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Dr. Jyothiprasanth M
Consultant Orthopaedics, Gimcare Hospital, Kannur, Kerala, India

Dr. Akhil K Thomas
Associate Consultant Orthopaedics, Gimcare Hospital, Kannur, Kerala, India

Dr. Rakesh T Parakadavathu
Consultant Infectious Diseases, Gimcare Hospital, Kannur, Kerala, India

Dr. Sarang P
Pharm D, Department of orthopaedic Gimcare Hospital, Kannur, Kerala, India

Corresponding Author:
Dr. Akhil K Thomas
Associate Consultant Orthopaedics, Gimcare Hospital, Kannur, Kerala, India

A case report on melioidosis: A rare mimicker of tuberculosis

Dr. Jyothiprasanth M, Dr. Akhil K Thomas, Dr. Rakesh T Parakadavathu and Dr. Sarang P

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Abstract
Burkholderia pseudomallei is a saprophytic pathogen causing Whitmore's disease or Melioidosis. [1]It can cause vertebral osteitis, abscess, pneumoniae, septicaemia, arthritis etc. It is a great mimicker of pulmonary as well as vertebral Tuberculosis. Southeast Asia and Australia report most of the cases. In India, the cases have been reported mostly from the coastal belt of southern states. We report the case of a 60-year-old agriculture worker with Type 2 diabetes, with lumbago and fever 1 month, initially misdiagnosed as spinal tuberculosis, presented with cold abscess. *B. pseudomallei* was isolated from the drained abscess. He recovered fully following treatment with Cotrimoxazole and Ceftazidime.

Keywords: *Burkholderia pseudomallei*, melioidosis, abscess, ceftazidime, cotrimoxazole

Introduction
Burkholderia pseudomallei is as an emerging pathogen in India. It can mimic pathogens causing osteomyelitis, septic arthritis, cold abscess, pneumoniae, septicaemia. This may cause delayed or wrong diagnosis and poor clinical outcome. Globally the reported cases are less. Most of them are reported from tropical areas of Southeast Asian countries and Australia. The coastal belt of Kerala and Tamil Nadu are endemic to Burkhloderia. Early diagnosis and proper antibiotics are important for better patient outcome.

Case Report
Our patient was a 61-year-old male, an agriculture worker and Diabetic on oral medications. He presented with swelling in right thigh for past 7 days.

Two months back he developed fever and back pain followed by right hip pain. Radiological evidences showed paraspinal abscess and septic arthritis of right hip. Abscess was drained from right hip and empirically started on Anti tubercular drugs (ATT). But Acid fast (AFB) staining and polymerase chain reaction (PCR) test was negative. Culture showed negative for AFB. ATT was stopped and took intra venous Cephalosporin for 3 weeks. During treatment, though his symptoms were better, during last 7 days he had swelling in right thigh and brought to our hospital.

On examination, he was afebrile. Mild pallor was present. No lymph nodes palpable. Chest clear and no cardiovascular or neurological abnormality were noted. On local examination, there was 30 degree fixed flexion deformity of right hip, surgical scar on the anterior aspect of right hip. A soft, fluctuant, non tender, ill defined swelling of about 5x4cm on the antero medial aspect of right mid thigh, suggestive of cold abscess was present.

Laboratory investigations showed anaemia, elevated ESR 130 (normal 0-15) and CRP 52(normal <6). Peripheral blood smear showed microcytic hypochromic anaemia.

His chest X-ray showed consolidation in left upper lobe. Repeat MRI showed paraspinal abscess persisting. Intervertebral disc, spinal cord and conus medullaris appeared normal.

Decision was taken to drain the thigh abscess and to resend for staining and culture. Patient was admitted and thigh abscess drained. Thick caseous pus of about 40 ml was drained, sent for bacterial, fungal and mycobacterial studies.

