



## A Sporadic Case of *Burkholderia pseudomallei* in the Community

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### Abstract

Melioidosis is a infection caused by the facultative intracellular Gram negative bacterium, *Burkholderia pseudomallei*. This is a widely distributed environmental saprophyte in soil and fresh surface water in endemic regions of Australia, Thailand, Malaysia, Singapore, China, and few cases have been reported sporadically from India [1,3]. Melioidosis has also been described outside the classic endemic regions. Many such cases are acquired by visitors to endemic areas. Here, is one such case from the Konkan Coastal belt of Goa, a state from India.

**Keywords:** Melioidosis; Liver Abscess; Endemic

### Introduction

Infectious diseases has a significant influence on the morbidity and mortality of not only the humans, but also on every species on the planet. Diseases like plague, has eliminated approximately a third of the population. Outbreak of certain endemics possess a threat to the community [4,11]. Pathogenic organisms can be acquired by a variety of means, including direct contact, airborne, contaminated food or water, sexually, via blood or tissue products, or organ transplantation, or via arthropod vectors, such as mosquitoes or ticks. There also arises some emerging infections [2].

Melioidosis is a disease most commonly found in farmers, Costal region people. The precise mode of acquisition is not clear. Its prevalence is rare or sporadic in Western World. But,

it remains the 3<sup>rd</sup> most common cause of death in Thailand, after HIV and Tuberculosis. The disease is mostly seasonal, mostly occurring in the rainy seasons. Clinical manifestations are quite variable. It ranges from community acquired pneumonia to sepsis. Neurological Melioidosis cases are also reported [1]. There also occurs abscess formation. But, it is mostly under-diagnosed. Diagnosis is mainly isolation of the causative organism. Here, we present our case, which was of the most sporadic case in our community. We evaluated for most of the anaerobic infections. Later, the little master was found in this patient.

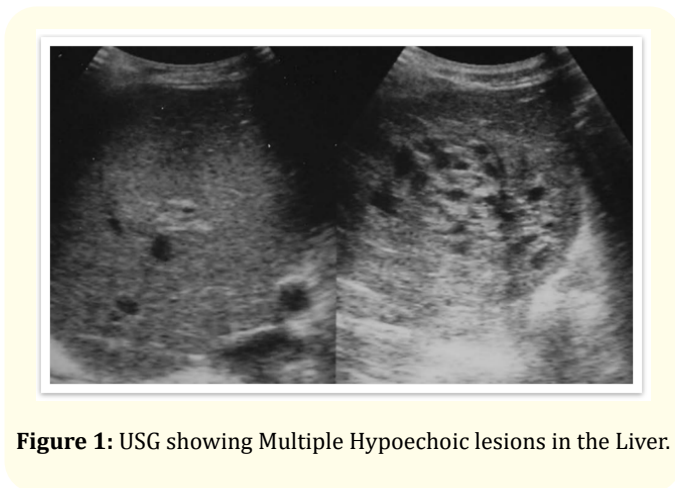
### Background

A 65 years old male, resident of Chennai, who has returned from his hometown (Goa) has come to our hospital with complaints of fever for 6 days, which was high grade, continuous in nature,

associated with chills and rigors, vomiting for 3 days, 4-5 episodes/day, which is not blood stained, non bilious. Abdominal pain was present for 3 days, constant pain, which is radiated to the right hypochondrium. He presented with pain and swelling of both legs, which is insidious in onset, progressive in nature, redness in left ankle. He is a known case of type 2 diabetes mellitus on Homeopathy medicines. No other comorbidities was found. Patient consumes alcohol and is a smoker for 15 years.

On examination, his general condition was fair, hydration was fair, febrile, icterus and bilateral pitting pedal oedema was found. He was hemodynamically stable. Systemic examination revealed no functional abnormality. On local examination, left ankle is erythematous and oedematous. Right ankle is erythematous. Routine blood and urine investigations were done.

Total count is Elevated. ESR is elevated. Highly selective CRP is elevated. Serum Bilirubin is elevated with elevation of Direct bilirubin. Hypoproteinaemia is also seen with elevation of viral enzymes. LDH is elevated. Serum Procalcitonin was normal. Blood and Urine cultures were taken. Smear for Malarial Parasites were Negative. Dengue serology was negative. IFA for scrub typhus was negative. MAT for Leptospirosis is negative.



**Figure 1:** USG showing Multiple Hypoechoic lesions in the Liver.

Blood Culture revealed *Burkholderia pseudomallei*. Abdominal Ultrasonogram shows multiple abscesses with septicaemic melioidosis (Figure 1). Abscess drainage was done which revealed irregularly staining, motile gram-negative bacillus, oxidase-positive, exhibiting marked bipolarity microscopically. Patient was

treated with Parenteral therapy of Meropenem 2gm IV q8th hourly for 2 weeks followed by oral eradication phase of Amoxicillin-clavulanate 500mg thrice daily for 2 weeks. Patient improved with the acute management during the hospital stay.

### Discussion

Melioidosis was originally identified in Burma in the beginning of the 19<sup>th</sup> century. It is widely endemic throughout the Southeastern part of Asia. The mechanism behind the focal distribution is not well understood [5]. The geographical factors including the climate, coastal belt would have got a effect on the proliferation of the organism. The disease is most frequently seen in age groups 40 - 60. Males are slightly more affected than females. It is unclear whether there lies any intrinsic inter-ethnic differences in susceptibility [6]. There are certainly considerable inter-species and inter-strain differences in susceptibility in other animals. The pathogen is also found to be opportunistic, periodically seen in patients with Diabetes Mellitus, Chronic Renal disease. Other risk factors include Steroid therapy, alcohol abuse, liver disease, cardiac failure, chronic lung disease including cystic fibrosis, thalassemia, chronic granulomatous disease, and malignancy [7].

Patients cured completely get reinfected during periods of stress or major psycho-neurotic illness. Hence, patients with symptoms with a predisposing condition, should be evaluated. The organism has a longer period of latency. Patients coming from a endemic area, presenting to us with the clinical elements should be diagnosed by knowledge of suspicion. Treatment consists of intensive parenteral therapy of antibiotics like 3<sup>rd</sup> generation cephalosporins (preferably ceftazidime) or carbapenems for at least 2 weeks. Deaths have been reported in the initial 2 days even after aggressive antibiotic therapy. Once symptomatic improvement occurs, oral antibiotics can be administered for 12 to 20 weeks. Person-to-person contact is very rare. There is no available vaccine. However, prevention is achieved by minimal contact with unhygienic environment [10].

### Conclusion

This case report has concluded the emerging incidence of *Burkholderia pseudomallei* in the community, especially from states of South India [8,9]. Melioidosis infections are more likely Subclinical. This poses a challenge to the Diagnosis of the infection.

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