



Case Report

Melioidosis – Presenting As Septic Arthritis

Authors

**Dr Moorthy S¹, Dr Nagarajan K², Dr Udhaya Sankar R³, Dr Gopal R⁴,
Dr Yuvarajan S⁵, Dr Vignesh S⁶, Dr Venkatesh R⁷, Dr Ambroise MJ⁸**

^{1,6,7,8}Post Graduate Residents, ²Professor, Department of General Medicine, ³Assistant Professor, ⁴Professor, Department of Microbiology, ⁵Professor, Department of Respiratory Medicine, Sri Manakula Vinayagar Medical College and Hospital, Puducherry-605107, India

Abstract

According to the Centers for Disease Control and Prevention, from being non-endemic for melioidosis, India has become endemic for the disease since 2012. Till then, melioidosis cases were being sporadically reported from India. We report a case of Melioidosis who is a 30 year old male farmer presented with the chief complaints of fever for 15 days, multiple joint pain associated with joint swelling and dry cough. Burkholderia pseudomallei was isolated from blood culture and synovial fluid culture. Patient was treated with injection Meropenem and tablet doxycycline.

Introduction

Melioidosis, which is caused by gram-negative bacterium *Burkholderia pseudomallei*, has varying presentations. Cases have been reported from Southeast Asian countries like Thailand, Malaysia and Vietnam etc.¹ In India, most cases have so far been reported from Mangalore, Chennai, Pondicherry, Vellore, Hyderabad, and West Bengal.² Melioidosis is potentially fatal as early diagnosis is missed due to its varied manifestations such as localized or disseminated infection. Localized manifestations reported are pneumonia, multiple abscesses, septic arthritis, psoas abscess, gluteal abscess, scalp abscess, pericardial effusion, and supraclavicular mass and is associated with high morbidity and mortality.²

Case Report

A 30 year old male patient who is farmer by occupation presented with chief complaints of

Fever for 15 days, which is intermittent fever, high grade associated with chills and rigors and multiple joint pain and joint swelling and dry cough for 15 days. Patient was a known case of diabetes for 3 years; on irregular medication. Patient was an alcoholic for 8 years. No other positive history. On examination patient was afebrile, vitals are stable. Respiratory system examination showed B/L basal inspiratory crepitations. Blood investigations showed increased total leucocyte count with neutrophilic predominance. USG Left Knee was done which showed minimal fluid collection in the suprapatellar region and subcutaneous edema noted around the knee joint. Blood culture was done and found to have BURKHOLDERIA PSEUDOMALLEI. Synovial fluid aspiration was done and culture showed BURKHOLDERIA PSEUDOMALLEI. Patient was diagnosed to have

MELIOIDOSIS. He was treated with Injection Meropenem and tablet doxycycline.



Figure 1 Showing colonies with corn head morphology which is characteristic of *Burkholderia pseudomallei*



