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Clinical case

Primary penile tuberculosis in a young immunocompetent Gabonese patient: a rare clinical presentation

La tuberculose pénienne primaire chez un jeune immunocompétent gabonais : une présentation clinique rare

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Résumé

Introduction : La tuberculose pénienne est une forme très rare de tuberculose génito-urinaire, même dans les pays en développement. Elle est soit primaire, soit secondaire à la tuberculose pulmonaire.

Cas clinique : Nous rapportons le cas d'un patient de sexe masculin, âgé de 23 ans, immunocompétent, sans antécédent médical, qui s'est présenté pour une lésion ulcéreuse indolore du gland de la verge. La biopsie et l'examen histopathologique ont révélé un follicule épithélio-giganto-cellulaire avec nécrose caséeuse, confirmant le diagnostic de tuberculose pénienne. L'évolution a été favorable sous traitement antituberculeux.

Conclusion : Face à une ulcération chronique du pénis, la tuberculose pénienne doit être considérée comme un diagnostic différentiel en zone d'endémie.

Mot-clés : traitement antituberculeux, tuberculose pénienne, tuberculose primaire, Libreville.

Abstract

Introduction: Penile tuberculosis is a very rare form of genitourinary tuberculosis, even in developing countries. It is either primary or secondary to pulmonary tuberculosis.

Clinical case: We report the case of a 23-year-old male patient, immunocompetent, with no previous medical history, who presented with a painless ulcerative lesion of the glans penis. Biopsy and histopathological examination revealed an epithelio-giganto-cellular follicle with caseous necrosis, confirming the diagnosis of penile tuberculosis. The course was favourable under anti-tuberculosis treatment.

Conclusion: When faced with chronic penile ulceration, penile tuberculosis should be considered as a differential diagnosis in endemic areas.

Keywords: anti-tuberculosis treatment, penile tuberculosis, primary tuberculosis, Libreville.

Introduction

Tuberculosis (TB) is a real public health problem in Gabon and other developing countries. It is an infectious disease caused by Mycobacterium tuberculosis, which is predominantly found in the lungs. Urogenital TB

accounts for around 5.3% of extrapulmonary TB, and in men can affect the epididymis and testicles [1] in its genital form. However, penile involvement is an uncommon presentation of TB, even in countries with a high incidence of pulmonary and extrapulmonary TB [2]. We report a case of penile TB in a 23-year-old immunocompetent patient who presented with multiple ulcerative lesions of the penis. Surgical biopsy of the lesions with histological examination confirmed the diagnosis of penile tuberculosis in the presence of an epithelio-giganto-cellular granuloma. We felt that the rarity of this case deserved to be brought to the attention of all practitioners.

Clinical case

A 23-year-old patient from Gabon was admitted to hospital in December 2022 for management of a chronic genital ulceration that had started three months previously. His clinical history included circumcision at the age of 3 and unprotected sexual intercourse with a partner. He had no specific medical or surgical history, apart from a 9-pack/year smoking habit which began at the age of 17. Examination revealed no fever, anorexia, asthenia or weight loss. The initial clinical examination revealed multiple ulcerating and bubbling lesions around the entire circumference of the glans, which were highly infiltrated and painless (Fig. 1). The urethral meatus was narrowed. Induration of the entire glans penis and the distal half of the penis was palpated. No inguinal adenopathy was noted. There was a BCG scar on the anterior aspect of the left forearm. Testicular examination, digital rectal examination and the rest of the somatic examination were unremarkable. Biopsy of the glans, with anatomopathological examination, showed ulcerated acanthosic epidermis (Fig. 2) with no architectural or cytological atypia of viral origin. At the base of the ulcer was a large chronic inflammatory infiltrate containing lymphocytes and necrotic epithelioid and gigantocellular granulomas (Fig.3). The various special stains (Ziehl-Neelsen, PAS, May-Grünwald Giemsa, Gomori-Grocott) were negative. Intradermal tuberculin tests were not performed. Serologies for syphilis, hepatitis B and C, and HIV were negative. Thoracoabdominal CT scan was normal. Ultrasound examination of the penis revealed significant inflammation of the tunica muscularis of the penis. Urine cytobacteriological examination revealed no germ-free leukocyturia. Sputum samples tested negative for Mycobacterium tuberculosis using Xpert MTB/Rif. The diagnosis of penile TB was accepted. Antituberculosis treatment was initiated with a combination of rifampicin (R), isoniazid (H), pyrazinamide (Z) and ethambutol (E), followed by two months of dual therapy with rifampicin and isoniazid (2[RHZE]/4[RH]). The course was marked by complete healing of the glans penis (Fig. 4) after six months of anti- tuberculosis treatment.

