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CASE REPORT

Hepatosplenic Melioidosis: A Common Misdiagnosed Entity

Lalkrishna U[1*], Ramu M[2], Gaurav Khatana[1], Sandesh K[3], Saji Sebastian[4] and Deni Joseph[5]

[1]*Senior Resident (DM Trainee), MD General Medicine, Department of Medical Gastroenterology, Government Medical College, Kottayam, India*

[2]*Assistant Professor, DM Medical Gastroenterology, Department of Medical Gastroenterology, Government Medical College, Kottayam, India*

[3]*Professor, HOD, Department of Medical Gastroenterology, Government Medical College, Kottayam, India*

[4]*Associate Professor, Department of Medical Gastroenterology, Government Medical College, Kottayam, India*

[5]*Assistant Professor, Department of Medical Gastroenterology, Government Medical College, Kottayam, India*

***Corresponding author:** *Lal Krishna U, Senior Resident (DM Trainee), MD General Medicine, Department of Medical Gastroenterology, Govt Medical College, Kottayam, India, Tel: 7012895890*

Abstract

Burkholderia pseudomallei is a commonly misdiagnosed pathogen. It can cause clinical features like pneumoniae, septicaemia, arthritis, abscess etc. Cases have been mainly reported from Southeast Asia. In India, few cases have been reported from the southern part of the country. Our patient was a 53-year-old diabetic, who presented with low grade fever, right hypochondrial pain, weight loss, for 2 months. Treated at local hospitals with various antibiotics, on further evaluation the patient was diagnosed to have a hepatosplenic abscess, which was identified to be melioidosis via pus culture. He was started on 3 week induction phase treatment with meropenem based on sensitivity pattern. Later, switched over to cotrimoxazole and doxycycline for maintenance therapy.

Keywords

HSM- Hepatosplenic Melioidosis, *B pseudomallei*-*Burkholderia pseudomallei*

Introduction

Melioidosis, is also known as Whitmore's disease, which is an infectious disease caused by saprophytic, aerobic, Gram-negative bacillus *Burkholderia pseudomallei*. This motile bacterium is known for its bipolar staining and typical "safety pin appearance" on gram stain [1]. It is regarded as endemic and geographically restricted to Southeast Asia and northern Australia, with occasional cases seen in countries such as India and China. Globally, melioidosis is a life-threatening infection that is estimated to account for ~89,000 deaths per year worldwide [2].

Diabetes is considered to be the major risk factor for melioidosis. With approximately 77 million diabetic individuals in the year 2019, India is deemed as the diabetes capital of the world and it is anticipated that, with the exponential increase in diabetes in the upcoming years, number of melioidosis cases will also dramatically rise [3].

Case Report

A 53-year-old male who is a known case of diabetes mellitus with poor glycaemic control for the past 5 years, and who is a chronic alcoholic, presented with fever, right hypochondrial pain, anorexia and weight loss for the past 2 months. Fever was low grade, intermittent, associated with chills and rigors, and dry cough with minimal expectoration. No history of dysuria, vomiting, altered bowel habits, headache. No history of any surgeries in the past. Patient was treated at local hospitals with a number of antibiotics like ciprofloxacin, metronidazole, ceftriaxone, clindamycin, with not much clinical improvement.

On examination, the patient's vitals were: Body temperature 39.7 °C, respiratory rate 28 breaths/min,

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Figure 1: A) Longitudinal section of the CT - Abdomen showing abscess in spleen (white arrow i); B) Cross-section of CT abdomen showing abscess in liver (white arrow ii).

