Parachute Technique Sexual Function For Partial Penectomy-A Case Study

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***Abstract*—Penile carcinoma is a rare but mutilating malignancy. In this context, partial penectomy is the most commonly applied approach for best oncological results. We herein propose a simple modification of the classic technique of partial penectomy, for better cosmetic and functional results. The Purpose of this report was to evaluate the Parachute Technique sexual function after partial penectomy for penile carcinoma patients. Patients treated with partial penectomy at our institution (BSMMU), Dhaka, Bangladesh. If partial penectomy is indicated, the present technique can bring additional benefits. Different from classical technique, the urethra is speculated only ventrally. An inverted "V" skin flap with 0.5 cm of extension is sectioned ventrally. The suture is performed with vicryl 4.0 in a "parachute" fashion, beginning from the ventral portion of the urethra and the "V" flap, followed by the "V" flap angles and that by the dorsal portion of the penis. After completion of the suture, a Foley catheter and light dressing are placed for 24 hours. Several complex reconstructive techniques have been previously proposed, but normally require specific surgical abilities, adequate patient selection and staged procedures. However, the technique herein proposed is a simple alternative that can be applied to all men after a partial penectomy, and takes the same amount of time as that in the classic technique. We believe that these reconstructive techniques are very useful in some specific subsets of patients. In conclusion, the "parachute" technique for penile reconstruction after partial amputation not only improves the appearance of the penis, but also maintains an adequate function.**

Keywords—Penis, Penile Cancer, Surgery, Surgical Procedures, Reconstructive Surgical Procedures.

I Introduction

Penile carcinoma is a rare malignant disease with a significantly higher incidence in some developing countries. Partial penectomy is a common treatment for penile carcinoma. After partial penectomy, vaginal penetration is frequently possible. According to Romero's study, 55.6% of patients reported erection of the penile allowed vaginal penetration after partial penectomy [1]. The sexual function of men with partial penectomy is often affected by physiological and psychological factors. However, few studies have provided information about the sexual function and the influenced factors after partial penectomy. Penile carcinoma is a rare but mutilating malignancy. Tumors are often localized in the penis at the time of diagnosis, and they may be better controlled by surgical excision [2-7]. In this context, partial penectomy is the most commonly applied approach for best oncological results [8, 9]. Several complex reconstructive techniques have been previously proposed, but normally require specific surgical abilities, adequate patient selection and staged procedures. We believe that these reconstructive techniques are very useful in some specific subsets of patients. We herein propose a simple modification of the classic technique of partial penectomy, for better cosmetic and functional results.

II Case Report

Surgical Technique: After diagnosis of penile carcinoma confirmed by incision biopsy, patients are elected for surgical treatment. When possible, more conservative procedures such as postectomy or glansectomy are performed. If partial penectomy is indicated, the present technique can bring additional benefits. Our Institutional Review Board approved the present study. Patients are generally operated in the supine position, under spinal anesthetic block. After proper asepsis, a surgical glove or condom secured distally to the proposed line of amputation excludes the lesion. A tourniquet is applied at the base of the penis. The skin is incised circumferentially around the penis, deepening to Buck's fascia. The urethra is isolated from the corpora cavernosa and divided aiming to obtain at least 1 cm distal redundancy, but without oncological compromise (at least 1-2 cm margin). Dorsal vein complex is ligated, corpora are divided, and the surgical specimen is sent to the laboratory for forzen-section analysis. Corpora are secured with continuous sutures with vicryl 2-0, opposing the margins of Buck's fascia. Thurniquest is removed and adequate hemostasia is obtained. Different from classical technique, the urethra is speculated only ventrally. An inverted "V" skin flap with 0.50 cm of extension is sectioned ventrally. The suture is performed with vicryl 4.0 in a "parachute" fashion, beginning from the ventral portion of the urethra and the "V" flap, followed by the "V" flap angles and then by the dorsal portion of the penis (Figures 1 and 2). After completion of the suture, a Foley catheter and light dressing are placed for 24 hours.

