CASE REPORT

Abscess originating from osteomyelitis as a cause of lower urinary tract symptoms (LUTS) and acute urinary retention

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SUMMARY

Lower urinary tract symptoms (LUTS) are a common complaint in the general population with great impact on the quality of life. Besides the classical pathologies, there are less common causes that must be considered in the treatment approach for patients with LUTS. We present the case of a 30-year-old patient with multiple emergency department episodes with dysuria, urinary frequency, suprapubic pain and an episode of acute urinary retention. The blood and urine tests only revealed increased systemic inflammatory parameters. The ultrasound examination showed thickening of the bladder wall, and the CT scan revealed a retropericapsular abscess originating from a pubic symphysis osteomyelitis. A percutaneous drainage was performed and, after empirical antibiotic therapy, there was complete resolution of the clinical picture.

BACKGROUND

Lower urinary tract symptoms (LUTS) are a common complaint in the general population with

great impact on the quality of life.^{1 2} There are multiple possible causes for those symptoms and benign prostatic hyperplasia, overactive bladder syndrome, neurogenic bladder, urinary tract infections, urinary stone disease and neoplasms are common in the clinical practice of a urologist.¹⁻⁴ However, other causes must be considered in the approach to a patient with LUTS. Here we present a case of LUTS caused by external compression of the bladder neck by an abscess originating from a pubic symphysis osteomyelitis.

CASE PRESENTATION

We present the case of a 30-year-old healthy male patient, with no known comorbidities, medication or allergies. The patient presented to the emergency department with dysuria, hypogastric and pelvic pain during the previous 3 weeks. There was no report of urinary frequency, nocturia, nausea, vomiting or fever. He had been observed by a urologist 1 week before, who presumed a diagnosis of acute prostatitis and prescribed levofloxacin 500 mg by mouth once a day, without any clinical improvement.

On physical examination, the patient had moderate pain on suprapubic palpation, without acute abdomen or palpable masses. The digital rectal examination revealed a small, non-painful prostate with normal consistency. The external genitalia was normal, and he had no urethral discharge.

INVESTIGATIONS

The blood work revealed C reactive protein (CRP) elevation to 139 mg/L (normal <3 mg/L) and leucocytosis ($14,8 \times 10^9/L$) with neutrophil predominance. The renal function, ionogram and urine dipstick tests were normal. A urine culture was initiated (and posteriorly revealed no bacterial growth).

A pelvic ultrasound showed a small prostate with no evident inflammatory signs and an abnormal thickening of the bladder wall (figure 1).

It was then presumed that the patient had an atypical presentation of urinary tract infection. The patient was prescribed ceftriaxone (1 g intramuscularly once a day for 6 days), levofloxacin (500 mg by mouth once a day for 14 days) and tamsulosin 0.4 mg and then discharged. He was counselled to repeat the ultrasound 2 weeks after the end of the antibiotic treatment to document the resolution of the imagiological findings.

Figure 1 A bladder ultrasound showing bladder wall thickening.

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Figure 2 CT scan showing the abscess originating from the pubic symphysis osteomyelitis and with intimate contact with the bladder neck.

A week later, the patient returned to the emergency department with urinary retention. A urinary catheter was placed with drainage of 600 mL of urine. He still had suprapubic pain and frequency and did not have urethral discharge. The digital rectal examination was normal. He had a slight elevation of the CRP (47 mg/L), without elevated white cell count or other significant analytical alterations. A new urine culture was initiated (posteriorly without bacterial growth).

Since the patient had worsening of the symptoms, a CT scan was requested. The examination showed a 42 mm greater

diameter abscess in the Retzius space, with thick walls and in direct contact with the bladder wall, although apparently independent from it. It was also in intimate contact with the pubic symphysis which had articular space widening and signs of bone erosion. There were no other findings in the CT scan (figure 2).

TREATMENT

After observing these results, the patient was again interviewed with more detail and mentioned having had a pubic trauma 1 month before while horse riding. In a more cautious physical examination, there was intense pain on the pubic symphysis palpation.

A percutaneous drainage of the abscess was performed (later, the microbiological examination revealed a multisensitive *Staphylococcus aureus* strain). Antibiotic therapy was initiated with ceftriaxone 2g intravenously and metronidazole 500mg by mouth three times a day for 7 days. The patient had a good clinical evolution with resolution of the clinical and analytical alterations on the fifth day postdrainage.

OUTCOME AND FOLLOW-UP

On the follow-up appointment, 2 months after the discharge, the patient had a CT scan that showed total resolution of the abscess, although maintaining bone erosion and pubic symphysis widening. The patient was completely asymptomatic.

DISCUSSION

With this clinical case, we want to alert the physicians of the possibility that LUTS may be caused by extraurinary pathologies that are not present in everyday practice. There have been multiple cases reported of rare extraurinary causes of LUTS and urinary retention, such as cartilaginous cysts of the pubic symphysis,^{5,6} appendicular abscess,⁷ periprosthetic abscess,⁸ retrovesical hydatid cyst,⁹ pelvic neuroblastoma¹⁰ and iliac artery aneurysms.¹¹

The pubic symphysis osteitis or osteomyelitis, with or without an abscess formation, is a well-described pathology and can be caused by repeated microtrauma or a closed blunt trauma. The usual symptoms are acute suprapubic or inguinal pain and fever.¹²⁻¹⁴ This case that we present is the first described case of urinary complications of this pathology.

In this patient, the pelvic pain, dysuria, frequency and incomplete emptying feeling, associated with the acute urinary retention, led all the physicians to consider and accept an acute prostatitis diagnosis. An appropriate antibiotic regimen was initiated but with no clinical improvement. The Retzius space abscess was compressing the bladder outlet, leading to this group of symptoms and the antibiotic therapy without drainage was not enough to treat the patient.

There were clinical findings that were not typical of a patient with prostatitis, such as the innocent digital rectal examination and the absence of abnormal findings in the urinalysis. These negative findings made us search for other causes for the symptoms. The

Learning points

- ▶ There are several causes contributing to lower urinary tract symptoms and acute urinary retention.
- ▶ When the clinical picture does not improve with the empiric treatment, further workup must be done.
- ▶ A cautious history-taking and physical examination may sometimes accelerate the diagnosis and avoid unnecessary examinations.

self-critique of our clinical evaluation is of utmost importance when evaluating a patient with contradictory clinical elements and no improvement with the first-line treatment. Also, a cautious and detailed patient interview could have avoided the delay in the diagnosis, and it is never late to remind ourselves of its importance.

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