



Inflammation and infection

Periurethral abscess in corpus spongiosum caused by urinary tract infection: A case report and review of literature

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ABSTRACT

Penile abscesses are rare and mainly interest the corpora cavernosa or soft tissue of the external genitalia, while involvement of the corpus spongiosum is unusual, with only a few cases published in the literature.

We report the case of an abscess of the corpus spongiosum secondary to a documented urinary tract infection in a young immunocompetent patient with no particular pathological history. To our knowledge this is the first case reported in this context.

1. Introduction

Corpus spongiosum abscesses are a rare condition,¹ there are only a few cases reported in the literature.

We report a case of a young patient with a corpus spongiosum abscess in relation to a documented Enterococcus urinary tract infection UTI.

The possible etiology, diagnosis and treatment of this uncommon situation are briefly discussed.

2. Case presentation

A 42-year-old circumcised man with two children presented to the urology department with a 20-day history of a painful mass in the proximal part of the penis associated with dysuria and painful burning sensation during micturition.

The patient did not report any history of sexually transmitted disease, trauma, urethral manipulation or cavernous injection.

The patient was afebrile, physical examination revealed a fluctuant, sensitive, slightly tender penile mass at the penoscrotal angle, with no inflammatory signs (Fig. 1), while the testicular and epididymal, digital rectal examinations were normal. No dyspnea or a cough or other complaints.

Laboratory examination revealed WBC of 10 000/mm³, CRP of 80 mg/L, other blood investigations were all within their normal range, cytobacteriological examination of urine showed 1600/mm³

leukocytes, 1600000/ml erythrocytes, and the culture identified an Enterococcus spp 10⁶ CFU/L sensitive only to Quinolones.

Ultrasound revealed a hypochoic area measuring 2.5 cm × 1.5 cm × 2 cm in the corpus spongiosum.

T1- and T2-weighted MRI sequences of the penis showed a 2.2 cm mass at the level of the penoscrotal junction resting on the urethra without its effraction (Fig. 2).

The patient was started on broad-spectrum antibiotics (Levofloxacin). Drainage by percutaneous ultrasound-guided aspiration was performed and the pus was drained.

The evolution was favorable with improvement of urinary symptoms and complete disappearance of the mass (Fig. 3).

3. Discussion

The penis consists of three cylindrical bodies covered with endothelium: two cavernous bodies, dorsolateral, and the single, ventral and medial corpus spongiosum, this one extending from the bulb at the perineum to the glans in front. The tunica albuginea surrounds both the corpora cavernosa and the corpus spongiosum. Buck's fascia surrounds the corpora cavernosa and separates them from the corpus spongiosum.¹

Abscesses of the penis are exceptional, mostly involving the corpora cavernosa or soft tissue, while abscesses of the corpus spongiosum are rare with a few cases published in the literature.

The causes of penile abscesses - all locations combined - are variable in relation with penile trauma, injection or disseminated infection, as

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Fig. 1. Image showing a mass at the peno-scrotal junction.



Fig. 2. Sagittal section of MRI showing the location and anatomical relationships of the abscess

A: T1 Weighted sequence, B: T2 Weighted sequence.

they can be spontaneous.

The theories explaining corpus spongiosum abscedation can be related to its contamination by contiguity after urethritis due to sexually transmitted bacterial infections,² Sakai and al. also reported a case of mycotic infection caused by *Candida glabrata* after urethral dilatation,³ while Kubota and al. published a case of polymicrobial infection



Fig. 3. Image showing the result after ultrasound guided drainage.

recontracted after extension of rectal cancer.⁴

To our knowledge, this is the first report of abscess of corpus spongiosum caused by urinary tract infection.

Clinical suspicion of a penile abscess based on inspection of a painful local mass with inflammatory signs on biological examination, the diagnosis can then be confirmed by ultrasound, computed tomography (CT) or magnetic resonance imaging (MRI) [5].

In the absence of a therapeutic standard given the rarity of this pathology, taking as reference the management of abscessed collections of the external genitalia, the treatment must combine two aspects:

- The first one involves evacuation of the abscess, several techniques have been described such as open surgical drainage which can be complicated by penile curvature, erectile dysfunction, and less invasive interventional techniques by direct or ultrasound guided aspiration of the collection.¹
- The second aspect is a broad-spectrum antibiotic therapy such as piperacillin-tazobactam or amoxicillin-clavulanic acid, which will be adapted according to the antibiogram.⁵

In our case of a urinary tract infection with enterococcus sensitive only to quinolones, levofloxacin has chosen for its good urinary and tissue diffusion.

Follow-up must be rigorous because of the risk of abscess recurrence, in our case the healing was complete without any particular complication.

4. Conclusion

Given the lack of data in the literature on corpus spongiosum abscesses, the diagnostic and therapeutic management remains uncodified, which presents a challenge for the urologist in the face of this unusual situation, while considering its psychological repercussions due to the particularity of this anatomical region.

Author contribution

All authors have contributed to this work and have read and approved the final version of the manuscript.

Declaration of competing interest

The authors declare no conflict of interest.

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