Figure 2 Blood agar showing *Burkholderia pseudomallei* colonies

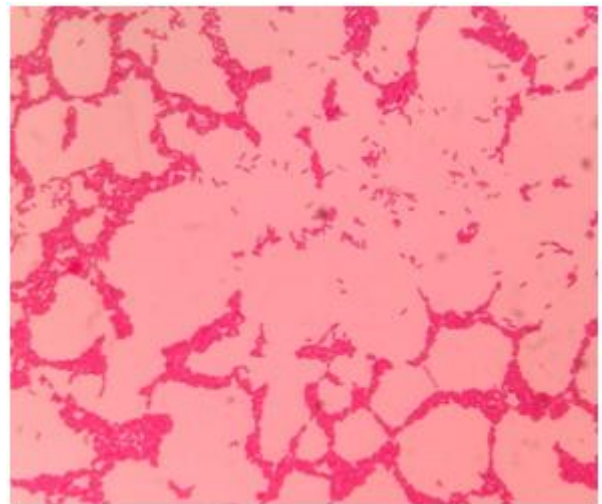


Figure 3 Gram staining showing Gram Negative rods with bipolar staining

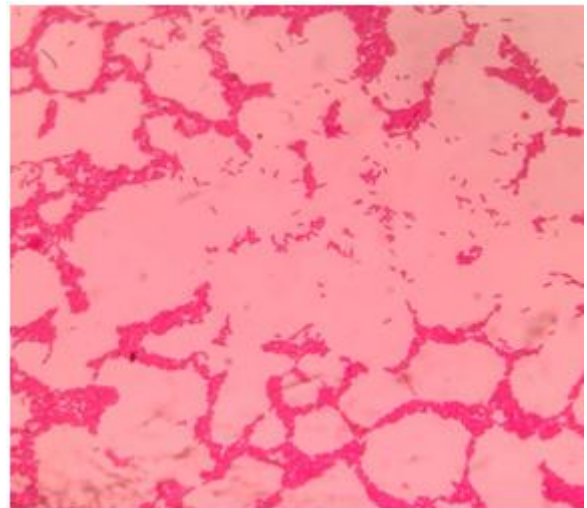


Figure 4 Showing Safety Pin appearance (Bipolar staining) of *Burkholderia pseudomallei*

Discussion

Melioidosis, caused by gram negative bacterium *Burkholderia pseudomallei*, has varying presentations with acute and chronic form, localised to systemic disease and asymptomatic to septicaemic illness. Melioidosis is endemic in Northern Australia, Thailand, Singapore, Malaysia, Myanmar and Vietnam. In India, it is sporadic in Southern states. *B. pseudomallei* is a Gramnegative, motile bacillus isolated from soil and surface water. The disease is acquired by inoculation through abraded skin, inhalation or ingestion. Its incubation period ranges from 24 hours to many years. It produces necrotizing inflammation, abscess or granuloma with

multinucleated giant cells. Melioidosis is more common in middle aged males. Other risk factors are diabetes, alcoholism, malignancy, chronic kidney and lung diseases. *B. pseudomallei* infection can have several disease outcomes— asymptomatic seroconversion, acute or chronic disease or latent infection. Clinical disease may present acutely or chronically with more than 2 months of fever. Localised disease presents as skin ulcers, and subcutaneous abscesses or pneumonia. Disseminated disease can present with pneumonia, abscesses in liver, spleen, kidney, prostate, skin and subcutaneous tissue, septic arthritis and osteomyelitis with or without septicaemia. In systemic disease, laboratory tests indicate anaemia, neutrophilic leucocytosis, elevated ESR, CRP and plasma sugar. On Gram-staining *B. pseudomallei* has a characteristic bipolar staining with 'safety pin' appearance. It can be cultured easily from blood, pus, sputum and urine. *B. pseudomallei* is identified by the characteristic colony morphology and biochemical reactions. Initially intensive parenteral therapy is with ceftazidime or meropenem, or imipenem with or without sulphamethoxazole/ trimethoprim for 10 to 14 days. Subsequent oral eradication therapy is required to prevent recrudescence or relapse. Sulphamethoxazole/trimethoprim with doxycycline is recommended for 12 to 20 weeks. Amoxicillin-clavulanate is recommended in pregnancy.³

Conclusion

Melioidosis, caused by *Burkholderia pseudomallei*, can present in acute and chronic form, localised form to systemic disease and asymptomatic to septicaemic illness. *B. pseudomallei* is a Gram negative, motile bacillus isolated from soil and surface water. The disease is acquired by inoculation through abraded skin, inhalation or ingestion. On Gram-staining *B. pseudomallei* has a characteristic bipolar staining with 'safety pin' appearance. Treatment is with ceftazidime or Meropenem, or imipenem with or without sulphamethoxazole/ trimethoprim for 10

to 14 days. Sulphamethoxazole/trimethoprim with doxycycline is recommended for 12 to 20 weeks

References

1. Barman P, Sidhwa H, Shirkhande PA. Melioidosis: A case report. *J Global Infect Dis* 2011;3:183-6.
2. Princess I, Ebenezer R, Ramakrishnan N, Daniel AK, Nandini S, Thirunarayan MA. Melioidosis: An emerging infection with fatal outcomes. *Indian J Crit Care Med* 2017;21:397-400.
3. Munjal, Y. (2012). *API textbook of medicine*. 9th ed. Mumbai: Association of Physicians of India, p.1134.