnosis

All patients with suspected GCT should have a bilateral testicular ultrasound within 24 hours of clinical examination. The physical examination should include a head-to-toe examination of the supraclavicular, cervical, axillary, and inguinal lymph nodes, abdominal masses, and testes.

Like normally done outside any pandemic state, serum tumor markers should be evaluated before and after orchiectomy.

Non-contrast-enhanced CT scan of the chest and contrast-enhanced CT scan of the abdomen and pelvis should be done in patients with a diagnosis of TC ideally before orchidectomy. In case of iodine allergy or other limiting factors perform MRI of the abdomen and pelvis. According to the EAU recommendations, if diagnostic imaging studies had not been performed before orchidectomy, they may be postponed awaiting pathology result, but not for more than seven days.[14] **Figure 2**

Treatment

Radical orchiectomy should be performed as soon as possible because it is an outpatient procedure and will guide further treatment. EAU experts consider orchidectomy a surgical emergency, however, it may be postponed 2-3 days, as well as the pathological examination of the testis.[14]

Figure 2. Testicular ultrasound showing a heterogeneous parenchyma with a cystic predominance suggestive of a non-seminomatous germ cell tumor.

MRI of the brain (or brain CT if not available) should be indicated on an emergency basis in patients with central nervous system symptoms, multiple lung metastases, high β-hCG values, or those in the poor-prognosis IGCCCG risk group. MRI of the brain could eventually be postponed until chest CT or marker results are available, but then becomes an emergency.[14]

The National Cancer Database (**NCDB**), Macleod et al. found that most patients underwent orchiectomy within several days of diagnosis, an average delay of two days. Therefore, they defined a delayed orchiectomy at 11 days from presentation. However, the authors did not assess whether orchiectomy delays were associated with pathological or survival outcomes.[15]

In patients with clinical stage I (CSI), active surveillance (AS), rather than adjuvant therapy, is standard treatment. AS should be offered to all these patients with seminoma and low risk (no lymphovascular invasion) non seminoma germ cell tumors (NSGCT) provided they understand the need to self-isolate. CSI seminoma or NSGCT patients not accepting active surveillance need to be treated. They are considered high priority and should be treated within 6 weeks of histologic confirmation (High priority).[14,16]

Patients with clinical stage I or stage II disease should consider treatment options, including primary retroperitoneal lymph node dissection. For stage I tumors, surveillance is a feasible option during the pandemic, including for high-risk patients. Similarly, patients with stage II tumors who may be amenable to retroperitoneal lymph node dissection should receive guidance, and their final decision about surgery may depend on personal preference and hospital resources.[17]

We were unable to identify studies that evaluated the impact of late RPLND for metastatic GCTs. Surgery is rarely indicated for patients with metastatic seminoma, and in today´s setting, only imperative indications should be considered. For patients with NSGCT, chemotherapy is usually the preferred initial approach. Historically, NSGCT patients have masses with < 1 cm after chemotherapy; however, the impact of delaying post-chemotherapy RPLND for masses larger than 1 cm is unknown.[16]

For patients with advanced GCTs, data are limited. However, the association between timely administration of standard chemotherapy and the likelihood of cure is well known, as well as for patients who undergo salvage therapy.

Despite the limited evidence, it is likely that patients with stage II seminoma and some patients with good prognosis NSGCT may be able to delay systemic treatment at the peak of the pandemic when health care resources are limited.[16]

Any significant delay (four to six months) in the diagnosis of testicular cancer increased the likelihood of metastatic disease, as 20% of patients with a delay of less than 30 days having metastases compared with 55% of patients with a delay of more than four months.[17]

DISCUSSION

In the face of the pandemic, diminishing resources in most health care facilities makes the situation more critical, highlighting the crucial need to find guidance for the pragmatic management of urology patients during the pandemic.[18]

On March 19, 2020, the British Association of Urological Surgeons (BAUS) released a series of valuable guidelines on the management of various urology patients, as service delivery may need to deviate from the internationally accepted standard of care during the COVID-19 pandemic.[18] **Table 1**

This is the opinion of a large number of medical experts involved in treating GCTs:[19]

1. Active surveillance should be the preferred option for patients with CSI seminoma.

2. Patients with CSI non-seminoma should preferably be offered active surveillance regardless of lymphovascular invasion status.