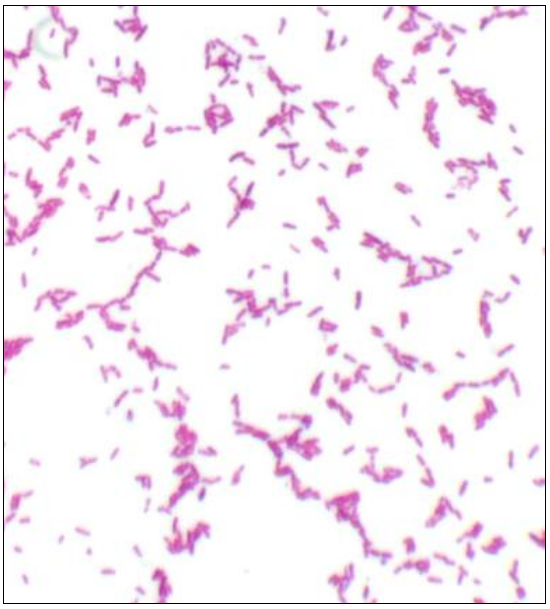


Fig 1: Safety pin appearance.

Fig 2: Colonies on blood agar

Gram staining showed gram negative bacilli with safety pin appearance [Figure 1]. Non fermenting pale colonies with metallic sheen were isolated next day on Blood agar and MacConkey agar [Figure 2]. The growth was identified as *Burkholderia pseudomallei*.

Name : CHANDRAN K Age/Sex : 60/M SRD No : UR20351507-UR/L(

Doctor : SELF -GENESIS INSTITUTE OF MEDICAL SCIEN(Sample Collected at: 28/04/2020 08:59 PM Ref. No :

Hospital: GENESIS INSTITUTE OF MEDICAL SCIENCE PVT Report On : 03/05/2020 10:48 AM IP/OP No: G2004005727

Test Description	Value Observed	Reference Range

DEPARTMENT OF MICROBIOLOGY

C/S FLUID

Culture Report	Culture yielded scanty growth of Burkholderia pseudomallei. Kindly correlate clinicaly.

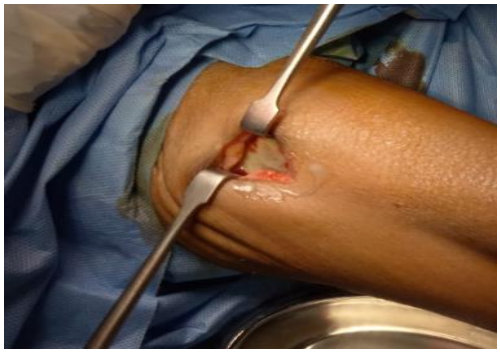
NOTE: Burkholderia pseudomallei is resistant to Penicillin, first and second generation Cephalosporins, Gentamycin, Tobramycin and Streptomycin. The agent recommended for the initial intensive therapy are Meropenem and Imipenem or Ceftazidime. For patients with non pulmonary sites of infection, the addition of Trimethoprim sulfamethoxazole is recommended. Trimethoprim sulfamethoxazole or Amoxicillin clavulanate is also recommended for oral eradication therapy.

Notes:

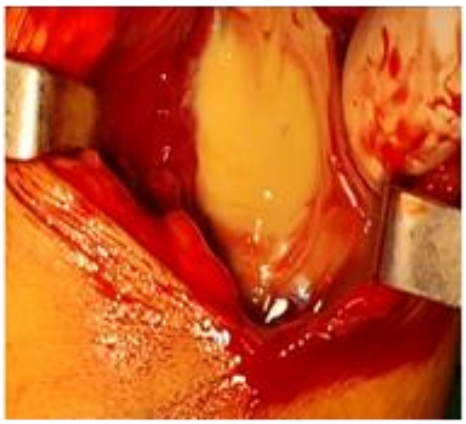
i) Aerobic Culture at 37°C
ii) Identification using conventional biochemical methods up to species level.
iii) Antimicrobial Susceptibility by disk diffusion, Kirby Bauer method.

Fig 3: Culture and Sensitivity report.