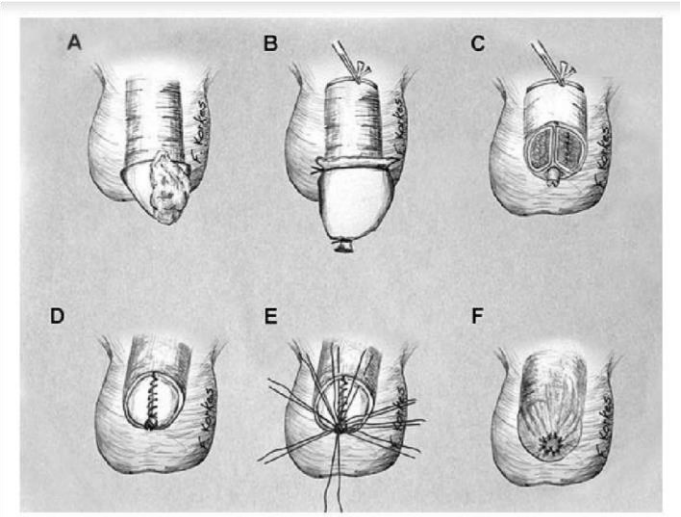

Figure-1: Schematic drawing of parachute technique for partial penectomy. A) Penile tumor elective for partial penetomy. B) A surgical glove is secured distally to the proposed line of amputation and a tourniquet is applied at the base of the penis. C) Skin is incised circumferentially around the penis, deepening to Buck's fascia, the urethra is isolated from the corpora cavernosa, divided and speculated only ventrally. D) Corpora cavernosa are closed with continuous sutures with Vicryl 2-0, the tourniquet is removed and adequate hemostasis is obtained. E) Final suture is performed with Vicryl 4.0 in a "parachute" fashion, beginning from the ventral portion of the urethra and the "V" flap, followed by the "V" flap angles and then by the dorsal portion of the penis. F) Final aspect.

Figure-2: Final aspect of parachute technique for partial penectomy.

III Discussion

After partial penectomy, sexual intercourse and adequate micturition are aims possible to be achieved in most settings. A few authors have evaluated psychological, social and sexual consequences after these procedures [10, 12]. Partner support is an important factor that helped patients to overcome the difficulties after partial penectomy [13, 14] The BMI of patients and depression in carcinoma patients are also two important factors that related to disease progression [1]. Having a partner was univariately positively associated with overall satisfaction. The purpose of the present technique is to preserve the morphologic aspect of the penis closer to a normal situation and additionally a permeable meatus. Several complex reconstructive techniques have been previously proposed, but normally require specific surgical abilities, adequate patient selection and staged procedures. We believe that these reconstructive techniques are very useful in some specific subsets of patients. Few studies investigating psychological states after partial penectomy and their results were controversial. In the study of Ficarra, the General Health Questionnaire showed impaired well-being in 37.5% of patients after partial penectomy [15]. While in D'Ancona study no patients exhibited such impairment [16]. This variation is likely to be due to differing assessed methods of psychological factors and small sample size. However, the technique herein proposed is a simple alternative that can be applied to all men after a partial penectomy, and takes the same amount of time as the classic technique. We have performed four of such procedures, with good cosmetic aspect after a mean of 8 months of follow up. All patients had distal pT2 tumors, two underwent inguinal lymphadenectomy, had positive lymph nodes and died of disease progression after 6 and 15 months; one underwent open inguinal lymphadenectomy withyout evidence of disease and was lost to follow up after 8 months, and the other underwent laparoscopic inguinal lymphadenectomy also without evidence of disease. No cases of meatal stenos is were observed, and patients were satisfied with the final result, resembling the aspect of a patient with phimosis. Although the present technique has been applied only to a few patients, we are begging a prospective study to evaluate long term outcomes.