Fig. 1 - Ulcerated lesions of the penis

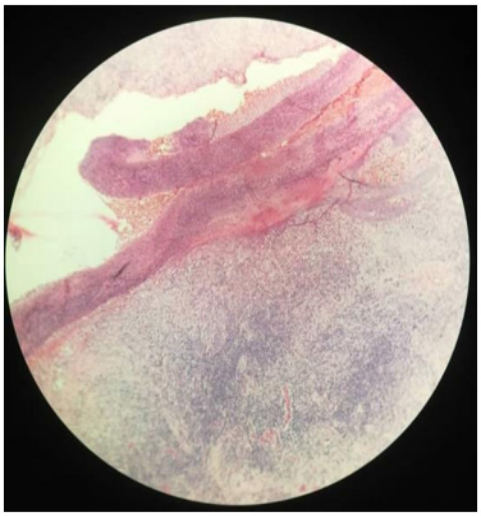

Fig. 2 - Ulcerated epidermis

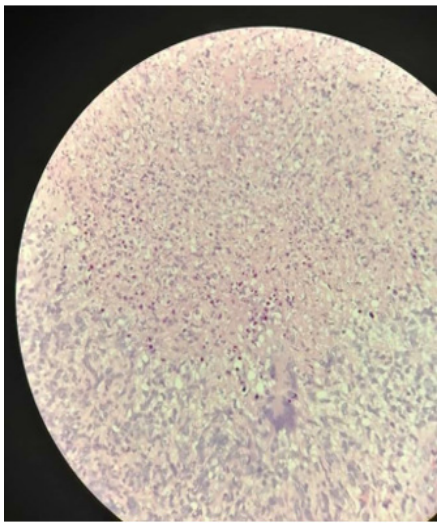

Fig. 3 - Necrotic granuloma with multinucleated giant cell X200

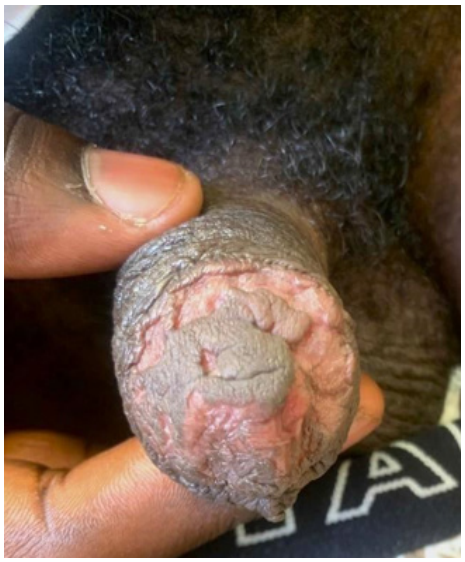

Fig. 4 - Lesions on the glans completely healed after six courses of anti-tuberculosis

Discussion

Penile TB is an uncommon presentation of TB, even in countries with a high incidence of pulmonary and extrapulmonary TB. It is difficult to diagnose even in countries where TB is endemic [3]. This difficulty is partly due to late presentation. Most patients present late for consultation because of the associated stigma, given the site of involvement and hesitation on the part of patients [4]. This was the case with our patient, who consulted more than three months after the onset of symptoms. The clinical spectrum can range from a strictly cutaneous lesion to deeper involvement of the glans and/or corpora cavernosa. These are essentially chronic ulcers whose indurated base may suggest a malignant tumour [5]. The absence of risk factors for cancer of the penis found in the literature [6], i.e. low incidence, average age at onset of 50 years, absence of defective hygiene, phimosis and the presence of circumcision as a protective factor, prevented us from making this diagnosis in our patient. Penile TB in adults can be either primary or secondary; primary, generally contracted either during violent sexual intercourse with female partners with active genital TB, or during ritual circumcision [5, 7], or secondary due to the subsequent complication of TB of the lungs or another part of the urogenital tract extended to the urethra or via the haematogenous route [7]. The patient's history did not reveal any notion of violent sexual intercourse with female partners with active genital TB or active pulmonary TB. This could be due to the spread of *Mycobacterium tuberculosis* by haematogenous transmission, which remained quiescent in macrophages following BCG vaccination in childhood. Smoking also increases the risk of extrapulmonary tuberculosis in smokers and ex-smokers [8]. Tobacco smoke promotes infection with *Mycobacterium tuberculosis* by several mechanisms: reduced performance of alveolar macrophages, immunosuppression of pulmonary lymphocytes, reduced cytotoxic activity of *natural killer* cells, altered activity of pulmonary dendritic cells [8, 9]. The gold standard for diagnosis remains a wedge-shaped biopsy of the lesion with mycobacterial cultures.

Multidrug anti-tuberculosis therapy produces a good clinical response and rarely leads to drug resistance [10]. It is important to screen and examine the partner for similar vulvar lesions, which should be treated simultaneously to avoid reinfection.

Conclusion

The low incidence of penile tuberculosis is an obstacle to the publication of large series of patients, enabling the diagnostic approach to be properly codified. The diagnostic approach is based on a range of clinical arguments, but skin biopsy must be performed systematically to confirm penile tuberculosis and rule out a malignant tumour of the penis, the surgical sanction for which speaks for itself.

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