

Case report



Skin metastasis of squamous cell carcinoma of the penis: case report

Khdach Younes, Tariqi Reda, Boukhlifi Younes, Alami Mohammed, Ameer Ahmed

Corresponding author: Tariqi Reda, Service of Urology, Military Hospital of Instruction Mohamed V, Hay Ryad, 10100 Rabat, Morocco. s.tariqi41@gmail.com

Received: 06 Nov 2020 - **Accepted:** 12 Nov 2020 - **Published:** 16 Nov 2020

Keywords: Penile cancer, penectomy, recurrence, skin metastasis, FDG-PET/CT, case report

Copyright: Khdach Younes et al. PAMJ Clinical Medicine (ISSN: 2707-2797). This is an Open Access article distributed under the terms of the Creative Commons Attribution International 4.0 License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Cite this article: Khdach Younes et al. Skin metastasis of squamous cell carcinoma of the penis: case report. PAMJ Clinical Medicine. 2020;4(97). 10.11604/pamj-cm.2020.4.97.26844

Available online at: <https://www.clinical-medicine.panafrican-med-journal.com//content/article/4/97/full>

Skin metastasis of squamous cell carcinoma of the penis: case report

Khdach Younes¹, Tariqi Reda^{1,&}, Boukhlifi Younes¹, Alami Mohammed¹, Ameer Ahmed¹

¹Service of Urology, Military Hospital of Instruction Mohamed V, Hay Ryad, 10100 Rabat, Morocco

&Corresponding author

Tariqi Reda, Service of Urology, Military Hospital of Instruction Mohamed V, Hay Ryad, 10100 Rabat, Morocco

Abstract

We report a case of penis cancer at the military hospital in Rabat, about a 75-year-old patient with a history of a bladder tumor that has been treated with radical cysto-prostatectomy with bilateral ilio-obturator scouring and Briker-type urinary diversion. The symptoms were marked by the appearance of an induration of the left corpus cavernosum in its proximal part on a normal penile skin. The biopsy was not possible and MRI was inconclusive, the FDG-PET/CT played a relevant role detecting tumor mass and lymph node metastases. The treatment, after multidisciplinary discussion, consisted of a total penectomy with bilateral orchiectomy completed secondarily by bilateral inguinal scraping. The evolution was marked by the

appearance of skin metastases and the death of the patient during chemotherapy.

Introduction

Squamous cell carcinoma of the penis is a relatively rare disease with low incidence rates of approximately 0.5-1.0 per 100 000 person-years in Europe and the United States. Treatment of small cell carcinoma of the prostate (SCCP) is stage dependent and includes, for no distant metastatic SCCP, surgery of the primary lesion as well as regional lymph node dissection when indicated [1]. The majority of penile cancers are epithelial, with squamous cell histology accounting for 95% of cases. Other histologies, including basal cell carcinoma, melanoma, sarcoma, and adenocarcinoma, are rarer. Risk factors associated with the development of squamous cell carcinoma include human papillomavirus (HPV) [2], phimosis, smoking, and human immunodeficiency virus (HIV), whereas circumcision may be protective [3]. The correct tumor staging according to the TNM classification, histological type, tumor grade, lymphatic and vascular invasion are essential for treatment planning and establishing a prognosis. Survival in case of lymph node metastases is pejorative, it is approximately 50% at 5 years if they are invaded [4,5]. Disease recurrence after primary treatment for SCCP with curative intent is associated with a high mortality risk [6]. The objective of this work was to report about the occurrence of squamous cell carcinoma of the penis in a patient being treated for urothelial carcinoma, the outcome of which was marked by skin metastasis.

