Case Report

Hepatic Abscess as Presenting Feature of Melioidosis: A Case Report

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Abstract

Melioidosis has recently gained importance as an emerging disease in Bangladesh. It is endemic in South-East Asia and Northern Australia. In Bangladesh few cases have been reported mainly from North-Eastern part of the country (greater Mymensingh area). It can present with varied forms. Here, we are reporting a case of melioidosis, who initially presented with prolonged pyrexia and later hepatic abscess was detected on imaging. Culture of aspirated pus from hepatic lesion revealed growth of Burkholderia pseudomallei. The patient resided in Chittagong hill tracts of Bangladesh.

Key words: *Burkholderia pseudomallei; melioidosis; hepatic abscess.*

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Introduction

Melioidosis is caused by the saprophytic soil bacterium *Burkholderia pseudomallei*. The clinical presentation is varied and the infection may be acute or chronic, localized or disseminated.[1] It is capable of causing clinical manifestations like pneumonia, septicemia, arthritis, multiple abscesses etc. and associated with a high morbidity and mortality. Severe infection is more common in individuals with diabetes mellitus (DM), renal disease, liver disease or alcoholism. Infection is acquired by inoculation or inhalation of soil and water, and occupational exposure to surface water and mud is a risk factor.[2]

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The causative organism was first described by Whitmore in 1912 when he isolated *Burkholderia pseudomallei* from an opiate addict in Rangoon.[3] Since, the first case of melioidosis was reported in a European tea broker in 1927[4], in Bangladesh first case was reported by ICDDR'B in 1988.[5] Thereafter case reports of melioidosis have been published sporadically from Bangladesh.[5-8]

Case report

A 50-year-old diabetic male, farmer, status post right nephrectomy, from Dighinala, Khagrachari got admitted in BIRDEM under Medicine Unit with continued fever for 20 days with chills and rigor, which subsided by sweating after taking paracetamol. Highest recorded temperature was 104 ^{o}F. Fever was associated with significant weight loss and anorexia. There were no history of cough, abdominal pain, burning micturation, loose motion, joint pain and shortness of breath. Patient had consulted with several physicians and was treated with several antibiotics without any improvement and he was diagnosed as a case of pyrexia of unknown origin.

On examination, patient was febrile (temperature 102 ^{o}F) and hemodynamically stable. He had signs of dehydration and weight loss. Hepatosplenomegaly was present. He did not have lymphadenopathy or bony tenderness. Subsequently, he developed septic shock and shifted to the intensive care unit (ICU).

Laboratory investigations revealed neutrophilic leukocytosis, ESR-77 mm in 1st hr, CRP-91.4 mg/dL. Repeat blood and urine cultures showed no growth. Febrile antigen was of normal titer, test for malaria was negative, sputum for AFB (2 samples) and Gene X-pert were negative. Ultrasonogram (USG) showed heterogeneously hypo-echoic space occupying lesion (45 mm x 42 mm) in left lobe of liver. Echocardiography revealed no valvular disease, no vegetation or thrombus. Computed tomography (CT) guided fine needle aspiration of liver mass showed pus and culture revealed growth of *Burkholderia pseudomallei*, sensitive to aztreonam, ceftazidime, imipenem and piperacillin-tazobactum. Antibiotic treatment was revised and the patient became afebrile, hemodynamically stable and was then shifted to the cabin. Later he was discharged with advice to take oral co-trimoxazole and doxycycline for 3 months.

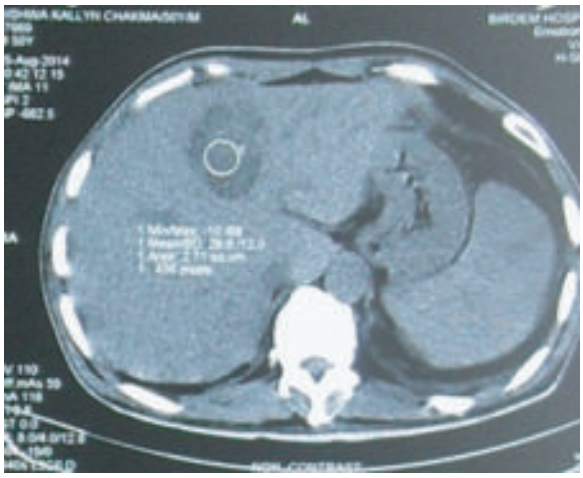

Figure-1. *CT abdomen showing liver abscess*

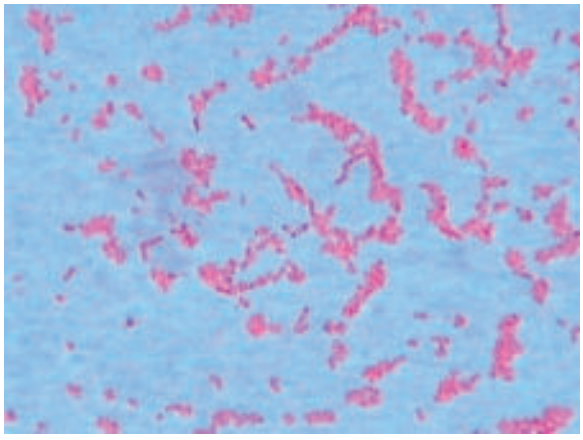

Figure-2: *Microscopic appearance of Burkhholderia pseudomallei*

Discussion

Melioidosis is an emerging infection in Bangladesh with an increasing number of cases reported, though many are still underreported due to its protean manifestation. DM has been found to be one of the most frequent predisposing factor. Our patient was diabetic. Vidyalaxmi et al.[9] found a correlation of 76% of DM and melioidosis. Melioidosis is a systemic systemic disease with pulmonary involvement as the commonest manifestation. It is also associated with liver and spleen involvement.[10,11] Bone involvement has been reported in 16% cases by Chiranjoy et al.[12] Our patient presented with hepatic abscess and septic shock. Since the clinical presentation is not distinctive, a high index of suspicion is required. In our patient, suspicion was aroused as condition of the patient was deteriorating despite treatment. In addition, he had several risk factors. He was diabetic, had multiple exposure to surface water, soil and mud.

Definitive diagnosis of melioidosis is usually made by isolation of causative bacterium, *Burkholderia pseudomallei* in culture.[13] Although it is not a difficult bacterium to culture, a lack of familiarity with cultural characteristics of the pathogen can lead to delay in diagnosis and treatment. Initial identification of the isolate requires prior experience of *Burkholderia pseudomallei* and many isolates were missed and misidentified.[14]

The drug of choice is ceftazidime in systemic melioidosis. Our patient received meropenem for 3 weeks and was put on maintenance therapy of doxycycline and co-trimoxazole and is doing well.

Conclusion

Melioidosis in Bangladesh is not uncommon. Improving diagnosis, treatment and prognosis of melioidosis in Bangladesh will require raising the awareness of the clinicians about the disease, training of microbiologists and laboratory technologists to identify suspect colonies in culture and perform preliminary screening tests and the establishment of a reference laboratory for rapid confirmation of bacterial identity by polymerase chain reaction (PCR).

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