

Posoncological Cutaneous Reconstruction of Penis with Scrotum Flaps about a Case

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Abstract: *Objective:* The penile cancer is a rare entity in the developed countries and its incidence increases in the developing countries, achieving up to 10% of the malignancies in men. There is a crucial association with the HPV, in the same way it relates to inadequate hygiene habits and the phimosis. The objective of the surgical treatment is resection with adequate margins, and the inguinal lymph node dissection when indicated. The restore skin coverage in these lesions is a challenge for the surgeon, as it seeks to achieve a phallus almost normal appearance, and restore the patient's tactile and the erogenous function, with the fewest possible interventions, trying to minimize the psychological trauma. Previously, many of these patients were considered inoperable and were recommended to radiation therapy to cure the injury. The evolution of the plastic surgical techniques using skin or the myocutaneous flaps, have provided the surgeon another option to keep the local oncological control with acceptable morbidity.

Clinical Case: The aim of this paper is to present the case of a 56 years old male patient with diagnostic of squamous cell cancer of the penis stage II, who underwent the penile stripping, with bilateral inguinal lymphadenectomy; and rotation flap reconstruction of the scrotal skin. We found no published paper about the skin reconstruction of penile skin flap from scrotum for cancer patients, hence the importance of this work.

Keywords: Cancer, Penile, HPV, Reconstruction, Faloplastia.

INTRODUCTION

Penile cancer is rare, (its incidence rate is 0.5 to 1.6 per 100,000 individuals in Europe and 0.7-0.9 per 100,000 in the US) but its incidence may be higher in some countries reaching up to 10% of malignant neoplasms in the man [1]. The age at the most frequent diagnosis ranges between 50 and 70 years of age [2].

The penis is an organ covered by skin and tumor pathology develops from said epithelium, therefore 96% are epithelial (squamous). The remaining 4% is distributed in basal cells, melanomas, Kaposi's sarcoma (pathology that has increased its incidence since the onset of HIV), and in tumors secondary to leukemia or lymphomas [3].

The main risk factors are: Phytosis, poor hygiene, zoo, smoking and HPV. Neonatal circumcision is considered a protective factor against penile cancer [4].

The diagnosis is established by biopsy by puncture or excision. CT and MRI are useful in staging [5]. Classification for staging is done through the TNM system, and then grouped in stages of 0, I, II, III, or IV. Regarding treatment in Ta-1, G1-2: if the patient is susceptible to good follow-up, local excision is performed plus reconstructive surgery, Mohs surgery, brachytherapy and / or radiotherapy, laser excision Nd-YAG, cryotherapy, photodynamic therapy [5].

T1, G3 and T2 or greater lesions: partial or total penectomy is indicated, although conservative treatment could be used in well-selected patients (condition of less than half the glans and susceptible to good follow-up) In relapses after conservative treatment, treatment can be repeated if there is no invasion of the corpora cavernosa, but if there is, it is recommended total phallectomy [5].

Therapeutic lymphadenectomy is performed in patients with metastatic nodes, however, routine prophylactic lymphadenectomy is not indicated, because the morbidity of the procedure is 30% to 50%. If the nodes are not palpable, they are low risk: (pTis, pTa, G1-2, pT1, G1) undergo surveillance because the risk of lymph node metastasis is less than 16.5% [5].

Relapses usually occur in the first 2 years. When partial or total phallectomy was used, it occurs in 0% to 7%, but with treatment Conservative rises to 50% [5]. Cutaneous reconstruction of the penis remains one of the biggest challenges of surgery due to the inherent complexity of getting both the anatomical shape as the aesthetics of the penis [6]. There are numerous causes that can lead to a complete reconstruction of the penis such as perineal trauma, necrotizing infections, congenital malformations, tumor ablations or surgery of the penis transsexualism [6].

The fundamental principle of surgical management is resection of the lesion with adequate margins, trying to maintain a functional segment of the phallus whenever possible, for sexual and urinary function [7].

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This surgery represents a complex challenge with which it is intended to achieve an almost normal appearance phallus. Likewise, it is intended to return the tactile and erogenous sensation to the patient, all with the minimum morbidity of the donor site and with the least number of surgical interventions possible [8].

Previously, many of these patients were considered inoperable and they were recommended radiant therapy with cures of the injury. The evolution of plastic surgical techniques using skin and subcutaneous advances or myocutaneous flaps have given the surgeon another option to maintain local control with Acceptable morbidity [9]. In the area of urological cancer surgery, myocutaneous flaps have been described by Russo *et al.*, these flaps of skin islands that can cover large segments of defects are indicated in areas that cannot be closed primarily, finalized wounds and previously wounded irradiated for salvag.

These flaps exist in the literature, and there are many surgical interventions for penile cutaneous reconstruction whose purpose is to restore the patient's physical and functional requirements to the maximum in a single surgery, however, there is still no technique that can be considered as the ideal [6].

