

CASE REPORT

## Penile Cancer: A Case Report and a Literature Review

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### 1. Introduction

Penile tumours are known to be the rarest tumours of the male urogenital organ, with a frequency of less than 1% [1]. They account for 0.5% of all male cancers in Europe. However, their incidence is more than 15% in certain regions of Africa, Asia and Brazil [2]. The average age of occurrence is 65 [2], but in recent years these tumours are increasingly observed in younger patients.

Several factors have been incriminated in the oncogenesis of these tumours, including, HPV and chronic bacterial infections [3,4,5,6]. Studies have shown the protective role of circumcision performed only in childhood or before puberty. Beyond this period, circumcision is irrelevant in terms of risk reduction [2,6,7].

The diagnosis is made clinically. Clinical examination is also the first step in the research on the local extension of tumours, but when this becomes difficult, imaging can be used. Squamous cell carcinoma is the most common histological type, with non-squamous tumours being the exception [6,7,8].

The best treatment for localized forms of squamous cell carcinoma is exeresis. In Africa, given the delay in diagnosis due to the negligence of patients, who consider any pathology of the genital organ a taboo, these tumours are a serious concern in the provision of care and treatment, especially the acceptance of a potential emasculation. The care for locally advanced forms of squamous cell carcinoma can imply several

protocols: chemotherapy; radiotherapy, etc., but with very unsatisfactory long-term results [6]. The clinical stage of the tumour, the histological grade and lymph node involvement are determining factors of the prognostic [2,7,9].

#### 1.1 Objective

To report on the anatomic and clinical aspects and the therapeutic challenges in the care and treatment of penile cancer in the urology department of the Cocody Teaching Hospital [CHU de Cocody] through a case report and a literature review.

### 2. Medical Observation

Mr. K.O.Y, a patient aged 44, consulted in March 2022 for a painful budding mass on his penis. According to the patient, he noticed unexpectedly an exophytic mass in the balanopreputial sulcus in 2020, in a patient who had not been circumcised until that time.

After noticing this sign, he consulted a surgeon who performed a posthectomy on him to remove the mass. According to Mr. K.O.Y, the specimen was not examined. More than a year later, he noticed that a small lymph had appeared on the old surgical scar, which had grown in size over time despite taking the medication prescribed by his doctor.

After 6 months of evolution, this budding mass became voluminous, ulcerated, painful and malodorous, associated with a vesper fever. This motivated the patient to consult urology. He had no other history apart from a urethritis at a slightly younger age.

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The clinical examination upon admission of the patient revealed the following:

- Good general condition
- Satisfactory excretion of normal urine
- Ulcerated budding mass with a necrotic fundus, bleeding and very painful on the slightest contact,

covering the distal 2/3 of the ventral side of the penis, highly indurated and with irregular edges.

- Single mobile right inguinal adenopathy of approximately 2 cm in diameter
- No rectal abnormalities

The rest of the examination was normal.



**Figure 1.** Superinfected and ulcerated penile mass covered with a whitish coating.

In the light of these signs, we requested the patient to do a series of blood tests, including a full blood count (FBC), renal function and coagulation tests, which were normal apart from a leucocytosis. The serum tests for HPV subtypes 16 and 18 were not performed, but the HIV test was negative.