IV Conclusions

Several complex reconstructive techniques have been previously proposed, but normally require specific surgical abilities, adequate patient selection and staged procedures. We believe that these reconstructive techniques are very useful in some specific subsets of patients. However, the technique herein proposed is a simple alternative that can be applied to all men after a partial penectomy, and takes the same amount of time as that in the classic technique. In conclusion, the "parachute" technique for penile reconstruction after partial amputation not only improves the appearance of the penis, but also maintains an adequate function.

Reference:

1. Romero, F. R. et al. Sexual function after partial penectomy for penile cancer. Urology. 66, 1292–1295 (2005).
2. Ficarra V, D' Amico A, Cavalleri S, Zanon G, Mofferdin A, Schiavone D, et al. Surgical treatment of penile carcinoma; our experience from 1976 to 1997. Urol Int. 1999; 62; 234-7.
3. Ornellas AA, Seixas Al, Marota A, Wisnescky A, Campos F, de Moraes JR; Surgical treatment of invasive squamous cell carcinoma of the penis; retrospective analysis of 350 cases. J Urol. 1994; 151; 1244-9.
4. Singh I, Khaitan A; Current trends in the management of carcinoma penis- a review. Int Urol Nephrol. 2003; 35: 215-25.
5. Korkes F, Moniz RR, Castro MG, Guidoni LR, Fernandes RC, and Perez MD: modified ingunial lymphadenectomy for penile carcinoma has no advantages. Journal of Andrological Sciences, 2009; 16: 33-6.
6. Promeo AC: Extended lymphadenectomy in penile cancer. Can J Urol. 2005: 12 (I Supl) 30-6; discussion 97 -8.
7. Caso JR, Rodriguez AR, Correa J, S piess PE; Update in the management of penile cancer. Int Braz J Urol. 2009; 35: 406-5.

8. Kroon BK, Horenblas S, Nieweg OE: Contemporary Management of penile squamous cell carcinoma. J Surg Oncol. 2005; 89: 43-50.
9. Tobias- Machado M, Tavares A, Ornellas AA, Molina WR Jr, Juliano RV, Wroclawski ER: Video endoscopic inguinal lymphadenectomy; a new minimally invasive procedu8re for radical management of inguinal nodes in patients with penile squamous cell carcinoma. J Urol. 2007; 177: 953-7; discussion 958.
10. Ficarra V, Mofferdin A, D' Amico A, Zanon G, Schiavone D, Malossini G, MObilion G; Comparison of the quality of the life of patients treated by surgery or radiotherapy in epidermoid cancer of the penis. Prog Urol. 1999; 9: 71520.
11. D, Ancona CV, Botega NJ, De Moraes C, Lavoura NS Jr, Santos JK, Raodrigues Netto N Jr: Quality of the life after partial penectomy for penile carcinoma. Urology. 1997; 50: 593-6.
12. Hadzi-Djokic J, Dzamic Z, Tulic C, Dragicevic D, Janicic A, Durutovic, O: Surgical treatment and quality of life in patients with carcinoma of the penis. Acta Chir lugosl. 1999; 46 (1 Suppl): 7-10.
13. Witty, K. et al. The impact of surgical treatment for penile cancer – patients' perspectives. Eur J Oncol Nurs. 17, 661–667 (2013).
14. Bullen, K., Edwards, S., Marke, V. & Matthews, S. Looking past the obvious: experiences of altered masculinity in penile cancer. Psychooncology. 19, 933–940 (2010).
15. Ficarra, V. et al. General state of health and psychological well-being in patients after surgery for urological malignant neoplasms. Urol Int. 65, 130–134 (2000).
16. D'Ancona, C. A. et al. Quality of life after partial penectomy for penile carcinoma. Urology. 50, 593–596 (1997).
17. Romero F. R. et al.. Sexual function after partial penectomy for penile cancer. Urology. 66, 1292–1295 (2005). [PubMed] [Google Scholar]