3. Chemotherapy should be suspended until active COVID-19 infection has been resolved or ruled out by highly accurate molecular testing.

4. Due to the lack of data on increased pulmonary toxicity in the event of COVID-19 infection, bleomycin should not be routinely omitted.

5. Patients with advanced GCT with good-risk IGCCCG disease should not routinely be treated with four cycles of EF.

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Table 1. BAUS Guideline for Testicular Cancer

Clinical scenario	Full Urology service	Reduced Urology service
Diagnosis:		
Testicular mass	Testicular ultrasound + tumor markers + staging CT scan	Clinical staging if access to imaging and blood tests is restricted
Treatment:		
Testicular cancer	Inguinal orchiectomy	Inguinal orchiectomy, access-permitting
Adjuvant treatment:		
High-risk pure seminoma	Active surveillance or adjuvant carboplatin (as long as patient understands the requirement to self-isolate)	Active surveillance
High-risk non-seminoma	Active surveillance or single-cycle BEP chemotherapy (as long as patient understands the requirement to self-isolate)	Active surveillance

6. Primary prophylaxis with GCSF during cisplatin-based combination chemotherapy should be considered in any patients with advanced GCT receiving chemotherapy, including BEP.

7. High-dose curative chemotherapy should not be postponed or suspended. Consideration of high-dose chemotherapy in the context of the TIGER clinical trial should be within the institutions' trial capacity and the activated COVID-19 pandemic regulation.

8. Surgery, including resection of residual tumor, should not be postponed.

CONCLUSIONS

Based on these data, patients with germ cell tumors would likely benefit from minimal delay and should be prioritized for diagnosis with orchiectomy, which requires urgent care. Primary treatment for testicular cancer should not be delayed, as the benefits of rapid outpatient surgery outweigh the risks of prolonged chemotherapy. Retroperitoneal lymph nodes can be treated initially with a chemotherapy trial, but this decision must be made with a multidisciplinary approach. Furthermore, the authors are of the opinion that RPLND should not be delayed in those after an initial chemotherapy trial with NSGCTs and a residual mass given the possibility of a teratoma.

Patients who are candidates for chemotherapy, surgery, or surveillance for stage II disease should be prioritized. However, all recommendations should be adapted to local health priorities, keeping in mind that most of these patients are at low risk of serious COVID-19 infection.

REFERENCES

9. Dai M, Liu D, Liu M, Zhou F, et al. Patients with cancer appear more vulnerable to SARS-CoV-2: a multicenter study during the COVID-19 outbreak. Cancer Discov. 2020; 10: 783-791. https://doi.org/10.1158/2159-8290.CD-20-0422
10. Grasselli G, Zangrillo A, Zanella A, Antonelli N, et al. Baseline characteristics and outcomes of 1591 patients infected with SARS-CoV-2 admitted to ICUs of the Lombardy region, Italy. JAMA. 2020; 323 (16): 1574-1581. https://doi.org/10.1001/jama.2020.5394
11. Myers LC, Parodi SM, Escobar GJ, Liu VX. Characteristics of hospitalized adults with COVID-19 in an integrated health care system in California. JAMA. 2020; 323 (21): 2195-2198. https://doi.org/10.1001/jama.2020.7202
12. Stensland KD, Morgan TM, Moinzadeh A, Lee CT, et al. Considerations in the Triage of Urologic Surgeries During the COVID-19 Pandemic. Eur Urol. 2020; 77 (6): 663-666. https://doi.org/10.1016/j.eururo.2020.03.027
13. American College of Surgeons. COVID-19 Guidelines for Triage of Urology Patients. ACS: COVID-19 and Surgery.

