



THE VARIED CLINICAL PRESENTATION OF MELIOIDOSIS – A CASE SERIES

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ABSTRACT Melioidosis is an infectious disease caused by a gram-negative bacterium *Burkholderia pseudo mallei*. Most people infected with *B. pseudo mallei* experience no symptoms. However few have signs and symptoms ranging from mild fever, skin changes, pneumonia, and abscesses to severe clinical presentation affecting the brain, inflammation of the joints and dangerously low blood pressure that causes death. Approximately 10% of people with melioidosis develop symptoms that last longer than two months, termed "chronic melioidosis". We hereby present two cases of Melioidosis with varied clinical presentation.

KEYWORDS : Melioidosis, *Burkholderia Pseudo Mallei*, Parotid Abscess, Cavitory Lung Nodules, Arthritis

INTRODUCTION:

The infectious organism causing Melioidosis was first recognized in 1911 and was found commonly in the rhizosphere (the layer of soil directly influenced by root secretions and soil microorganisms) and surface groundwater of many tropical and subtropical regions^[1]. It can infect humans and a wide range of animals. Naturally acquired infections in humans and animals results from exposure through broken skin, inhalation or ingestion of *B. pseudo mallei* and certain environmental conditions and specific occupations such as farming are known to increase the risk of exposure^[2]. It causes a wide spectrum of clinical manifestations like pneumonia, septicemia, arthritis and abscess in multiple organs potentially mimicking other infections like tuberculosis

Case Report:

Case No 1:

A 56 year old male patient presented with complaints of swelling in the right parotid region with associated fever of 10 days duration. On examination the swelling was tender on palpation [Fig 1]. He had no other co morbid conditions. His hematological and biochemical parameters were within normal limits. An aspiration of the right parotid swelling done revealed thick pus. Culture and sensitivity of the aspirated material showed growth of *Burkholderia pseudo mallei* which was sensitive to Ceftazidime. The patient was started on Inj.Ceftazidime 2gm intravenously thrice daily for 14 days. The patient's symptoms resolved spontaneously and at discharge he was afebrile.



Fig 1: Clinical Photograph Showing Right Parotid Swelling

Case No 2:

A 37 year old male patient a known diabetic complained of fever of 2 weeks duration associated with jerky movements of limbs and eye rolling. On admission he was conscious, oriented and dehydrated. His vitals were stable. Biochemical investigations revealed an elevated serum aminotransferase. His hematological parameters were within normal limit. A Magnetic Resonance imaging done revealed features of Benign Intracranial Hypertension. Blood cultures were taken. Dengue Serology and Malaria was Negative. As per the advice of the Neurologist he was advised Tab.Diamox 250mg twice daily. Subsequently he developed cough with minimal expectoration and Computerized tomography of the chest revealed cavitory nodules in

right middle and upper lobes [Fig2]. Blood culture grew *Burkholderia pseudo mallei* which was sensitive to Ceftazidime. The patient was started on Inj. Ceftazidime 2gm intravenously thrice daily for 14 days. Sputum examination and culture for Acid fast bacilli was negative. Patient improved symptomatically and was afebrile with no neurological symptoms on discharge. He was stable on follow up.

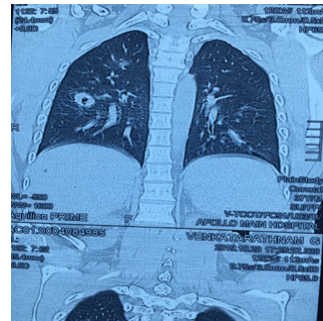


Fig 2: CT scan of chest showing multiple cavitory lesions in the right upper and middle lobes

Case No 3:

A 46 year old male patient a known diabetic presented with complaints of high grade intermittent fever of one month duration associated with migratory joint pains and swelling involving the ankle joints [Fig 3]. His vitals were stable at time of admission and hematological parameters revealed leucocytosis with elevated ESR and C reactive protein. His biochemical investigations were within normal limits. Serological investigations like ANCA, dsDNA and ANA were negative. A diagnosis of reactive arthritis was suspected, and patient was started on Tab. Hydroxychloroquine 200mg twice daily and Tab.Naprosyn. Blood culture sent grew *Burkholderia pseudo mallei* sensitive to Ceftazidime [Fig 4]. The patient was started on Inj. Ceftazidime 2gm intravenously thrice daily for 14days.He was given supportive care and his symptoms started resolving and patient was afebrile with no joint pain on discharge. He was stable on follow up.



Fig 3: Clinical Photograph Showing Swelling Of Ankle Joint

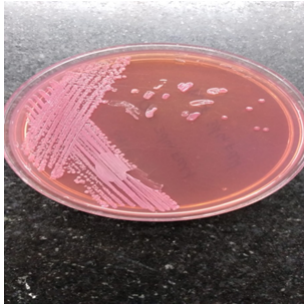


Fig 4: Photograph showing culture plate of *Burkholderia pseudomallei*

DISCUSSION

Melioidosis is a disease with protean clinical manifestations ranging from chronic localized infection to acute fulminant septicemia with disseminated infection leading to formation of abscess in multiple organs. Therefore, it is frequently been misdiagnosed and mistreated for other common infections in clinical practice. Hence, it is often called 'the great mimicker'^[3]. Isolation of *Burkholderia pseudomallei* is considered as the 'gold standard' for diagnosis of melioidosis^[4].

Serological tests like ELISA for IgG and IgM antibodies and indirect hemagglutination tests are helpful in making a provisional diagnosis in the absence of isolation of the bacteria from the specimen^[5]. Melioidosis has preponderance for males, which could be due to higher potential for exposure due to occupational and recreational activities. Peak incidence is between 40 - 60 years of age, where the most co-morbidity develop. Diabetes mellitus is considered as the most common co-morbidity associated with melioidosis, though people with chronic lung^[6], renal, liver diseases and malignancies are at higher risk of acquiring the infection. Age, male sex and long standing diabetes were the identifiable risk factors.

The disease presents as localized in 50% of the cases or could be disseminated. The most common presentation is pneumonia occurring in around 30% of the cases. In endemic areas, the parotid gland involvement is seen in around one third of pediatric patients affected with melioidosis, but it is rare in adults with very few reported cases^[7].

Hematogenous spread after percutaneous inoculation is thought to be an important mode of transmission in bone and joint infections. The organism may also reach directly from other organs or from soft tissue infection over bones or joints. Septic arthritis and osteomyelitis, one or both, can be the primary manifestation in patients with melioidosis^[8].

High relapse rates in *B. pseudomallei* infections are mentioned in the literature. It remains important to complete therapy, including the maintenance therapy, to prevent relapse in melioidosis^[9]. Unfortunately, no vaccine has yet been developed for this disease, which makes the awareness and understanding of melioidotic bone and joint infections, and the need for timely diagnosis and treatment, more relevant to microbiologists today^[10].

CONCLUSION:

Melioidosis is an infection with diverse clinical manifestations mimicking many other common infections like tuberculosis especially in countries where tuberculosis is endemic. Accurate differentiation will be limited by limited resources and expertise. Melioidosis has recently being reported in increasing incidence in Sri Lanka. Therefore, high degree of suspicion for melioidosis should be maintained during diagnostic evaluation and follow up of unproven cases to avoid misdiagnosis and mistreatment.

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