Patient and observation

Mr. M.C a 75 years old patient, married, father of 3 children, military withdrawal and living in Fez. He is a chronic smoker and has no medical or surgical history. Patient initially consults in 2015 for macroscopic hematuria without other associated signs. Pelvic ultrasonography showed a right and left lateral bladder lesion and was completed by a

uroscan, in favor of a multifocal bladder urothelial tumor. The patient benefited from a complete and deep Trans-urothelial resection with a pt1 G2 urothelial carcinoma on anatomopathological examination. A second look realized one month later, showed a multifocal recurrence graded pt2 in anatomopathology. In front of a negative extension assessment, the patient benefited from a radical cysto-prostatectomy with bilateral ilio-obturator scouring and Briker-type urinary diversion. The definitive anatomopathological examination was in favor of a high-grade urothelial carcinoma classified pt3 NOMOR0. Two years later, the patient experienced pain in the penis with an induration of the left corpus cavernosum in its proximal part on a normal penile skin and free ganglionic areas. A penile ultrasound scan is performed and shows a fibrosis which gives an induration aspect, completed by a pelvic MRI without abnormality and a thoraco-abdomino-pelvic CT scan without particularity.

In front of the persistence of the induration at the level of the penis, FDG-PET/CT was requested, objectivizing an intense penile pathological hypermetabolism, extended over a length of 73.7mm, small bilateral inguinal ganglion foci, weakly hypermetabolic and a moderate hypermetabolism of the middle 1/3 of the thoracic oesophagus (Figure 1) gastroesophageal endoscopy with multiple biopsies and subsequent anatomopathological studies did not detect histological signs of malignancy. As urethroscopy with biopsy was not possible due to urethral meatus stenosis and a correct operability assessment and a favorable psychiatric opinion, and after multidisciplinary consultation, the patient underwent a penectomy with bilateral orchiectomy (Figure 2). The anatomopathological result was in favor of a moderately differentiated and infiltrating squamous cell carcinoma of the corpus cavernosum pT3R0 with three lesions corresponding to condyloma of low-grade dysplasia. The procedure was completed secondarily by bilateral inguinal scraping, 2N out of 11 positives on the right, without capsular effraction, classified as pN1 (Figure 3, Figure 4, Figure 5). The multidisciplinary

consultation decision in front of this squamous cell carcinoma of the penis classified pT3pN1R0 was a standard surveillance. Six months later, the patient developed multiple nodular, budding lesions on erythematous plaque on the anteromedial side of the right thigh. A biopsy with histological analysis confirmed the dermal metastatic localization of the squamous cell carcinoma (Figure 6). The patient subsequently received cisplatin- 5FU based chemotherapy, which was complicated after the second session by a proximal pulmonary embolism causing the patient's death 16 hours after admission to intensive care.

Discussion

In the literature and according to the Jean-Nicolas Cornu *et al.* series, the average age was 58.8 years [7]. In the Moroccan study by In. Nouri *et al.* the average age was 60.5 years [4]. Our patient's age of discovery is consistent with the average age described in the literature, where incidence increases after the age of 50 [8, 9]. The site of the lesion is usually reported distally involving the prepuce, glans and the balano-preputial fold, unlike in our case where the location was more proximal. The locoregional extension is mainly lymphatic towards the inguinal lymph nodes, which conditions the prognosis [10]. It has been well established that penile squamous cell carcinoma (SCC) can arise from chronic inflammatory conditions as well as infection with human papillomavirus (HPV) [11]. A recent meta-analysis found that 50.8% of penile cancer cases were HPV related and that the predominant oncogenic HPV type was HPV16.7 [12]. In our case, we note the presence of the condylomas in anatomopathological analysis. Another contributing factor is Bowen's disease, which appears in the same age group. It corresponds to squamous cell carcinoma in situ, with a risk of progression to invasive squamous cell carcinoma in the absence of treatment [13]. According to the Cancer Research Committee of the French Association of Urology (CCAFU), there is no recommendation that determines the indication