https://www.facs.org/covid-19/clinical-guidance/elective-case/urology

14. Combined Oncology Recommendations. 2020. EAU Rapid Response Group: An organisation-wide collaborative effort to adapt the EAU guidelines recommendations to the COVID era. https://uroweb.org/wp-content/uploads/Combined-oncology-COVID-19-recommendations.pdf.
15. Klaassen Z, Wallis CJ. Assessing patient risk from cancer and COVID-19: Managing patient distress. Urol Oncol. 2021; S1078-1439(21)00050-8. https://doi.org/10.1016/j.urolonc.2021.01.023
16. World Health Organization. http://www.who.int/emergencies/diseases/novel-coronavirus-2019.
17. Laguna MP, Albers P, Algaba F, Bokemeyer C, et al. Testicular Cancer. European Association of Urology. https:// uroweb.org/guideline/testicular-cancer/.
18. Stephenson A, Eggener SE, Bass EB, Chelnick DM, et al. Diagnosis and Treatment of Early-Stage Testicular Cancer: AUA Guideline (2019). https://www.auanet.org/guidelines/ testicular-cancer-guideline>.
19. [No Authors]. National Comprehensive Cancer Network. [Internet]. Available at. <www.nccn.org/professionals/physician_gls/pdf/testicular.pdf>.
20. [No Authors]. Prognostic factors in advanced non- seminomatous germ-cell testicular tumours: results of a multicentre study. Report from the Medical Research Council Working Party on Testicular Tumours. Lancet. 1985; 1: 8-11.
21. Dearnaley D, Huddart R, Horwich A. Regular review: Managing testicular cancer. BMJ. 2001; 322 (7302): 1583-8. https://doi.org/10.1136/bmj.322.7302.1583
22. Secin FP. Priorities in testis cancer care during Covid-19 Pandemic. Int Braz J Urol 2020; 46 (Suppl.1): 79-85. https://doi.org/10.1590/S1677-5538.IBJU.2020.S109
23. Macleod LC, Cannon SS, Ko O, Schade GR, et al. Disparities in access and regionalization of care in testicular cancer. Clin Genitourin Cancer 2018;16:e785-93. https://doi.org/10.1016/j.clgc.2018.02.014
24. Wallis CJD, Novara G, Marandino L, Bex A, et al. Risks from deferring treatment for genitourinary cancers: a collaborative review to aid triage and management during the COVID-19 pandemic. Eur Urol 2020; 78 (1): 29-42. https://doi.org/10.1016/j.eururo.2020.04.063
25. Tachibana I, Ferguson EL, Mahenthiran A, Natarajan AP, et al. Sundaram. Delaying Cancer Cases in Urology during COVID-19: Review of the Literature. J Urol. 2020; 204 (5): 926-933. https://doi.org/10.1097/JU.0000000000001288
26. Desouky E. Urology in the Era of COVID-19: Mass Casualty Triage. Urol. Pract. 2020; 7: 266-271. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7273945/
27. Nappi L, Ottaviano M, Rescigno P, Tortora M, et al. Management of Germ Cell Tumors During the Outbreak of the Novel Coronavirus Disease-19 Pandemic: A Survey of International Expertise Centers. The Oncologist, 2020; 25: e1509-e1515. https://doi.org/10.1634/theoncologist.2020-0420

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Discusión: en este apartado es necesario que se cubran los hallazgos clave de su investigación. Se sugiere resaltar datos novedosos y comparar los resultados obtenidos con otras investigaciones. También sugerimos agregar un párrafo en donde se mencionen las fortalezas y debilidades del estudio. Se invita a los autores a que en este apartado de su trabajo se realice un análisis extenso de los resultados obtenidos para hacer reflexionar a los lectores de manera crítica sobre el tema. Es importante también cuestionar sobre lo investigado y generar nuevas hipótesis para futuras investigaciones sobre el tema cuando esto sea posible.

