



Inflammation and infection

Atypical tuberculous orchiepididymitis resulting from migratory pottic abscesses: Specific to a case

Diangienda Kuntima Diasiama Pablo^{a,*}, Joseph Mbuyi^a, Dieudonné Moningo Molamba^a,
Matthieu Loposso Nkumu^a, Joseph Kangudia Mbaya^{b,c}

^a Department of Urology, Faculty of Medicine, University of Kinshasa, Kinshasa, Democratic Republic of the Congo

^b Department of Basic Sciences, Faculty of Medicine, University of Kinshasa, Democratic Republic of the Congo

^c Presidential Clinic of African Union, Kinshasa, Democratic Republic of the Congo

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ABSTRACT

The authors report the case of tuberculous spondylodiscitis with unusual clinical and paraclinical features, in a healthy young boy of 16 year old with persistent and complicated left orchiepididymitis despite a well-conducted treatment. The diagnosis was delayed for several months and the evolution was favorable after etiological treatment.

1. Introduction

Tuberculosis is still a frequent and severe infectious disease according to the World Health Organization. Approximately one third of the world population is infected by *Mycobacterium tuberculosis*.¹ The prevalence of this infection is globally stable, but increases in countries with a high prevalence of human immunodeficiency virus infection.¹

Extra-pulmonary tuberculosis represents between 20 and 25 % of tuberculosis cases. It is defined as an infection involving tissues and organs other than the pulmonary parenchyma, resulting from hematogenous and lymphatic dissemination.² Skeletal tuberculosis (Pott's disease) is responsible for 10–35 % of extra-pulmonary cases and urogenital tuberculosis for 14–41 % of extra-pulmonary cases.³ Extra-pulmonary tuberculosis (Pott's disease or urogenital) frequently presents a subacute course which is associated with delayed diagnosis and devastating consequences.³

Renal, epididymal and bladder damage are the most frequent forms of urogenital tuberculosis.¹ They are very frequently bacillary pauci tuberculosis. Thus, in practice, their diagnosis is often based on some arguments combining different imaging (uroscan, pelvic ultrasound, magnetic resonance imaging (MRI) and invasive explorations for histological and bacteriological samples.

The treatment of tuberculosis remains medicinal and comprises a quadruple therapy with rifampicin, isoniazid, ethambutol and pyrazinamide, then a dual therapy with rifampicin and isoniazid for a total

duration of six months. Surgery is necessary only for sequel lesions' reparation.⁴

The article aimed to report an unusual case of left orchiepididymitis caused by a migratory pottic abscess of a severe and delayed diagnosis.

2. Patient and observation

We report the case of a 16 years male patient who is a student admitted for pain in the left hemi scrotum that had been evolving about three weeks previously. This patient followed regularly anti-tuberculosis vaccination schedule and there was no medical history of tuberculosis contamination. On admission, he presented with slight painful swelling of the left epididymis and testicle. Urine culture isolated *E. coli* and the patient was treated by antibiotics. Three months later, he developed a left epididymal mass which was resected at another hospital. The post-operative course was marked by the occurrence of a purulent fistula through the operative wound and fever despite the antibiotic treatment correctly conducted for more than 3 months.

The control test of mycobacterium tuberculosis was normal (Intra dermo-tuberculin reaction (IDRT) at 6 mm, negative anti-HIV serology, normal GeneXpert, culture of pus in ordinary medium and Lowenstein was sterile). Inflammatory test was normal within limits (sedimentation rate at 40 mm/H) and a normal scrotal ultrasound. We suspected septic necrosis of the left testicle and the surgical exploration was performed revealing a viable left testicle. We cleaned correctly the left scrotal

* Corresponding author. Department of Urology, University Hospital of Kinshasa Faculty of Medicine, University of Kinshasa, B.P. 123, Kinshasa XI, Democratic Republic of the Congo.

E-mail address: pablodiang@gmail.com (D.K.D. Pablo).

