

Oncology

Penile carcinoma and myiasis: A rare association. Case report and literature review

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ABSTRACT

Penile carcinoma is rare neoplasm in western countries. In development countries can constitute more than 10–20% malignant disease in men. It is usually seen in men with poor standards of penile hygiene. The bot fly (*Dermatobia hominis*) is endemic in certainly regions such as Central and South America. Human infestation at nonendemic areas is difficult to diagnose and the penile localization is rare and makes the diagnosis more difficult. The authors describe a rare case of simultaneous association between penile carcinoma and myiasis treated both surgically.

Introduction

Penile cancer is an uncommon neoplasm in developed countries, corresponding to about 0.4–0.6% of malignancies in men, but can reach up to 10–20% in developing countries.^{1,2}

It preferably affects men non-circumcised and with poor hygiene habits.^{1,2} It usually presents as a flat or ulcerated lesion, friable and preferably located on the glans or the foreskin.² The association with infection by *Dermatobia hominis* (myiasis) and penile carcinoma is extremely rare and to date there are no cases reported in the literature.

Dermatobia hominis causes a parasitic condition that is endemic in tropical regions of Central and Latin America. Humans and domestic animals living in rural areas are most affected. It rarely affects the genitourinary tract.^{3,4,5}

The authors aim to report the case of a 73-year-old patient, living in an urban area that was diagnosed with epidermoid carcinoma of the penis concomitant to cutaneous *Dermatobia hominis* (myiasis).

Case report

Patient 73 years old, born in São Paulo. He reported an ulcerated

lesion on the penis for eight months with progression in size during the period and also local pain and left inguinal nodulation. The main comorbidities were diabetes mellitus, hypertension, varicose ulcers in both lower limbs and obesity. There was no family history of neoplastic disease. The patient underwent incisional biopsy of the penile lesion. The diagnosis was invasive squamous cell carcinoma. Fig. 1.

After chest X-ray and computed tomography of the abdomen and pelvis, he was clinically staged as Ect2cN2M0. The proposal was partial amputation of the penis. While the patient waited to be called for surgery, he presented himself at the emergency room, with local bleeding and larvae emerging from the lesion. On the same date, he underwent treatment of penile squamous cell carcinoma and myiasis through partial penectomy. Fig. 2.

The anatomopathological report showed a squamous cell carcinoma of 6.0 × 4.4 × 3.3 cm, moderately differentiated infiltrating the glans, foreskin and balanopreputial groove. Absence of infiltration of the cavernous and spongy body. There were free surgical margins. He evolved without dehiscence or infection of the postoperative wound, being discharged on the second postoperative day and receiving an outpatient orientation after antimicrobial treatment with clindamycin for ten days for scheduling bilateral inguinal lymphadenectomy.

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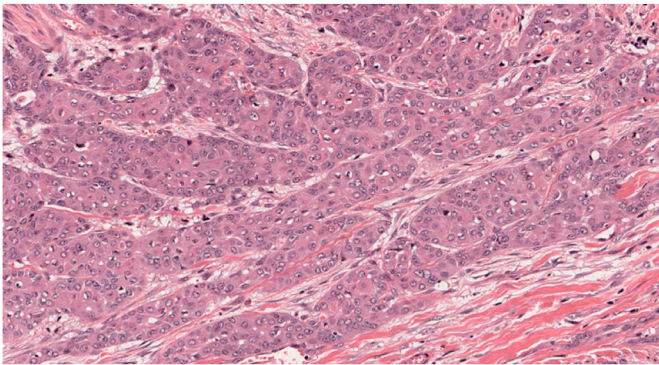


Fig. 1. Squamous cell carcinoma of the penis by hematoxylin eosin.

Discussion

Penile cancer is a rare neoplasm in Europe and the USA, but in some countries like Africa it reaches 11.36% of neoplasms in men. For Brazil, approximately 8.3 cases are estimated for every 100,000 inhabitants.^{1,2}

The variation observed in the incidence of penile carcinoma between countries is attributed to different hygiene habits and religious and cultural customs of each population.^{1,2} Socioeconomic factors are also important in the etiology of penile cancer, since it is more frequent in patients of low socioeconomic status, as a result of the lack of access to the health system and prevention programs.²

Dermatobia hominis (myiasis) occurs predominantly in rural areas and is associated with poor hygienic practices.^{3,4} In urban areas, myiasis infests mainly individuals with poor personal hygiene and those in contact with domestic animals. The disease develops after the individual's contact with the fly that lays the eggs close to the skin.³⁻⁵