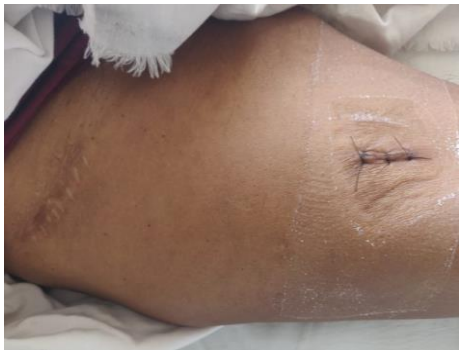
It was sensitive to Ceftazidime, Cotrimoxazole, Tetracycline and Imipenum. Based on the sensitivity report [Figure 3], IV Ceftazidime and oral Cotrimoxazole were given. He was symptomatically better with antibiotics and was put on maintenance dose.



Intra operative photograph



Intra operative picture of pus



Post operative wound

Discussion

B. pseudomallei is a saprophytic organism [2] Its geographical distribution includes tropical and subtropical areas of Australia and Southeast Asian countries like Thailand. In India, quite few cases have been reported though many are still under reported. Most of the cases in India were reported from the coastal belt of southern states of India [3]. Diabetes mellitus has been found to be a common predisposing factor. Human infection occurs mostly through inhalation or direct inoculation through skin wounds. Bare foot walking and exposure to contaminated water and soil is the common cause of infection. This patient was an agriculture worker, which resulted in exposure.

[4] Predisposing factors to Melioidosis are conditions like diabetes, renal disease, and immune deficiency. A correlation of 76% of diabetes with Melioidosis was found by Vidyalaxmi *et al* [5]. Melioidosis is a systemic infection with pulmonary involvement as the commonest manifestation. Other system affected includes liver, spleen and bone. Bone involvement has been reported in16% cases by Chiranjay *et al*. [6] Our case was atypical presentation with spinal involvement and pulmonary involvement.

The antibiotic of choice is Ceftazidime in systemic Melioidosis. Literature review shows good result of treatment with a combination of Ceftazidime and Co-trimoxazole. Resistant strains to Ceftazidime needs Imipenem or Carbapenum along with Doxycycline.

Conclusion

Melioidosis is often under diagnosed or misdiagnosed. This case was initially missed due to less clinical awareness and inappropriate microbiological diagnosis. A high index of suspicion is needed for diagnosis due to its varied clinical presentations and similarity to tuberculosis. This case adds to records of Melioidosis cases in India. And also, the case highlights the need of increased clinical suspicion and proactive microbiology before diagnosing tuberculosis in endemic areas where both of them coexist.

References

1. Chakravorty A, Heath C. Melioidosis: An updated review. Aust J Gen Pract. 2019;48(5):327-32.
2. Limmathurotsakul D, Golding N, Dance DA, Messina JP, Pigott DM, Moyes CL *et al*. Predicted global distribution of *Burkholderia pseudomallei* and burden of melioidosis. Nat Microbiol [Internet]. 2016 Jan 1 [cited 2020 Jun 15];1(1). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4746747/
3. Wiersinga WJ, Virk HS, Torres AG, Currie BJ, Peacock SJ, Dance DAB *et al*. Melioidosis. Nat Rev Dis Primer. 2018;4(1):1-22.
4. Currie BJ, Ward L, Cheng AC. The epidemiology and clinical spectrum of melioidosis: 540 cases from the 20 year Darwin prospective study. PLoS Negl Trop Dis. 2010;4(11):e900.
5. Vidyalakshmi K, Lipika S, Vishal S, Damodar S, Chakrapani M. Emerging clinico-epidemiological trends in melioidosis: analysis of 95 cases from western coastal India. Int J Infect Dis IJID Off Publ Int Soc Infect Dis. 2012;16(7):e491-497.
6. Chiranjay M, Shaw T, Varghese GM, Dance DAB. Melioidosis in South Asia (India, Nepal, Pakistan, Bhutan and Afghanistan). Trop Med Infect Dis. 2018;3(2):51.