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Fig. 1. Sutured scrotal wound and fistulas.

vaginal with saline serum and we let a lamellar drain. The evolution was marked by the persistence of purulent secretions through the operative wound (Fig. 1) 24 hours after exploration. We then suspected Pott's disease with migratory abscesses. The abdominal CT scan performed showed images of spondylitis affecting the eleventh, twelfth thoracic vertebrae and the first lumbar vertebra with paravertebral spindles, abscessed iliopsoas myositis and right hydronephrosis of grade 2 (Fig. 2). Patient then followed antituberculosis treatment and there was no fever two weeks later. The issue was marked by the stoppage of the fistula and significant absorption of the abscesses on the early control CT scan.

3. Discussion

Testicular or epididymal tuberculosis is one of the most common forms of extra-pulmonary tuberculosis.^{1,5} Overall, urogenital tuberculosis is the second most frequent form of extra-pulmonary tuberculosis after lymph node tuberculosis about 27 % of extra-pulmonary tuberculosis.⁵ It is very frequently pauci bacillary which delays its diagnosis.^{1,5} This young man was in an acceptable nutritional state, he initially presented a non-specific signs characterized by dull epididymo-testicular pain and the etiological assessment of tuberculosis was negative, making the diagnosis even more difficult. Indeed, there are no specific clinical signs of genital tuberculosis. The feature is often that of a chronic epididymitis,⁵ sometimes an orchi-epididymitis evolving in a context of mild pain except in the case of superinfection. This invariably leads to disease progression and can result in either longer anti-TB treatment or sequelae (including couple infertility).⁵

Diagnosis of tuberculous orchitis or urogenital tuberculosis in general is based on either culture or DNA identification of *Mycobacterium tuberculosis* from the urogenital site. Besides urinalysis, other urogenital secretions can be taken and in some cases biopsy samples are necessary [5]. For this patient the morphology of the testis did not plead for a biopsy sample.

Similar to other urogenital tuberculous disorders, tuberculous orchiepididymitis may result from primary spread in the testis, but it occurs more frequently in the context of disseminated disease through hematogenous, lymphatic or contiguity routes.⁵ It is estimated that 2–20 % of patients with pulmonary tuberculosis have concurrent urogenital tuberculosis³ and that 25–62 % of patients with miliary tuberculosis develop hematogenous spread to the urogenital tract.⁵

This patient presented a particular contamination from a migratory pottic abscess in the left scrotal. Faced with the negativity of all the etiological tests carried out, only radiological explorations of the column (scanner or MRI) could help to make the diagnosis.

Let's notify that Pott's disease, also called tuberculous spondyloditis, is a condition first described in 1779 by Percival Pott. It represents the most common form (50 %) of skeletal tuberculosis, ahead of arthritis and tuberculosis osteomyelitis. Its subacute course is associated with delayed diagnosis and devastating consequences.³ It can cause migratory abscesses that the anatomical sites of its dorsolumbar location are as follows: the space between the bone plane and the anterior vertebral common ligament (giving spindle-shaped images), the pre or under the posterior vertebral common ligament; finally the sheath of the psoas