between radiological tests, such as ultrasound, CT scan of the abdomen and pelvis, and MRI. The 18F-FDG-PET/CT may be useful in patients with SCCP and metastatic inguinal nodes, to assess the response to chemotherapy and in the rare cases of cutaneous metastases to detect other unsuspected metastases [14]. Unresolved controversies about which imaging procedures should be included in the diagnosis and staging of the SCCP. The European Association of Urology (EAU) recommends MRI with pharmacologically induced erection by injection into the corpora cavernosa of 10 mg of prostaglandin E1 2 in order to determine the local extent of the tumor. In our case, the patient has a history of radical cysto-prostatectomy for a bladder tumor infiltrating the muscle, which influenced the choice of complementary tests. First of all, the patient benefited from an ultrasound of the penis which only showed induration and a thoraco-abdomino-pelvic CT scan with no particularities, followed by an inconclusive penile and pelvic MRI scan. This led us to perform a positron emission tomography (PET) scan of the fluorodeoxyglucose FDG, which objectifies a pathological penile hypermetabolism and bilateral inguinal ganglion foci.

The therapeutic model according to the recommendations of the Cancer Research Committee of the French Association of Urology (CCAFU) is the most followed in the literature. It is made in adequacy with the clinical presentation, the lymph node status and the local-regional and remote extension. Inguinal lymph node dissection (ILND) occupies a central role in the management of non-metastatic penile cancer [15,16], and is used either for diagnostic or therapeutic purposes [17,18]. The National Comprehensive Cancer Network and the European Association of Urology guidelines recommend ILND or dynamic sentinel lymph node excision in patients with squamous cell carcinoma of the penis (SCCP) starting from high-grade T1 stage and beyond [18]. Our patient underwent a penectomy with bilateral orchiectomy initially, followed by bilateral inguinal excision and was classified as pT3pN1M0R0 and placed under surveillance. The skin metastases of

SCCP, regional as well as distant, are rare, have a poor prognosis and are often associated with metastases to other organs [10,11]. Of the 111 cases of cutaneous metastases secondary to neoplasms of the genitourinary system collected in the review work of Mueller *et al.* [19], only one case of penile carcinoma is included. The visceral malignancies that most frequently lead to cutaneous metastases arise from breast, lung, colon and ovarian cancer in women, while in man they correspond to colon and head and neck. According to the study of Rieken *et al.* [6], a shorter time from surgery to recurrence would be associated with a shorter time from recurrence to death. Data from 314 patients from centers treated between 1949 and 2012, median time from surgery to disease recurrence was 10.5 months, 108 patients died of SCCP and 41 patients died of causes other than SCCP. The 1-year risk of death from cancer was 20% for patients who recurred at 1 year. The time from surgery to disease recurrence is an independent predictor of cancer specific mortality CSM in patients with SCCP recurrence. The probability of cancer specific death was significantly higher in patients recurring at the first year after surgery compared with patients recurring at 3 and 5 year. The early occurrence of distant recurrences, which are associated with a poor prognosis [20]. Subsequently, our patient developed a skin metastasis 6 months after penectomy and was referred for chemotherapy and died shortly after the second session.

Conclusion

Squamous cell carcinoma of the penis is a rare male malignancy and has a heterogeneous presentation, which explain the lack of systematized coverage. Node metastasis is associated with a severe prognosis and recurrence after penectomy is associated with a high risk of mortality. The skin metastases of SCCP, regional as well as distant, are rare, have a poor prognosis and are often associated with metastases to other organs.

Competing interests

The authors declare no competing interests.

Authors' contributions

All the authors have read and agreed to the final manuscript.