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Referencias: El numero de referencias no deberá exceder de 25. Las referencias deberán ser indicadas en superíndice en el texto y en orden numérico. El formato para las referencias es exclusivamente en AMA (American Medical Association). Deberán enlistarse de acuerdo con el orden en el texto. El formato AMA se puede copiar directamente de PubMed y en caso de que la referencia no se encuentre en esta base de datos, existen varias herramientas en línea para dar formato a las referencias. Se invita a los autores a seguir esta regla al pie de la letra ya que la mayor parte de los trabajos no aceptados o devueltos para revisión es por falta de formato adecuado y orden de las referencias.

5.2 Casos clínicos

La presentación de los casos clínicos deberá ser puntual y concisa. Para este tipo de envíos el número de autores no podrá ser mayor a cinco. Los casos clínicos están limitados a 1000 palabras (excluyendo resumen, tablas, figuras y bibliografía). Las citas bibliográficas deben contar con información actualizada de no más de cuatro años y limitada a cinco referencias.

Resumen: el resumen se debe presentar en español e ingles. Debe presentarse en un solo párrafo sin secciones. El resumen deberá presentar los detalles de la enfermedad que se presentará en el caso clínico y evitar agregar los datos del caso en particular. Ejemplo:

Los tumores neuroendocrinos primarios o carcinoides del testículo son una entidad rara que se presentan en menos del 1% de las neoplasias testiculares. Clínicamente se caracterizan por ser masas testiculares con o sin dolor. En esta estirpe se debe realizar inmunohistoquímica para llegar al diagnóstico definitivo, siendo principalmente positivos para cromogranina, sinaptofisina y citoqueratina. La orquiectomía radical es el tratamiento de elección. Las terapias adyuvantes no han mostrado utilidad, aunque la quimioterapia y la radioterapia adyuvante se han utilizado en casos metastásicos.

Introducción: La introducción del manuscrito deberá ser concisa y con información sustentada en la bibliografía. Se recomienda que la última frase de la introducción mencione el objetivo principal de la investigación.

Presentación del caso: en esta sección se presentarán los datos más relevantes de la historia clínica del paciente. Es importante solo agregar los datos que son trascendentes para la presentación del caso y no una historia clínica completa. Los resultados de laboratorio se deben presentar con las unidades de medición de forma adecuada. El pronóstico y los resultados finales del caso deben estar en esta sección y evitar repetirlo en la discusión. En caso de incluir tablas o figuras, el número está limitado a un máximo de tres.

Discusión: es necesario que en esta sección los autores realicen un análisis de la trascendencia del caso y utilizar la bibliografía como soporte de la información que se presenta. Los casos clínicos no llevan sección de conclusiones por lo que los autores podrán incluirlas en el último párrafo de la discusión.

Referencias: El número de referencias no deberá exceder de cinco. Las referencias deberán ser indicadas en superíndice en el texto y en orden numérico. El formato para las referencias es exclusivamente en AMA (American Medical Association). Deberán enlistarse de acuerdo con el orden en el texto.

6. Tablas

El formato de las tablas deberá ser en Word o Excel® (Microsoft, Redmond, WA, USA). Las tablas se deben incluir en el texto con un título y pie de tabla señalando el significado de las abreviaciones o el método estadístico por ejemplo para el calculo de la p. Ejemplo:

Table 1. Arithmetic mean differences between study variables

Variable	MEAN (SD)	p*
Age in years FemaleMale	45.7 (14.15) 43.3 49.1	0.003
Height (meters) FemaleMale	1.63 (0.09) 1.57 (0.06) 1.70 (0.07)	> 0.05
Weight (kg) FemaleMale	75.5 (15.0) 70.8 (15.3) 81.5 (12.5)	>0.001
BMI FemaleMale	30.4 (5.1) 32.5 (6.1) 27.6 (3.6)	>0.05
Stone size (cm3) FemaleMale	3.1 (2.3) 3.1 (2.5) 3.0 (2.4)	>0.05
Essence (HU) FemaleMale	928 (366) 906 (392) 954 (337)	>0.05

SD: Standard deviation; **BMI:** Body Mass Index; **HU:** Hounsfield Units
*Mann Whitney U test

En caso de que las tablas contengan información obtenida de algún artículo, esta deberá llevar agregada la cita bibliográfica.