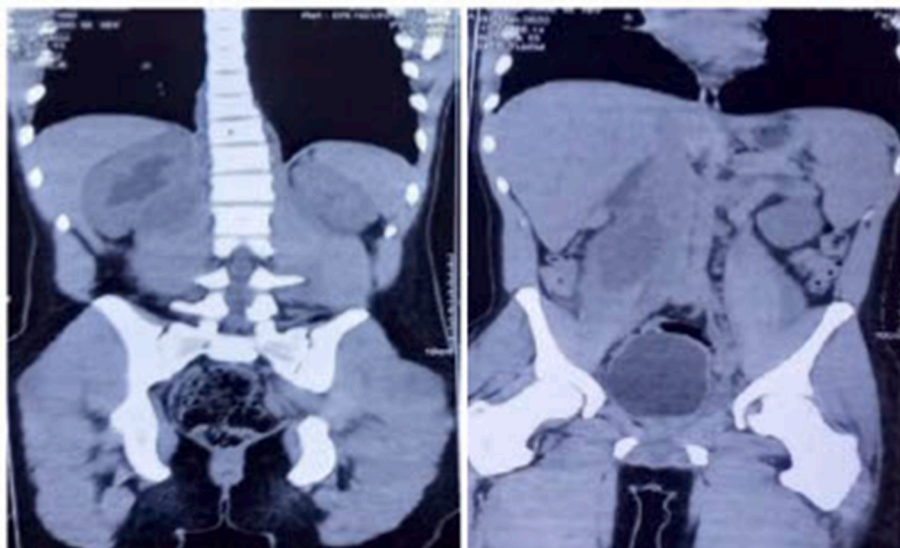


Fig. 2. Hydronephrosis visible on the right and psoas abscess.

with passage in the femoral trigon or exceptionally towards the large gluteus and the roots of the cauda equina.

The treatment of epididymo-testicular tuberculosis or that of tuberculosis in general remains medical. He uses certain drugs including rifampicin, isoniazid, pyrazinamide and ethambutol for 2 months. This treatment is followed by four months of reduced treatment comprising only rifampicin and isoniazid, with the aim of eliminating “dormant” intracellular bacilli.² The duration of treatment can be extended beyond 6 months in case of resistance, intolerance or poor compliance.⁷ Surgery is considered only for the repair of persistent sequelae after medical treatment.

In view of this clinical case, we will not hesitate to carry out a CT scan to look for possible Pott’s disease in a case of orchiepididymitis which does not respond to medically correctly conducted treatment, in the absence of any other cause that can maintain this infection such as lower obstructive uropathy, even if the *Mycobacterium tuberculosis* test is negative. This reflection is valid for any urologist regardless of their working environment because of globalization which involves permanent contact between people and the constant increase in international travel.

4. Conclusion

The diagnosis of tuberculous orchiepididymitis is often delayed by the absence of typical symptoms and the negativity of etiological tests. It can in some exceptional cases be secondary to a migratory pottic abscess, justifying the interest of medical imaging in the etiological development.

CRedit authorship contribution statement

Diangienda Kuntima Diasiama Pablo: Writing – review & editing. **Joseph Mbuyi:** Writing – original draft. **Dieudonné Moningo Molamba:** Validation. **Mathieu Loposso Nkumu:** Visualization. **Joseph Kangudia Mbaya:** Validation.

Declaration of competing interest

The authors declare that there is no conflict of interest.

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References

1. Koutlidis N, Fillion A, Michel F. Urogenital tuberculosis. *EMC Urol.* 2009;2(2):1–11.
2. World Health Organization. *Treatment of Tuberculosis: Guidelines.* fourth ed. Switzerland: World Health Organization; 2010.
3. Almeida Pintor Inês, Pereira Flavio, Cavadas Susana, Lopes Pedro. Pott’s disease (tuberculous spondylitis). *Int J Mycobacteriol.* 2022;11(1):113–115.
4. Fillion A, Koutlidis N, Froissart A, Fantin B. Diagnostic and therapeutic management of urogenital tuberculosis. *Rev Med Internal.* 2014;35(12):808–814.
5. Chandran Shruthi, Rahman Ananna, Norris Joseph M, Tiberi Simon, Kunst Heinke. Diagnostic pitfalls of urogenital tuberculosis. *Trop Med Int Health.* 2021;26(7):753–759.
6. World Health Organisation. *Global Tuberculosis Report*; 2020. Available from: https://www.who.int/docs/defaultsource/documents/tuberculosis/execsumm-11nov2020.pdf?sfvrsn=e1d925f_4. Accessed November 16, 2020.
7. Watfa Jad, Michel Frédéric. Urogenital tuberculosis. *Prog Urol.* 2005;15:602–603.