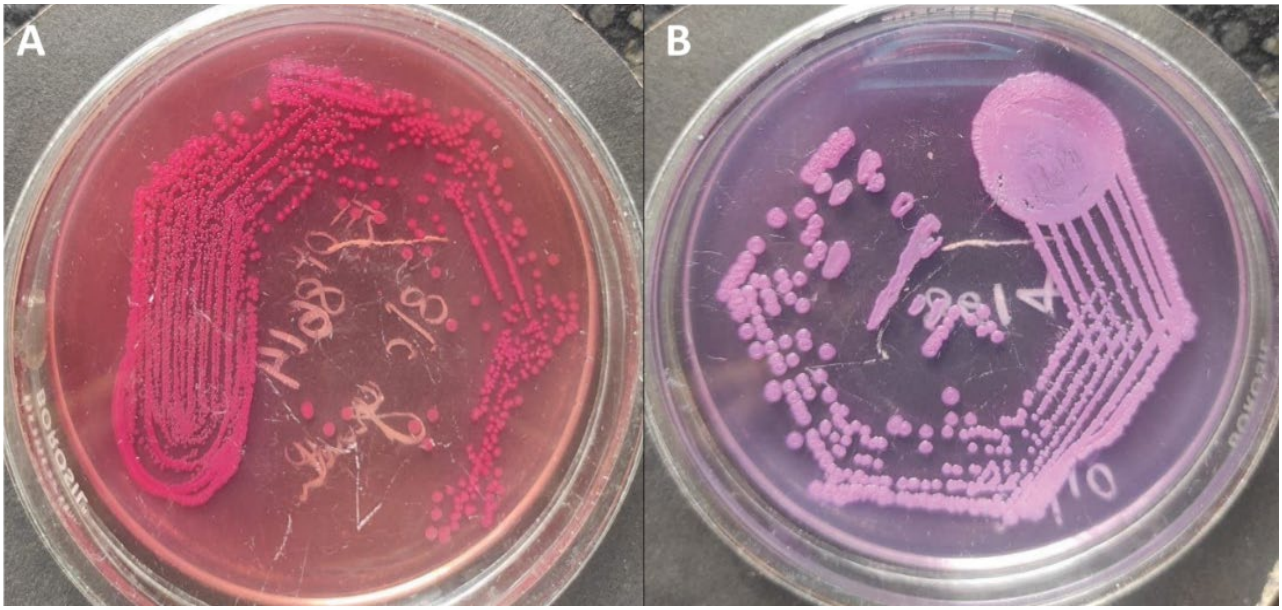

Figure 2: Colony characteristics of *Burkholderia pseudomallei* isolated from Liver abscess (A- Macconkey agar, B- Ashdown's medium).

heart rate 128 bpm, and blood pressure 100/60 mmHg. The physical examination was grossly normal except there was mild tenderness in right upper quadrant of abdomen. Laboratory examination showed leukocytosis (15.6 × 10^9/L) with differential count of segment, 76% polymorphs, 20% lymphocytes, 4% mixed cells. Hemoglobin was 11.6 g/dL and platelet count was 1.97 × 10^9/L. Liver function test was abnormal Total bilirubin 2.1 mg/dl; direct bilirubin 1.2 mg/dl; aspartate transaminase (AST) 89 U/L; alanine transaminase (ALT) 95 U/L; Alkaline phosphate 206 U/L; high C - reactive protein (CRP) 103 mg/L; high ESR 52 mm/hr, blood urea nitrogen (BUN) 22 mg/dL; and serum creatinine 1.55 mg/dL. HbA1C was 7.1% CECT Abdomen was suggestive of a hepatosplenic abscess (Figure 1). Pus was aspirated from the liver abscess, followed by a pigtail was inserted. Pus culture revealed *Burkholderia pseudomallei* (Figure 2). He was treated with meropenem for three weeks and later discharged with cotrimoxazole and doxycycline.

Discussion

B. pseudomallei is widely disseminated in soil, water,

paddy fields. In India, many are unreported due to protean clinical features. Uncontrolled diabetes mellitus is found to be one of the most common predisposing factors, others risk factors are renal disease, HIV disease and other immunodeficiency conditions. The risk factor for our patient was uncontrolled diabetes mellitus. Due to the presence of nonspecific signs and symptoms, latent subclinical infection, symptoms mimicking other common diseases like tuberculosis, lack of better diagnostic microbiological laboratories especially in rural populations and lack of awareness among physicians, leads to late identification or misdiagnosis of the condition. Leading to late initiation of prompt therapy. Hence mortality rate exceeds 40% in some regions [4].

Isolation of *B. pseudomallei* via culture of any sample is diagnostic of melioidosis. On microscopy, the gram-negative bacillus often has a characteristic bipolar staining with a “safety pin” appearance [5].

The drug of choice is Ceftazidime in systemic melioidiosis [5]. Our patient was resistant to ceftazidime and sensitive to meropenem.

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