El número de tablas o figuras está limitada a seis en artículos originales y a tres en casos clínicos.

7. Figuras

Las figuras o imágenes serán aceptadas en formatos comunes como TIFF, JPEG, PDF y EPS. La resolución de las anteriores debe ser de al menos 1000 pixeles o resolución de 300 dpi o mayor. Cada figura debe ser mencionada en el texto e incluida en el mismo, siempre numerada y con la descripción del contenido. Ejemplo:

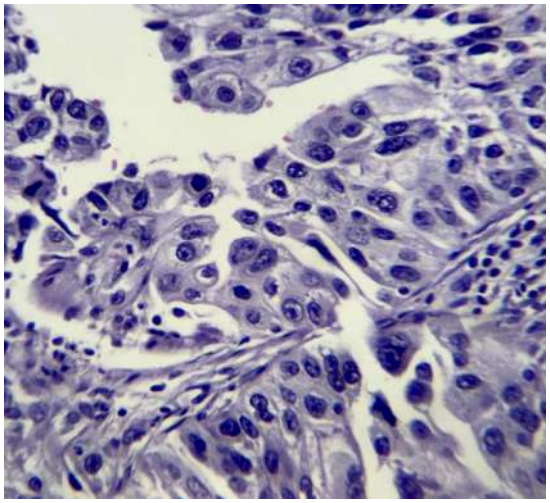

Figure 5. Histological section (40x) H&E. The neoplasm shows epithelial cells showing and areas with eosinophilic cytoplasm and ovoid vesicular nuclei.

El número de tablas o figuras está limitada a seis en artículos originales y a tres en casos clínicos.

8. Formato de las referencias

Como ya se ha mencionado en apartados previos, las referencias deberán colocarse en el texto en superíndice y en estricto orden numérico. Es importante evitar colocarlas entre paréntesis o corchetes. La sección de referencias es la parte final del manuscrito y es obligatorio que el orden de las referencias sea de acuerdo con su aparición en el texto. El formato es estrictamente AMA (American Medical Association). Ejemplos:

Artículos:

1. Murillo-Garzón V, Kypta R. WNT signalling in prostate cancer. Nat Rev Urol. 2017;14(11):683-696. doi:10.1038/nrurol.2017.144
2. Schweizer L, Rizzo CA, Spires TE, et al. The androgen receptor can signal through Wnt/beta-Catenin in prostate cancer cells as an adaptation mechanism to castration levels of androgens. BMC Cell Biol. 2008;9:4. Published 2008 Jan 24. doi:10.1186/1471-2121-9-4
3. Ranasinghe W, Shapiro DD, Zhang M, et al. Optimizing the diagnosis and management of ductal prostate cancer [published online ahead of print, 2021 Apr 6]. Nat Rev Urol. 2021;10.1038/s41585-021-00447-3. doi:10.1038/s41585-021-00447-3

Para citar libros, sitios de internet u otras fuentes de información sugerimos visitar el sitio "AMA Manual of Style 11th Edition": www.amamanualofstyle.com

9. Material suplementario (opcional)

Los autores podrán agregar un apartado de material suplementario en donde se puede ofrecer a los lectores la base de datos de donde se obtuvo la información. Esto puede limitarse debido a las normas y estatutos institucionales.

10. Plagio

El Boletín del Colegio Mexicano de Urología como órgano de difusión científica del Colegio Mexicano de Urología Nacional A.C. está en contra de todo tipo de plagio. En caso de detectar manuscritos con datos plagiados o no citados de forma adecuada, será motivo de rechazo para su publicación.

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