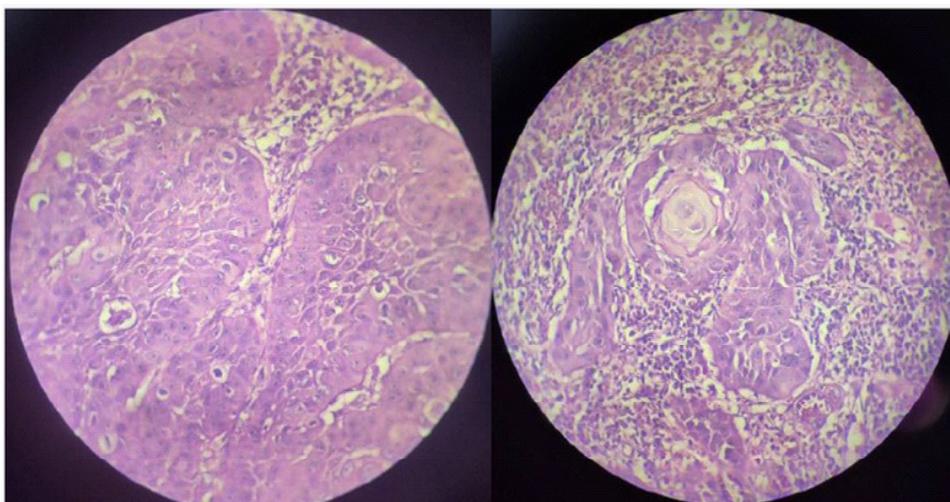
We started the patient on quinolone-based antibiotics for 6 weeks. A biopsy of the lesion under local anaesthetic followed by an anatomic and pathological examination confirmed the diagnosis of a squamous cell carcinoma of the penis. Following this result, and after 6 weeks of antibiotic treatment, the clinical re-assessment to search for local extension was normal.

A local and general extension assessment was requested because of the recurrence of the mass after

the first surgery, including:

- The magnetic resonance imaging (MRI) of the penis: which revealed an ulcerated and budding tissue tumour developed on the prepuce, measuring 78mm in height and 43mm in thickness, invading the corpus cavernosa posteriorly with an evenness from the urethra to the crypt morgani. The testicles are normal in appearance.
- CT Scan: No secondary abdominal, pelvic and thoracic or bone lesions; no adenopathy.

We retained the diagnosis of squamous cell carcinoma of the penis infiltrating the corpora cavernosa without lymph node involvement and classified it as T3N0M0.



**Figure 2.** Carcinomatous proliferation with lobular and nested architecture. Lobules made up of squamous differentiation cells with signs of keratotic maturation of the horned globe type. Mature, well-differentiated squamous cell carcinoma.

As treatment, we recommended a total penile amputation with a perineal urostomy, which the patient accepted.

The postoperative period was marked by a suppuration of the surgical spot, which we treated with daily local treatment and antibiotic therapy.

The anatomic and pathological examination of the total amputated specimen confirmed an invasive squamous cell carcinoma with a vascular and perineural invasion.

No additional treatment was associated with the surgical procedure. The patient was controlled on the 3<sup>rd</sup>, 6<sup>th</sup> and 9<sup>th</sup> month after the surgical procedure and no detectable local recurrence of the mass was observed, giving a follow-up time of 12 months from arrival.

To date, the patient is in good general condition, with normal micturition via a perineal urethrostomy. His psychological state is good, with a good acceptance of the emasculation. We recommended quarterly follow-up.



**Figure 3.** *Surgical specimen after penectomy*



**Figure 4.** *Immediate postoperative appearance. Perineal urinary stoma and ch18 suprapubic catheter*



**Figure 5.** *Suppuration of the surgical spoton Day 21 PO. Appearance of the spot after flattening.*



**Figure 6.** Appearance on Day 60 PO and after removal of the suprapubic catheter.

### 3. Discussion

Penile cancer is rare in Côte d'Ivoire, and account for 0.3% of all male cancers [10]. This incidence is similar to that of Senegal, which reports a rate of 0.97% of adult male cancers and 0.35% of all cancers [11]. In Kenya, a study by Mogaha and Kaal found that penile cancer represents 0.1% of all male cancers [12,13]. Its incidence is higher in Uganda (2.8/100,000) and certain regions of Brazil (between 1.5 and 3.7/100,000) [12,14,15].

Although penile cancer occurs in men between the ages of 50 and 70, it is not uncommon to see younger people affected with the disease. This was the case for our patient, whose disease occurred when he was 41. This early occurrence is reflected in the literature, which reports 19% of cases in patients under 40 and 7% in those under 30 [2,6].

This tumour occurs mainly in uncircumcised subjects due to poor local hygiene [2,6,15]. Many authors have demonstrated the protective role of early circumcision as an improvement of genital hygiene. The low incidence of penile cancer can be seen in geographical regions where neonatal circumcision is commonly practiced [2,5,16].

