Partial penectomy and penile reconstruction. Initial surgical management of localized penile cancer

J. Pérez-Niño a,*, N. Fernández b, G. Sarmiento c

a Urólogo, Profesor Asistente Facultad de Medicina Pontificia Universidad Javeriana, Hospital Universitario San Ignacio, Bogotá, Colombia
b Residente III de Urología Pontificia Universidad Javeriana, Estudiante de Doctorado (PhD) Ciencias Básicas, Pontificia Universidad Javeriana, Hospital Universitario San Ignacio, Bogotá, Colombia
c Urólogo, Clínica Ardila Lulle, Profesor Universidad Autónoma, Bucaramanga, Colombia

Received 26 December 2012; accepted 12 April 2013

KEYWORDS
Penile carcinoma; Reconstruction; Graft

Abstract
Introduction: Surgical management for penile carcinoma is mutilating and affects significantly quality of life. Hereby we present our experience on penile reconstruction (PR) immediately after oncologic resection.

Materials and methods: We included all patients from January 2007 until April 2012 who underwent PR after partial penectomy (PP). Patients included in the study were seen at four different hospitals. All procedures were done by the same surgeon. Information included were: oncologic status at the moment of surgery, surgical technique used for reconstruction. Each case was also registered photographically. On follow-up visits data about outcome and patient’s satisfaction were registered.

Results: During the study period 15 patients underwent PR. Average age at the moment of surgery was 49 years. Average follow-up was 15 months. In 12 patients PR was made at the same time as PP. Of those, four cases underwent glans resurfacing, 2 glandectomy, 6 partial penectomy, and the remaining 3 have had PP in a different time in the past. Every case underwent a split thickness graft procedure. Only 2 patients had postoperative complications. One of them presented urethral stricture and the other had graft ischemia. Three patients had positive nodes at the moment of PP and two during the follow-up. None of the cases have presented local recurrence and only one died. On follow-up the remaining patients refer a good quality of life and felt happy with esthetic results.

Conclusions: Given the results presented hereby we propose that PR must be part of the same procedure as the PP.

© 2012 AEU. Published by Elsevier España, S.L. All rights reserved.

* Corresponding author.
E-mail address: jaime.perez@javeriana.edu.co (J. Pérez-Niño).
Background and clinical scenario

Malignant penile lesions are uncommon but represent a challenge for surgeons because treatment has a profound effect on appearance and quality of life.

Penile cancer affects at least 1% of men in developed countries. Approximately 10% of these tumors present as in situ carcinoma and are susceptible to conservative management. There are premalignant lesions such as lichen sclerosus, also called balanitis xerotica obliterans (BXO). This disease primarily affects adults, but we also observe it in pediatric patients. When the tumor is diagnosed in situ or as a premalignant disease, the healing rate is high and recurrence is uncommon. For the Tis, Ta and T1a cases, the recommended approach is implementation of conservative procedures such as local resection, Nd:YAG laser, Mohs surgery and 5-fluorouracil. When the damage is more extensive and deeper than 1 mm, extensive local resection is recommended, such as immediate regeneration and reconstruction with partial thickness skin grafts.

European guidelines for the treatment of penile carcinoma recommend penile reconstruction (PR) after cancer treatment. In 2008, we published our initial experience with PR and we now present the follow-up. Given our results, we propose immediate penile reconstruction (PR) as a standard procedure.

Case series

We included all patients who underwent PR from January 2007 to April 2012. The procedures were performed by the same surgeon, but in 4 different hospitals. The inclusion criteria were a primary diagnosis of Tis, Ta and T1a penile carcinoma treated with conservative surgery and partial penectomy (PP) and immediate PR. The surgical techniques followed Bracka’s principles.

Tumor resection and preparation for the graft

The resection technique consists of the demarcation and complete resection of the granular epithelium, preserving only the meatus mucosa. The coronal mucosa is also removed. At end of the extirpation, the corpus spongiosum is exposed. The glansectomy starts with a circumcision 0.5 cm below the glandular tumor. The circumcision continues up to Buck’s fascia. The neurovascular bundle components are ligated, separating them from the corpus cavernosum. The distal urethra sectioned by the circumcision is reconstructed, and the edges are everted, creating a vertical urethrostomy.

Once PP is performed and a minimum negative surgical margin of 0.5 cm is confirmed, both corpora cavernosa are remodeled creating a spherical distal edge. The urethra is reconstructed as described previously. In all cases, negative margins were confirmed by frozen biopsy.

Obtaining the graft

All patients were reconstructed with partial thickness skin graft of the external member. An electric dermatome was employed to achieve a 0.02-cm thick graft, which was placed for immediate reconstruction after the oncoligic resection. We used Vicryl 5-0 to place the graft and then covered the graft with Bactigrass®. A Foley catheter was placed for 5 days.
Discussion

We performed a total of 15 cases of PR. The mean age at the time of surgery was 49 years (36–62 years). The mean follow-up time was 15 months. The mean age of our group of patients is noteworthy when compared with that of other case series such as the one by Gómez-Ferrer et al.\textsuperscript{31,32} For our young population experiencing penile carcinoma, immediate PR is very important.

In 12 cases, PR was performed immediately after the oncologic resection. Of these, 4 cases underwent reconstruction, 2 underwent glansectomy and 6 underwent PP. The 3 remaining cases had previously undergone PP. There were only 2 complications; one was a meatal stenosis after graft placement and the other showed 30% necrosis of the graft. To date, meatal stenosis has not been reported by other authors.

Three cases had positive lymph nodes at the time of primary oncologic resection and reconstruction and 2 cases experienced them during follow-up. None of our patients developed local recurrence after the reconstruction. Based on this and the experience of other authors, such as Shabbir et al., PR does not seem to affect cancer treatment.\textsuperscript{33,34}

By the last follow-up visit, only 1 patient had died due to the disease. A formal quality-of-life assessment was not included, but 11 patients were satisfied with their cosmetic and functional results (Figs. 1–3).\textsuperscript{35}
Conclusions

Our results show a group of very young patients affected by penile carcinoma. Thus, PR should be performed in all cases to improve quality of life after oncologic resection. Given our results and that of others, it is safe to perform PR immediately after tumor resection. We recommend PR as standard procedure for all cases.

Conflict of interest

The authors declare that they have no conflicts of interest.

References