

Inflammation and infection

Sepsis secondary to Cowper's gland abscess

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ARTICLE INFO

Article history:

Received 3 September 2017

Accepted 11 September 2017

Keywords:

Cowper's gland abscess

Bulbo-urethral gland infection

Transperineal ultrasound

1. Introduction

The bulbourethral or Cowper's glands originate as evaginations of the epithelium that cover the urogenital sinus and contribute about 0.1–0.2 ml of the ejaculate; their secretion neutralizes urine in addition to lubricating the urethra prior to ejaculation. Cowperitis^{1,2} is an inflammation of the gland which can be either chronic or acute; acute Cowperitis presents as fever, malaise and severe pain in the perineum with frequency, urgency, painful defecation and sometime acute urinary retention. We report, for the first time to our knowledge, a case of Cowper's gland abscess complicated by sepsis.

2. Case presentation

A caucasian man 63 years old was admitted to our hospital for the presence of fever (40 °C), strangury, pollakiuria and pain in the perineum. The patient previously for the same symptoms underwent three cycles of antibiotic therapy: firstly, ciprofloxacin 1000 mg (1 oral tablet die for 25 days); secondly, gentamicin 80 mg (1 intramuscular injection twice die for 7 days) and, finally, clarithromycin 500 mg (1 oral tablet twice die for 10 days). In fact, the urine culture had showed an *Escherichia Coli* infection (1,000,000 colonies/ml) and *Chlamydia trachomatis* was found in the urethral swab (presence of abnormal and copious urethral secretum). The

patient, about 5 years before, underwent transurethral prostate resection for benign prostate hyperplasia plus to sets of transperineal prostate biopsy for elevated serum PSA (prostate specific antigen) values (specimen was negative for prostate cancer). At admission, routine blood exams, PSA (2.4 ng/ml), kidney and bladder ultrasound were normal (absence of post-void urinary residual); urological examination was characterized by normal prostate, penis and testicular parameters with pain and skin redness in correspondence of the perineum. The transrectal and perineal ultrasound detected an ipochoich mass suggestive for Cowper's gland abscess (Fig. 1 a and b) in the absence of syringocele; these data were showed also by pelvic Magnetic Resonance Imaging. Emoculture found the presence of *Escherichia Coli* and the patient underwent antibiotic therapy following antibiogram results (intravenous meropenem plus colistin administration) for 14 day; 7 days from the end of therapy and in the absence of urinary symptoms the patient underwent³ blood culture (negative) and urine culture (negative) and was discharged from the hospital. After 15 days the patient was admitted again to our department for the same symptoms; moreover, the patient showed in the urine long fiber of mucus (Fig. 2). In addition to the presence of Cowper's gland abscess, the transperineal ultrasound, during urethral echography (saline solution injected through the urethra) showed in the spongiosum corpus a large and ipochoich zone secondary to a fistula between Cowper's gland and the urethra (Fig. 3). The patient underwent transperineal ultrasound-guided aspiration of Cowper's abscess and its antimicrobial examination revealed the presence of *Pseudomonas Aeruginosa* sensitive to ciprofloxacin. A sovrapubic cateter was positioned and antibiotic therapy (ciprofloxacin 1000 oral tablet) was administrated for 4 weeks. The patient became asymptomatic 10 day from the beginning of antibiotic therapy and the ultrasound patterns of Cowper's gland progressively improved. Finally, after one month, the sovrapubic cateter was removed, urine plus seminal fluid culture were negative and the patient became definitively asymptomatic.

3. Discussion

Acute Cowperitis has been rarely reported^{1,2} but it should be considered in any male presenting with long persistent irritative or obstructive symptoms following many cycles of antibiotic therapy when no other explanation is found. A chronic bacterial infection is

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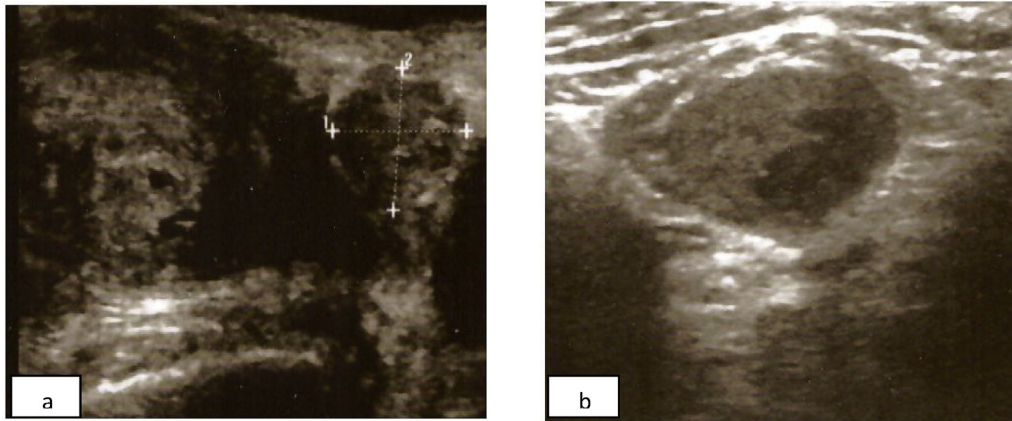