Our patient was not circumcised until the age of 41, and it was performed in the face of a mass in the balanopreputial groove. This constitutes a risk factor for the occurrence of this cancer in him. This confirms the assumption that circumcision has a protective role only when performed at birth or latest before puberty [5,9]. Wan et al reported 17 cases of penile cancer in late circumcised patients [17]. In Kenya, Magoha et al counted 72.7% of uncircumcised patients in their series [13].

The clinical examination of our patient revealed an ulcerating and budding penile mass with a necrotic fundus located ventrally and covering the distal 2/3

of the ventral side of the penis. This clinical aspect is found in most patients who consult us at an advanced stage of the disease.

This delay in diagnosis could be explained by a misdiagnosis of our patient at the very beginning of his illness by his first attending physician. In general, the delay in the first consultation is due to the fact that in some regions there is still a sense of shame associated with disclosing pathologies affecting men's genital organs, and the primary reliance on traditional medicine.

Our patient's local extension was initially clinical, with invasion of the corpora cavernosa and spongiosa without clinically detectable urethral involvement, and a healthy penile length of less than 1/3 of the total length.

A mobile right inguinal adenopathy was observed during this examination, probably related to the infectious context, for which we started the patient on antibiotic treatment, which resulted in complete remission after 3 weeks. In the case of palpable adenopathy, some authors recommend ultrasound-guided lymph node cytopuncture at consultation. This puncture detects micro-metastases. It is no common practice [7,18].

As a result, a paraclinical extension assessment was deemed necessary, including a penile MRI and a CT scan, the results of which were normal; with no distant metastases or adenopathy. MRI is the most sensitive test for identifying advanced urethral or cavernous extension. This examination can help determine whether conservative surgery is an option [7].

The biopsy of the tumour and the anatomical and pathological examination led to the diagnosis of mature well-differentiated squamous cell carcinoma. This histological type is the majority in all series, thus confirming the data in the literature which classifies

squamous cell carcinoma as the most frequent type of penile cancer [7,9,19]. Other specific forms have been reported in the literature, such as basaloid carcinoma, which affects younger men and is a very aggressive form often linked to HPV; and verrucous carcinoma, which is a lesion with exclusive local malignancy. Melanomas and sarcomas are rare [7]. The coexistence of certain immune deficient pathologies could be a factor in the aggravation of cancer, leading to rapid disease progression [20].

Treatment of penile cancer is essentially surgical. Conservative surgery should be preferred, with systematic circumcision if not already performed [6]. Indications for surgery depend on several factors: tumour size, location, local extension, grade and stage.

Partial amputation may be considered if the remaining penile length is greater than 3cm; in other cases, total amputation or emasculation may be required [2,6].

Our patient underwent total amputation with perineal urethrostomy. This indication was given in the light of the clinical nature of his tumour, which was locally invasive with a remaining penile length of no more than 2cm. To date, the evolution has been marked by complete remission, with no carcinological recurrence.

Excisional surgery is considered the standard treatment. The local relapse rate is estimated at 8% if margins are sufficient [6,19]. Diallo AB et al, in their series, reported 4 cases of excisional surgery out of 6 diagnosed patients, with survival over the first 12 months of surveillance without local recurrence [21].

The care and treatment of lymph nodes is a major survival factor. In the case of micro-metastatic disease, ipsilateral lymph node dissection should be performed. In the case of multiple or fixed lymph node involvement, neoadjuvant chemotherapy may be proposed [6,7].

#### 4. Conclusion

Although penile cancer is known as a disease for the elderly, it is increasingly seen in younger patients nowadays. Squamous cell carcinoma remains the most common histological type. The disease progresses by lymphatic flow, and the prognosis depends essentially on lymph node involvement. Distant metastases are rare. Treatment is based on surgery, which, although mutilating, gives very good results. The rarity of this tumour means that urologists and oncologists are faced with care and treatment challenges, which can have a negative impact on the patient's prognosis.

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