



Case Report

Multi-system infection – tuberculosis or melioidosis?

Venkatesh Bala Raghu Raji^{a,*}, Praveen Kumar Vasanthraj^b, Rajoo Ramachandran^b, Venkata Sai^b^a No. 159, C.T.H. Road, Thiruninravur, Tiruvallur District, Tamil Nadu 602024, India^b Sri Ramachandra Medical College and Research Centre, Porur, Chennai, Tamil Nadu, India

ARTICLE INFO

Keywords:

Adrenal gland

Melioidosis

*Burkholderia**Pseudomallei*

Tuberculosis

ABSTRACT

Melioidosis is a multi-system disorder which is often mistaken for tuberculosis in the Indian sub-continent. It is caused by the gram-negative bacterium *Burkholderia pseudomallei*. The imaging findings of melioidosis often mimic many other bacterial infections and the differentiation is sometimes difficult. The clinical manifestations of melioidosis range from asymptomatic and subclinical to acute localized forms, acute septicemia and chronic forms. We report a case of melioidosis presenting with multi-visceral abscesses (with adrenal involvement).

1. Case report

A 44-year-old male was rushed to our hospital in a prostrated state. He presented with high-grade fever associated with chills and rigor, left lumbar pain and dysuria for the past five days. The patient is a known diabetic and has been treated for the past 5 years. On clinical examination, he had tenderness in the left hypochondrium and lumbar regions and on digital rectal examination, his prostate felt boggy and tender. His hemoglobin was 10.8 g/dl. His total WBC counts were normal. Dengue serology and scrub typhus tests were negative. Peripheral smear examination and Quantitative Buffy Coat (QBC) tests came out normal, ruling out malaria. His urine sample tested positive for ketones.

On radiological imaging, his ultrasound abdomen showed splenomegaly with multiple hypoechoic foci within (possibly representing abscesses) and prostatomegaly with heterogenous parenchyma [Fig. 1].

To further characterize these lesions, contrast-enhanced CT abdomen was done. His CECT findings were:

- Splenomegaly with multiple scattered, well-defined non-enhancing hypodense lesions [Fig. 2].
- A well-defined hypo-enhancing lesion in the upper pole of the right kidney.
- A well-defined peripherally-enhancing hypodense lesion involving the left adrenal gland [Fig. 3].
- Prostatomegaly with multiple hypo-enhancing lesions within.
- The above features probably represent multi-visceral abscess

collections.

The first couple of differentials to strike the mind of an Indian physician is tuberculosis and Acquired Immuno Deficiency Syndrome (AIDS). His HIV serology and sputum smear examination (for M.Tb) however turned out to be negative, following which the physicians started suspecting 'sputum-negative' tuberculosis presenting with septicemia.

His serum PSA was mildly elevated (5.5 ng/mL). This further lead the differentials back to infective afflictions of the prostate.

US elastography of the prostate [Fig. 4] was done to assess the elasticity of the prostate (indirectly ruling out malignancy). The mean value of the stiffness was calculated to be 30.8 kPa, which suggests the benign nature of the disease.

The patient then underwent Trans-rectal US guided sextant biopsy of the prostate [Fig. 5]. The samples were sent for histopathology (HPE), gram staining, AFB staining, culture, PCR, Gene Xpert and other tests. His HPE report showed acute and chronic prostatitis with focal microabscesses. Gram staining and AFB staining of the biopsy specimen came back negative. Routine culture came back positive for *E. coli*. Gene Xpert came back negative, which was quite unexpected as the physicians' first differential was tuberculosis. In the end, the Polymerase Chain Reaction (PCR) of the prostate specimen came back positive for melioidosis.

Following which, HRCT thorax [Fig. 6] was performed to assess his lung status, which interestingly showed basal lung consolidation as opposed to the organism's usual preference to the upper lobes. His total

Abbreviations: PCR, Polymerase Chain Reaction; QBC, Quantitative Buffy Coat; AIDS, Acquired Immuno Deficiency Syndrome; HIV, Human Immunodeficiency Virus; HPE, Histopathology

Peer review under responsibility of The Egyptian Society of Radiology and Nuclear Medicine.

* Corresponding author.

E-mail address: brrvenkatesh@gmail.com (V. Bala Raghu Raji).