Figures

Figure 1: exploration 18F-FDG PET/CT showing: intense pathological hypermetabolism of the penis, extended over a length of 73.7mm, moderate hypermetabolism of the middle 1/3 of the thoracic oesophagus and weakly hypermetabolic bilateral inguinal ganglion foci

Figure 2: operative specimen

Figure 3: peroperative images of an inguinal lymph nodes dissection. A) right dissection; B) left dissection

Figure 4: lymph node specimen. A) right dissection; B) left dissection

Figure 5: post-operative image

Figure 6: dermal lesions on the anteromedial side of the right thigh in favor of skin metastasis of squamous cell carcinoma of the penis

References

1. Curado MP, Edwards B, Shin HR, Storm H, Ferlay J, Heanue M *et al.* Cancer incidence in five continents. Lyon, France: International Agency of Research on Cancer Scientific Publications. 2007;9. **Google Scholar**

2. Heideman DA, Waterboer T, Pawlita M, Delis-van Diemen P, Nindl I, Leijte JA *et al.* Human papillomavirus-16 is the predominant type etiologically involved in penile squamous cell carcinoma. *J Clin Oncol.* 2007 Oct 10;25(29): 4550-. **PubMed** | **Google Scholar**
3. Daling JR, Madeleine MM, Johnson LG, Schwartz SM, Shera KA, Wurscher MA *et al.* Penile cancer: Importance of circumcision, human papillomavirus and smoking in situ and invasive disease. *Int J Cancer.* 2005 Sep 10;116(4): 606-16. **PubMed** | **Google Scholar**
4. Nouri A, Elkarni H, El Yacoubi S, Karmouni T, El Kahder K Koutani V *et al.* Cancer du pénis : à propos de 06 cas avec revue de la littérature. *African Journal of Urology.* 2012;18: 66-70. **Google Scholar**
5. Cornu JN, Comperat E, Renard-Penna R, Misrai V, Bitker MO, Haertig A *et al.* Can a standard treatment be proposed for penile cancer? *Prog Urol.* 2007;17(7): 1347-1350. **PubMed** | **Google Scholar**
6. Malte Rieken, Rosa S, Djajadiningrat CY, Luis A, Kluth Ricardo L Favaretto *et al.* Predictors of cancer-specific mortality after disease recurrence. *European Association of Urology.* 2014;4. **Google Scholar**
7. Avances C, Iborra F, Bastide C. Rappels anatomiques du pénis. *Prog Urol.* 2005;15(4 Suppl 2): 799-800. **Google Scholar**
8. Mottet. Epidémiologie du cancer du pénis. *Prog Urol.* 2003;135: 1237.
9. Daling JR, Madeleine MM, Johnson LG, Schwartz SM, Shera KA, Wurscher MA *et al.* Penile cancer: importance of circumcision, human papilloma virus and smoking in situ and invasive disease. *Int J Cancer.* 2005;116(4): 606-616. **PubMed** | **Google Scholar**
10. Avances C, Iborra F, Rocher L, Mottet N. Recommandations diagnostiques des tumeurs malignes du pénis. *Prog Urol.* 2005;15(4): 810-816. **Google Scholar**
11. Eich ML, Del Carmen Rodriguez Pena M, Schwartz L, Granada CP, Rais-Bahrami S, Giannico G *et al.* Morphology, p16, HPV, and outcomes in squamous cell carcinoma of the penis: a multi-institutional study. *Human Pathology.* 2020 Feb;96: 79-86. **PubMed** | **Google Scholar**
12. Olesen TB, Sand FL, Rasmussen CL, Albieri V, Toft BG, Norrild B *et al.* Prevalence of human papillomavirus DNA and p16(INK4a) in penile cancer and penile intraepithelial neoplasia: a systematic review and meta-analysis. *Lancet Oncol.* 2019;20(1): 145-158. **PubMed** | **Google Scholar**
13. Bastide C, Iborra F, Mottet N, Davin JL. Suivi des tumeurs malignes du pénis. Recommandations du comité de cancérologie de l'association française d'urologie. *Prog Urol.* 2005;15(4): 596-597. **Google Scholar**
14. Banzo J, Ubieto MA, Andrésb A, Tardínb L, Rambaldeb EF, Cancerb LF *et al.* The contribution of 18F-FDG PET/CT in a patient with cutaneous metastases of squamous cell carcinoma of the penis. *Rev Esp Med Nucl Imagen Mol.* 2014;33(5): 293-5. **PubMed** | **Google Scholar**
15. Da Costa WH, Rosa de Oliveira RA, Santana TB, Benigno BS, da Cunha IW, de Cássio Zequi S *et al.* Prognostic factors in patients with penile carcinoma and inguinal lymph node metastasis. *Int J Urol.* 2015 Jul;22(7): 669-73. **PubMed** | **Google Scholar**
16. Lont AP, Horenblas S, Tanis PJ, Gallee MP, van Tinteren H, Nieweg OE. Management of clinically node negative penile carcinoma: improved survival after the introduction of dynamic sentinel node biopsy. *J Urol.* 2003 Sep;170(3): 783-6. **PubMed** | **Google Scholar**