Fig. 1. Transrectal ultrasound: abscess of Cowper's gland (mass surrounded by calipers) (1a). Transperineal ultrasound: ipoechoic mass suggestive for Cowper's gland abscess (1b).

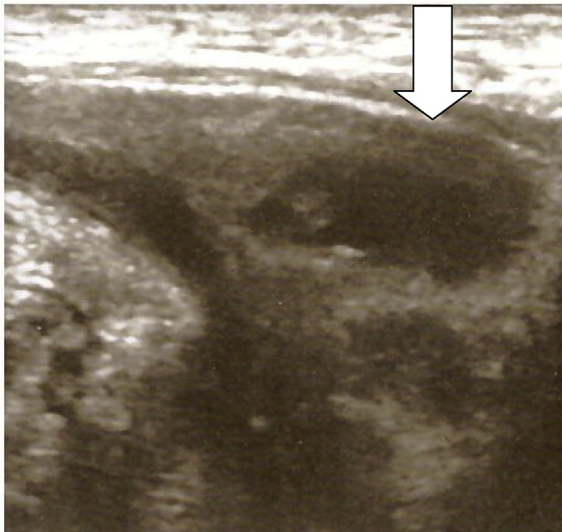


Fig. 2. Transperineal ultrasound during ureteral echography (saline solution injected through the urethra). In the correspondence of the spongiosum corpus is clearly showed a large ipoechoic zone (arrow) secondary to a fistula between Cowper's gland and urethra.

sometimes associated with an underlying defect (i.e. syringocele)³ in Cowper's gland, which becomes a focal point for bacterial persistence in the urinary tract. Infections are usually caused by the same organisms that cause urinary tract infections including the urea-splitting organisms (*Escherichia Coli*, *Neisseria gonorrhoea* and *Chlamydia Trachomatis*). The treatment is an appropriate antibiotic, but in cases of an abscess formation, direct aspiration is the most efficacious procedure; when underestimated, acute Cowperitis could induce perineal fistulisation.⁴ In our case, the infection was subordinated to more microbacterial agents (*Escherichia Coli*, *Chlamydia Trachomatis*, and, finally, *Pseudomonas Aeruginosa*) those induced sepsis. The presence of urethral secretion and/or urinary long fiber of mucus should be considered suspicious of severe Cowper's gland infection/abscess; in fact, in our case, the abscess was complicated by a fistula between Cowper's gland and the corpus spongiosum of the urethra that was capable of the persistence of the symptoms. The specific antibiotic therapy combined with the placement of a suprapubic catheter for 4 weeks allowed the restitutio ad integrum of the Cowper's gland and

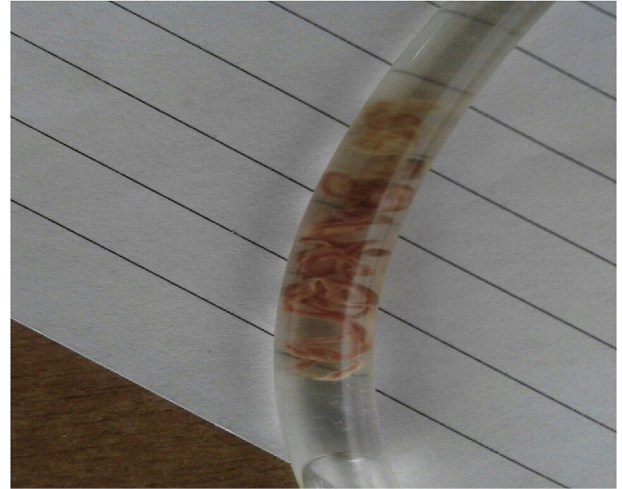


Fig. 3. Long fiber of mucus detected in the urine (suprapubic catheter) suggestive of Cowper's gland abscess.

urethral corpus spongiosum.

4. Conclusion

Acute infection or abscess of Cowper's gland should be supposed in men presenting with persistent irritative or obstructive symptoms following many cycles of antibiotic therapy to reduce the potential severe complications (sepsis, fistulisation).

Conflicts of interest

The authors declare that they have no conflicts of interest.

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