In the consulted bibliographies we do not find published works in which they use scrotal flaps after penile stripping as an oncological therapy in patients without invasion of the body of the penis, hence the importance of our work.

1. CLINICAL CASE

A 56-year-old male patient who has a warty lesion on the skin of 3-year-old penis that progresses without treatment to reach large volume and concurrent lesion in hypogastric skin, 2 months prior to admission, a partially ulcerated lesion in the skin of the left inguinal region is associated. Denies important pathological history. Refers accentuated smoking habit: 60 packages / year.

The physical examination corroborates 2 lesions of approximately 8 cm to 10 cm in diameter, mobile warts on penile skin without body involvement and hypogastric skin, with a nodule that impresses metastatic adenopathy in the left inguinal region that infiltrates the skin (Figure 1).

A sample is taken for a left inguinal adenopathy biopsy that reports: metastatic squamous cell carcinoma. Abdominopélvica CT scan oral contrast /

ev: no evidence of pelvic lymph node metastatic disease, adenopathy of the left inguinal tumor. Chest x-ray: DLN.

It is initially staged as stage IIIA penile squamous cell carcinoma (T1a cN1 M0). In view of the fact that the primary tumor does not infiltrate the penile body clinically and the patient's refusal due to the possibility of total penectomy; it is planned and is taken to the operating room, performing: 1. Wide skin resection (penile skin stripping) 2. Bilateral inguinal lymphadenectomy, and 3. Reconstruction of skin defect with rotation of bilateral scrotal flaps (Figure 2-5).



Figure 1: Macroscopic appearance of the lesion. Pre-surgical planning.



Figure 2: Intraoperative aspect Tumor lesion resection and left inguinal lymphadenectomy.



Figure 3: Intraoperative aspect Resection of tumor lesion and bilateral inguinal lymphadenectomy.



Figure 5: Final aspect. Reconstruction finished with scrotal skin rotation flap.



Figure 4: Final aspect. Reconstruction finished with scrotal skin rotation flap.



Figure 6: Postoperative 2 days evolution. Ecchymosis and mild epidermolysis.

The immediate and mediate postoperative period is performed with mild epidermolysis and dehiscence, which is adequately treated on an outpatient basis; having satisfactory oncological, functional and aesthetic results (Figure 6 and 7).

The definitive histopathological study of the surgical specimen reports: giant accumulated condyloma of multiple locations with areas of infiltrating epidermoid carcinoma well differentiated with lymphatic invasion. Left inguinal region skin with infiltrating squamous cell carcinoma without nodal structure.

Right inguinal lymphadenectomy negative nodes for malignancy [14]. Left inguinal lymphadenectomy negative nodes for malignancy [12]. All wide resection margins.

Final pathologic staging is performed: stage II penile epidermoid cancer (pT1b pN0 M0). Patient currently with 18 months postoperative without clinical or imaginological evidence of disease (Figure 8).



Figure 7: Postoperative 7 days evolution. Mild epidermolysis in resolution.



Figure 8: Current appearance 18 months postoperatively.

2. DISCUSSION

Penile cancer is uncommon, representing less than 1% of genitourinary tumors [1]. The incidence peak is around the sixth and seventh decade of life, similar to the age of our patient. Previously, many of these patients were considered inoperable and radiant therapy with cures of the lesion was recommended. The evolution of plastic surgical techniques using flaps has given the surgeon another option to maintain control premises with acceptable morbidity [9].

In our case, extensive cutaneous resection, bilateral inguinal lymphadenectomy, and reconstruction of cutaneous defect with rotation of bilateral scrotal flaps were Nodal involvement is the prognostic factor most strongly associated with the survival rate. The commitment of 2 or more nodes as well as the extra capsular extension set up a bad prognosis chart [10]. In our case, the patient has a better prognosis because he presented no lymph node involvement.

It is important to achieve an optimal result, due to the great importance that male genitals have in development and patient self-esteem [11].

The ideal goal of the surgeon when performing a phalloplasty includes the construction, in a single stage, of an aesthetically acceptable penis and with erogenous and tactile sensitivity [6]. Although some authors prefer to perform this reconstruction in two stages, as in the case of the radial ante-brachial microsurgical flap [12].

There are several published techniques for the management of penile and scrotal lesions, such as partial or total skin free grafts; and other plasties with lower abdominal flaps and para-umbilicals [13-15]. However, a technique that demonstrates supremacy over others has not yet been established. The scrotal skin meets some characteristics necessary for coverage of the penile area, mainly due to its elasticity, which makes it superior to the coverage with dermo-epidermal graft, more similar to the original skin [6]. We conclude that this technique is adequate because its final result is more similar to the skin of the penis, from its color to elastic properties.

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