17. Daseler EH, Anson BJ, Reimann AF. Radical excision of the inguinal and iliac lymph glands; a study based upon 450 anatomical dissections and upon supportive clinical observations. *Surg Gynecol Obstet.* 1948 Dec;87(6): 679-94. [PubMed](#) | [Google Scholar](#)
18. NCCN Guidelines. Penile Cancer. 2016. Accessed November 6 2020.
19. Mueller TJ, Wu H, Greenberg RE, Hudes G, Topham N, Lessin SR *et al.* Cutaneous metastases from genitourinary malignancies. *Urology.* 2004 Jun;63(6): 1021-6. [PubMed](#) | [Google Scholar](#)
20. Leijte JAP, Kirrander P, Antonini N, Windahl T, Horenblas S. Recurrence patterns of squamous cell carcinoma of the penis: recommendations for follow-up based on a two-centre analysis of 700 patients. *Eur Urol.* 2008 Jul;54(1): 161-8. [PubMed](#) | [Google Scholar](#)

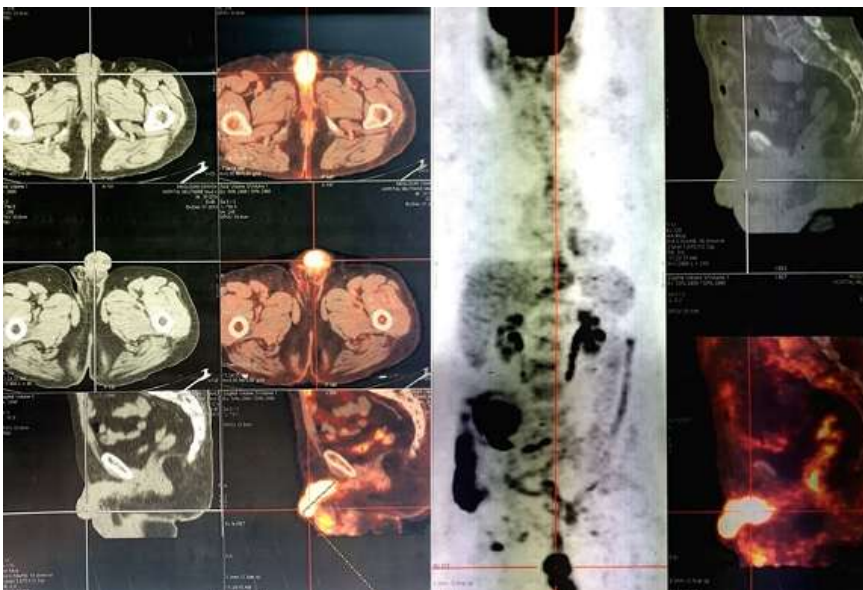


Figure 1: exploration 18F-FDG PET/CT showing: intense pathological hypermetabolism of the penis, extended over a length of 73.7mm, moderate hypermetabolism of the middle 1/3 of the thoracic oesophagus and weakly hypermetabolic bilateral inguinal ganglion foci