<https://doi.org/10.1016/j.ejrm.2018.03.012>

Received 6 January 2018; Accepted 21 March 2018

0378-603X/© 2018 The Egyptian Society of Radiology and Nuclear Medicine. Production and hosting by Elsevier. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

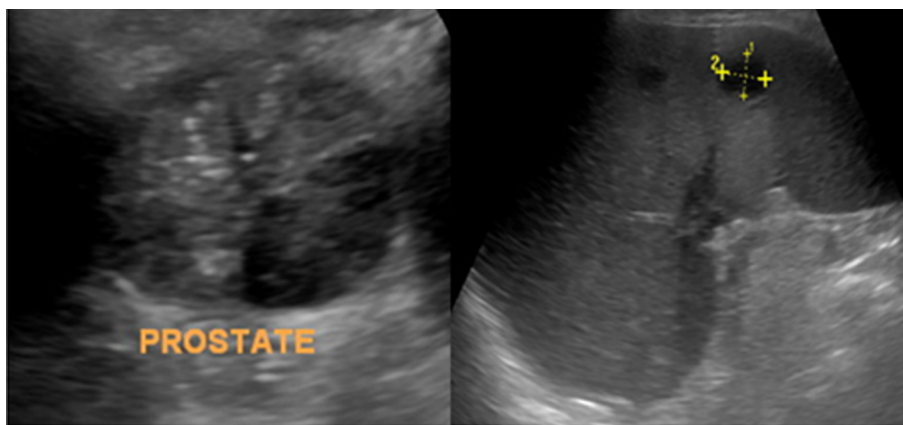


Fig. 1. 44 year old male diagnosed with melioidosis, transabdominal ultrasound demonstrates heterogenous parenchyma of the prostate with multiple hypoechoic foci (left) and spleen with multiple hypoechoic collections noted within (right).



Fig. 2. 44 year old male diagnosed with melioidosis, coronal contrast enhanced CT of the abdomen demonstrates multiple ill-defined hypoenhancing collections within the parenchyma of the spleen, prostate and left adrenal gland (white arrows). Technique: Axial CT, 200 mA s, 120 kV, 2 mm thickness, 84 mL of Iohexol (350 mg/mL).

WBC count and procalcitonin (inflammatory marker) level remarkably remained to be normal, despite being septicemic with abscesses in multiple viscera.

The patient was treated with parenteral ceftazidime, which is the drug of choice to treat melioidosis. The patient was also started on oral co-trimoxazole for 2 weeks. The patient was discharged after 2 weeks following the successful completion of the regimen.

2. Discussion

Melioidosis is a disease endemic to Southeast Asia and Northern Australia, caused by the environmental saprophyte, *Burkholderia pseudomallei*. The annual incidence of melioidosis is 12.7/100,000 in the tropical countries. The male:female gender ratio is 1.4:1. The current mortality rate is 90% in untreated cases and in treated cases, it



Fig. 3. 44 year old male diagnosed with melioidosis, axial contrast enhanced CT of the abdomen demonstrates an ill-defined hypoenhancing collection within the left adrenal gland (white arrow). Technique: Axial CT, 200 mA s, 120 kV, 2 mm thickness, 84 mL of Iohexol (350 mg/mL).

varies from 10% in uncomplicated and 80% in septicemic cases. The clinical manifestations of melioidosis range from asymptomatic and subclinical to acute septicemic and chronic debilitating forms. Melioidosis occurs more frequently in patients with chronic underlying diseases or those who are on immunosuppressants [1]. The impaired neutrophil function has been postulated to be the reason for the increased incidence of the disease in diabetics and chronic alcoholics [2].

Clinically the disease presents with non-specific pulmonary signs and symptoms. Alternatively, the involvement can be purely in the septicemic form, which is associated with the evolution of multiple visceral abscesses [3]. Melioidosis can imitate many clinical diseases in clinical as well as radiological aspects. Because of the strikingly similar clinical presentations, it is frequently mistaken in India for the great masquerader—*tuberculosis*. The existence of resource-poor laboratories and limited awareness of the disease also contribute to the underdiagnosis of melioidosis.

The most common radiographic findings of melioidosis are found in the lungs, appearing as small irregular disseminated nodular densities, with preferential involvement of the upper lobes. However, there are no radiological features *specific* to pulmonary melioidosis in CT and MRI. The radiological findings resemble those commonly seen in tuberculosis and community acquired pneumonia [3]. The two most important features that could distinguish melioidosis from tuberculosis are, sparing of the lung apex and frequent presentations with concurrent liver and splenic abscesses. Interestingly, pleural involvement such as effusion, empyema, hilar or mediastinal adenopathy are not so commonly seen in melioidosis, making them additional useful differentiating features from TB [3].

Download English Version:

<https://daneshyari.com/en/article/8952789>

Download Persian Version:

<https://daneshyari.com/article/8952789>

[Daneshyari.com](https://daneshyari.com)