



Erectile function after Partial Penectomy for Penile Cancer

Leonardo L. Monteiro¹, Rodrigo Skowrkonski¹, Fadi Brimo², Paulo da C. Carvahlo Neto³, Romulo A. L de Vasoncelos³, Charley R.C. Pacheco³, Adriana A. Calado⁴, Wassim Kassouf¹

¹Divison of Urology, McGill University, Montreal, Canada; ² Department of Pathology, McGill Univeristy, Montreal, Canada; ³ Departamento de Urologia, Hospital do Cancer de Permambuco, Recife, PE, Brasil; ⁴ Divisao de Urologia, Universidade Estadual de Pernambuco, Recife, PE, Brasil.

ABSTRACT

Purpose: To evaluate the erectile function in patients who underwent partial penectomy and identify factors associated with penile functional status.

Materials and Methods: We identified patients who underwent partial penectomy due penile cancer between 2009 and 2014. Clinical and pathological characteristics included patient age at the time of diagnosis, obesity, hypertension, dyslipidemia, diabetes, smoking, metabolic syndrome, Eastern Cooperative Oncology Group (ECOG) status, penile shaft length tumor size, primary tumor stage (pT), clinical nodal status, and local recurrence. Erectile function was assessed prospectively with the international Index of Erectile Function (IIEF05) at least 3 months after partial penectomy.

Results: A total of 81 met analysis criteria. At the diagnosis, the median age was 62 years (range from 30 to 88). Median follow-up was 17 months (IQR 7-36). Of total patients, 37 (45%) had T2 or higher disease. Clinically positive nodes were present in 16 (20%) patients and seven (8.6%) developed local recurrence. Fifty patients (62%) had erectile dysfunction (ED) after partial penectomy, 30% had moderate or severe erectile dysfunction scores. Patients with ED versus without ED were similar in baseline characteristics except for age, penile shaft length,

and presence of inguinal adenopathy ($p < 0.05$). Multivariate analysis using logistic regression confirmed that older patients, shorter penile shaft length, and clinically positive lymph node were significantly associated with ED.

Conclusion: Partial penectomy due to penile cancer provides adequate local control of the disease, however, proper counseling is important especially in relation to ED consequences. Preservation of penile length yields to more optimal erectile recovery.

Comments

In this edition of the Journal Club CAU, I will analyze the recent paper entitled "Erectile function after partial penectomy for penile cancer" published in the May-June edition of the International Brazilian Journal of Urology. The authors performed a retrospective study of 81 patients that underwent partial penectomy (PP) secondary to penile cancer from 2009 to 2014. The main goal of the study was to evaluate the erectile function in this population using the International Index of Erectile Function (IIEF-5) 3 months after PP.

First, I want to congratulate the authors for the effort of the collection and data analysis on the topic. Penile cancer is a rare disease with a high-incidence in developed countries. After PP, men's sexual function can be influenced by psychological and physiological factors. However, due to the low incidence of the disease, there is a lack of studies describing factors that may ultimately influence sexual function after PP.

In this research study, the methods were appropriately described focusing on the surgical approach, variables and statistical analysis. It is worth mentioning, that the inclusionary criteria selected patients with satisfactory baseline sexual intercourse prior to surgery (obtained during interview). As a comment, it would have been significant to carry out the erectile function questionnaire prior to the surgical event in order to objectively evaluate and compare the degree of erectile dysfunction (ED) after PP.

Furthermore, Table 1 shows that 16(20%) and 37 (45%) of the patients in the cohort had clinically positive lymph nodes and stage T2/T3, respectively. It is appealing for the discussion to understand the nature of the cohort, perhaps describing the grade of differentiation of the tumors in the final pathology. Along with this data, it will be compelling to know if the patients underwent radical or modified inguinal lymphadenectomy. Several studies reported that lymphadenectomy increases the morbidity around 25-50%¹, however, the incidence and extension of it is the best predictor of survival in patients with squamous cell carcinoma². In addition, some researchers had associated that intraoperative nerve damage and post operative lymphedema could influence the sexual function³.

In terms of erectile function, 62% of the patients described some degree of ED (9 (11.2%) with mild, 17(21%) mild to moderate, 9(11.2%) moderate, and 15(18.3%) severe). Table 2 showed that risk factors, such

as, obesity, smoking, hypertension and dyslipidemia in patients with and without ED were not statistically significant. However, age, smaller penile shaft and clinically positive lymph nodes increased the incidence of ED. As a constructive criticism, the study did not evaluate the psychological factor that can potentially aggravate ED on patients with PP.

Finally, the study has some limitations related to the nature of a retrospective design. However, it fulfills the main objectives. It will be provocative to perform a Latin-American prospective study in the topic seeking to evaluate the emotional and organic event in patients after PP and compare them with other modalities of treatment, such as, brachytherapy⁴.

References

1. Struiver, MM, et al. Early wound complications after inguinal lymphadenectomy in penile cancer: a historical cohort study and risk-factor analysis. *Eur Urol*, 2013. 64:486.
2. Ornellas AA, Kinchin EW, Nobrega BL, et al. Surgical treatment of invasive squamous cell carcinoma of the penis Brazilian National Cancer Institute long-term experience. *J Surg Oncol* 2008;97:487-95.
3. Yu Cui, Hequn C, et al. Sexual function after partial penectomy: a Prospectively Study from china. *Sci Rep*. 2016;6:21862.
4. Garisto J, Nayan M, Kulkarni GS, et al. Oncological outcomes in the management of cT1-T2 cN0 penile squamous cell carcinoma. *Can Urol Assoc J*. 2021 June 15(6):1987-191.



Juan Garisto, MD
Uro-Oncology & Robotic Surgery, Staff Physician, VA Boston
Healthcare System
Candidate Assistant Professor at Harvard Medical School