Figure 2: operative specimen

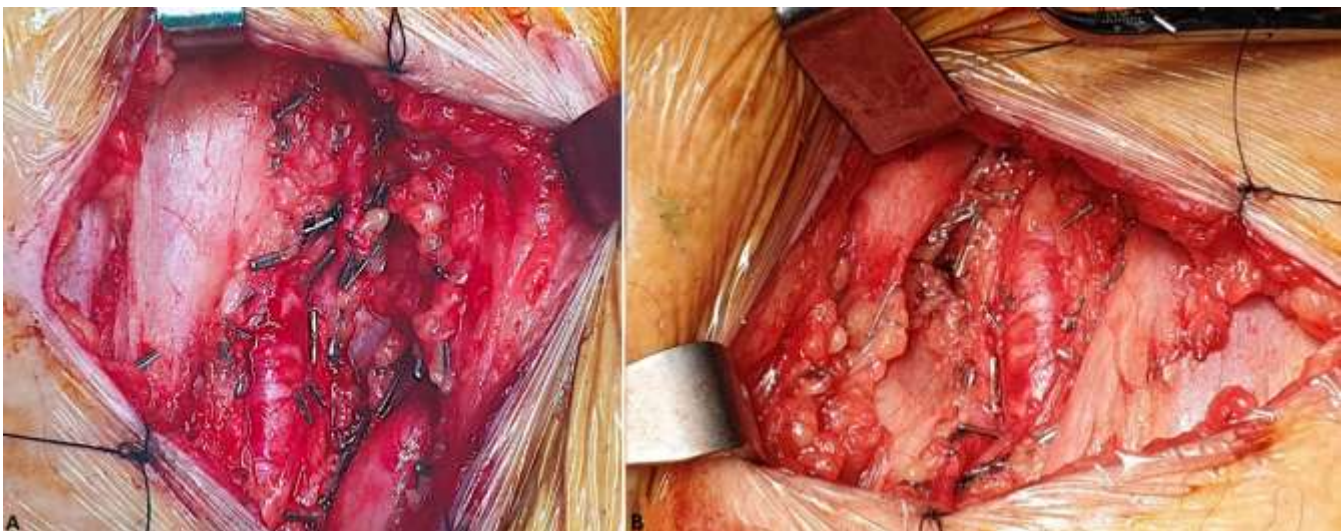


Figure 3: peroperative images of an inguinal lymph nodes dissection. A) right dissection; B) left dissection

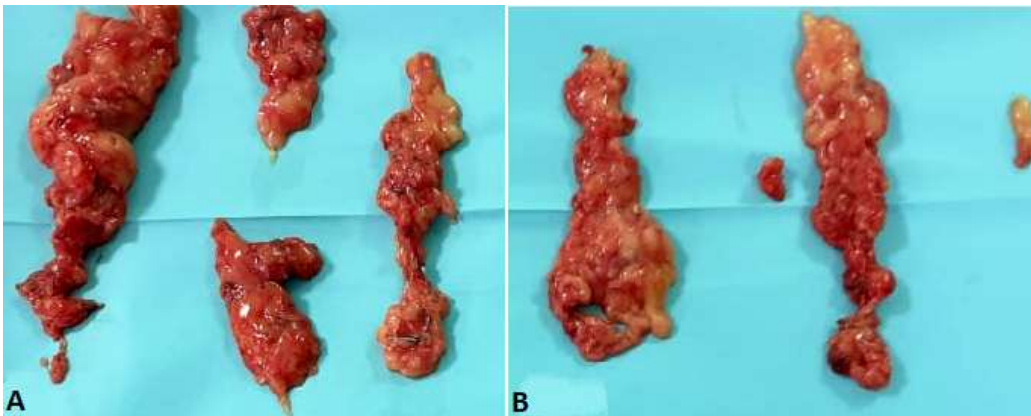


Figure 4: lymph node specimen. A) right dissection; B) left dissection



Figure 5: post-operative image



Figure 6: dermal lesions on the anteromedial side of the right thigh in favor of skin metastasis of squamous cell carcinoma of the penis