CASE REPORT

Whitmore's disease: an uncommon urological presentation

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SUMMARY

The incidence of prostatic abscesses has much decreased in the antibiotic era. We present an uncommon cause of prostatic abscess secondary to melioidosis, also known as Whitmore's disease or pseudoglanders. The disease is endemic in South East Asia and Australia. Although India is considered endemic for *Burkholderia pseudomallei*, the causative organism of melioidosis, not many cases have been reported. Most of the reported cases from India are from the South-West coastal regions of Kerala and Karnataka, Vellore, West Bengal and Bihar. Our index patient was successfully treated with parenteral antibiotics and endoscopic deroofting of the abscess.

BACKGROUND

This is an uncommon, potentially lethal infectious disease, which requires a high index of clinical suspicion, coupled with better microbiological techniques for its successful diagnosis and treatment.^{1 2}

CASE PRESENTATION

A 64-year-old male farmer presented to his local doctor with fever, chills and dysuria of 4 days duration. He had no history of bothersome lower urinary tract symptoms. Following initial evaluation, he was started on empirical antibiotics. He then developed acute urinary retention 2 days later for which he was catheterised. The patient was then referred to our tertiary care centre as he was not clinically improving even after a week of antibiotics. On clinical examination, the patient was febrile, icteric and toxic with tenderness over the right renal angle. Digital rectal examination revealed an enlarged prostate, with tenderness elicited in the right lobe.

INVESTIGATIONS

Blood investigations revealed a total leucocyte count of 27 300/ μ L with left shift. Blood biochemistry revealed hyperbilirubinaemia (4.3 mg/dL), hypoalbuminaemia (2.3 g/dL), hyponatraemia (117 mmol/L). Serum prostate-specific antigen was 4.69 ng/mL. The initial ultrasound scan revealed an enlarged right kidney with hyperechoic parenchyma suggestive of pyelonephritis, and an enlarged prostate (55 mL) with a hypoechoic area measuring 2×1 cm in the right lobe. Blood culture (Bact Alert Automated) demonstrated *Burkholderia pseudomallei*.

Figure 1 Transrectal ultrasound image showing 3×2 cm abscess in the right prostatic lobe.

TREATMENT

A diagnosis of acute right pyelonephritis, prostatic abscess with urinary retention and sepsis was made. Following an initial course of empirical parenteral antibiotics, he was switched over to parenteral cef-tazidime, as per the blood culture, which grew *B pseudomallei*, and sensitivity report. This was continued for 2 weeks, during which he made a good clinical recovery. He was also started on combination therapy of α -blockers and 5 α reductase inhibitors. However, the patient had two unsuccessful trials of void, and a repeat ultrasonogram (transabdominal and transrectal) demonstrated a 3×2 cm prostatic abscess in the right lobe (figures 1 and 2). Transurethral deroofting of the prostatic abscess was then performed due to its increasing size and the unsuccessful voiding trials. The abscess cavity was found to be multiloculated.

OUTCOME AND FOLLOW-UP

The patient recovered completely and was discharged with instruction to continue oral

Figure 2 Transrectal ultrasound image showing the prostatic abscess.

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co-trimoxazole for 3 months as per the recommendation of the microbiologist. He voided normally after catheter removal.

Histopathology revealed features of chronic prostatitis and prostatic abscess.

Retrospectively, the patient mentioned a penetrating injury to his right foot 1 week prior to his clinical presentation which explains the probable root of entry of the organism.

DISCUSSION

Prostatic abscess as one of the manifestation of melioidosis is well documented especially in the Australian series.³ It has been suggested that melioidosis should be considered in the differential diagnosis when abscesses are encountered at unusual sites, such as spleen, prostate and parotid, and in those with chronic presentation. Melioidosis is being increasingly diagnosed especially in the past two decades in India probably due to a combination of increased clinical awareness and better microbiological diagnostic techniques. The largest series of cases are reported from Thailand and Australia.³ The epidemiology of melioidosis in the Indian subcontinent is similar to that in reported series.

Whitmore's disease or melioidosis is caused by *B pseudomallei*, an aerobic Gram-negative bacillus previously classified under the *Pseudomonas* group. The bacterium was first isolated by Captain A Whitmore and the term melioidosis was coined in 1921 by Stanton and Fletcher.

B pseudomallei is visualised as a Gram-negative bacillus with bipolar staining, often described as having a 'safety-pin' appearance. It is oxidase and arabinose positive. On culture, the colony morphology is mostly smooth initially, and later develops a characteristic 'wrinkled' appearance. The modified-Ashdown medium is one of the specific culture media used. The antibiotic sensitivity pattern is pivotal to the final confirmation of the diagnosis. It is characteristically resistant to second-generation cephalosporins and aminoglycosides despite being a Gram-negative bacilli, and is sensitive to ceftazidime, amoxicillin-clavulanic acid, doxycycline, co-trimoxazole and meropenem.⁴

B pseudomallei is an opportunistic pathogen and a widely distributed environmental saprophyte with several modes of acquisition. These include inoculation through skin penetration, inhalation and can even be laboratory acquired.⁵ Melioidosis mainly affects people who are in regular contact with soil and water especially in the monsoon season, with a male preponderance.

It has been referred to as the 'Remarkable Imitator' and the 'Mimicker of maladies', because of its wide spectrum of clinical presentation. In the genitourinary system, it can present as pyelonephritis, perinephric abscess, epididymo-orchitis and scrotal abscess, but most commonly as prostatitis and prostatic abscess with a mortality rate of upto 40% in some series.⁶ It is most commonly seen in adults with associated diabetes, chronic alcohol consumption, chronic renal insufficiency, or in the immunocompromised.⁷ However, there is no clear association with HIV. The clinical manifestations commonly include multiple foci of infection, indicating bacteraemic spread of *B pseudomallei*.

Since the advent of antimicrobial therapy, *Escherichia coli* has been the commonest causative organism of prostatic abscesses. The identification of *B pseudomallei* as the main pathogen requires a high index of suspicion and good communication between the clinician and the microbiologist involved. Isolation in culture and identification take 4–6 days at the earliest. Successful treatment depends on early and accurate diagnosis, drainage of the larger abscesses and the institution of appropriate antimicrobials as per culture and sensitivity. β -Lactams such as ceftazidime is currently the treatment of choice.^{8–9} A prolonged oral antibiotic course of upto 3–6 months is recommended due to the high risk of recurrences. Early and appropriate clinical and microbiological diagnosis is required to successfully treat this uncommon cause of prostatic abscess, which otherwise would have a high mortality rate.

The management algorithm for prostatic abscesses is fairly standardised, irrespective of the pathogen. Conservative treatment is generally successful for smaller abscess cavities of less than 1 cm diameter,¹⁰ with aspiration or surgical drainage reserved for larger abscesses.¹¹

Learning points

- ▶ High index of suspicion is required for early diagnosis and institution of appropriate treatment.
- ▶ Effective and up-to-date microbiological diagnostic techniques.
- ▶ Good communication between the clinician and the microbiologist.

Competing interests None.

Patient consent Obtained.

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