The vector, in contact with the host's skin, injects the larva that causes an inflammatory reaction in the dermis and subcutaneous cell

tissue that grows progressively for up to six to eight weeks, when the larvae reach maturity and emerge from the tissues favoring the clinical diagnosis.³⁻⁵ It is classified according to its location: cutaneous, nasal, ophthalmic, traumatic, intestinal or genitourinary.⁴

The cutaneous form is the main location and the initial clinical manifestation is through a pustule associated with local inflammation and pain.³ In non-endemic areas, the diagnosis is more difficult and is usually mistreated as an abscess or furunculosis.^{3,4}

Penile cancer can also present clinically through a pustule, but the most frequent and early symptom is an ulceration located on the glans or foreskin.^{1,2} The presence of a serous secretion from the tumor is frequent and similar to that produced by myiasis at a later stage of infection. In the presence of a pustule located on the gland or foreskin in a patient from rural and endemic areas, the differential diagnosis between cancer and myiasis should be considered and more rarely, the association between these two entities may be present.

There are several described ways of treating myiasis, although surgical removal of the larvae and the adjacent lesion is the most effective form of treatment.^{3,4} Penile carcinoma is treated surgically and the type of surgery depends on the location of the lesion, size, the possibility of achieving free surgical margins as well as the assessment of regional lymph nodes.^{1,2}

In this case, the proposed therapy was the simultaneous surgical treatment of penile carcinoma and myiasis in an emergency scenario that it consisted of partial amputation of the penis.

Conclusion

Penile carcinoma and myiasis is a rare association. The association should be suspected mainly in patients coming from the rural area, but also in patients from the urban area with low socioeconomic and hygiene levels. Surgery is the main treatment when both pathologies are concomitant.

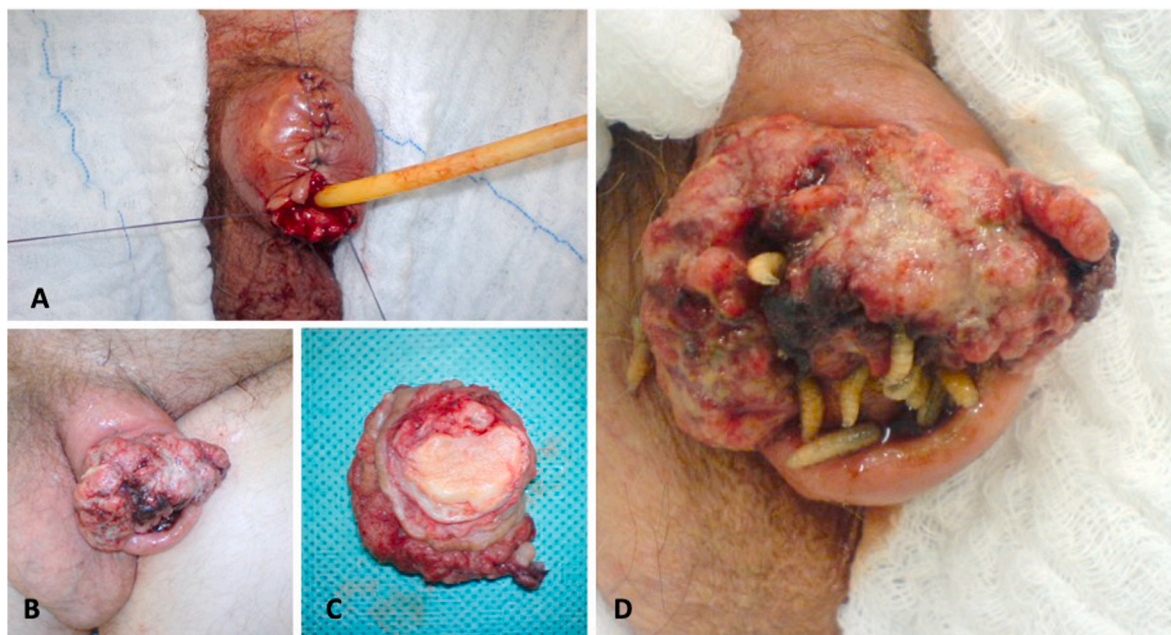


Fig. 2. A – Partial penile amputation. B – Squamous cell carcinoma of penis. C – Specimen product after main surgery of partial penile amputation. D – Myiasis and penile carcinoma.

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