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Case Report

PUO with multiple abscesses due to Burkholderia pseudomallei: a case report

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ABSTRACT

Melioidosis is an infectious disease of humans and animals caused by *Burkholderia pseudomallei*, previously called as *Pseudomonas pseudomallei*. We reported a case of a 14 year old female patient presented with fever for last 3 months and multiple swellings of joints, misdiagnosed as M.D.R. T.B. But after proper evaluation diagnosed as multiple joint abscess due to Pseudomonas pseudomallei mimiking tuberculosis. Sporadic cases of melioidosis from various parts of South India and Western costal India have been reported, but remained underdiagnosed due to lack of awareness.

Keywords: PUO, Multiple abscesses, Osteomyelitis, Burkholderia pseudomallei, Melioidosis

INTRODUCTION

Melioidosis is an infectious disease of humans and animals caused by *Burkholderia pseudomallei*, previously called as *Pseudomonas pseudomallei*. The organism was identified by Whitemore and Krishnaswami in Rangoon, Burma, in 1911.[1] Melioidosis is endemic in south-east Asia, especially Thailand and northern Australia and distributed unevenly.[2] Sporadic cases of melioidosis from various parts of South India[3] and Western costal India have been reported, but remained underdiagnosed due to lack of awareness.[4]

CASE REPORT

A 14 year old female patient presented with fever for last 3 months and multiple swellings involving right elbow, right ring finger, left periorbital area, left wrist, left index finger for last 2 weeks. There was no history of cough, expectoration, hemoptysis. The swellings were painful and there was limitation of movement of right elbow joint. Patient also gave history of weight loss for the last 3 months without any loss of appetite. She was non-diabetic and non- hypertensive and had a past history of Sputum negative pulmonary tuberculosis 2 years back. Patient was put on category II anti-tubercular drug by local doctor for her current illness and already received 2 months of Intensive phase with HRZES before got admission to our hospital. On general examination, vitals were normal except raised temperature and multiple swellings which were cystic, tender with raised local temperature with positive fluctuation (Figure 1a, 1b, 1c, 1d). Routine examination of blood revealed decreased Hb% (9.9 g/dl), leukocytosis (13500/cmm) with significant neutrophilia (82%) and raised ESR (mean - 56 mm/hour). Her blood glucose was normal. Blood for HIV ELISA was non-reactive. X-ray chest revealed no abnormality. X-ray of underlying bone of different

swellings showed osteolytic lesions (Figure 2a, 2b, 2c, 2d). Blood for pyogenic culture and BACTEC culture for mycobacterium showed no growth. Pus aspirated from the swelling over the left upper eyelid and examined for gram stain, AFB stain, fungal stain, pyogenic culture, fungal culture and BACTEC culture for mycobacteria showed no organism. Mantoux test positive (20 mm) with 5 TU. During this period patient received treatment with inj. cefoperazone + sulbactum (1.5 g) I.V. BD for 10 days, treatment for extrapulmonary MDR-TB [Inj. kanamycin (500 mg) IM OD, tab. levofloxacin (500 mg) OD, tab. ethionamide (250 mg) BD, tab. cycloserine (250 mg) BD, tab. ethambutol (800 mg) OD, tab. pyrazinamide (1250 mg) OD] for 1 month, but patient's fever and swellings did not regress and lost weight about 2 kg in one month. A synovial biopsy from right elbow joint was done after consultation with orthopaedics department at about 2 month of hospitalization and tissue sent for gram stain, AFB stain, ordinary culture and histopathlogical examination. Gram stain and AFB stain showed no organism. But growth was seen in nutrient agar which was positive for *Burkholderia pseudomallei*. Gram stain from the growth showed Gram-negative rod with "safety pin" appearance (bipolar staining). HPE of synovial tissue revealed epithelioid granuloma with foreign body giant cell without any caseation. Then we started treatment for melioidosis with - inj. ceftazidime (1 g) I.V. TDS. Patient's symptoms gradually decreased over next few days and swellings at different sites were gradually disappearing (Figure 3a, 3b, 3c). After inj. ceftazidime for 2 weeks patient was put on tab. cotrimoxazole (DS-BD) and doxycycline (100 mg BD) and continued for 6 months. In monthly follow-up patient remained asymptomatic and gained weight. At present she is living a normal life.

Figure 1a: Swellings involving left periorbital area.

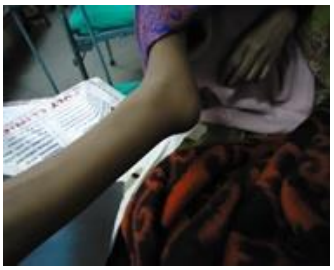

Figure 1b: Swellings involving right elbow.

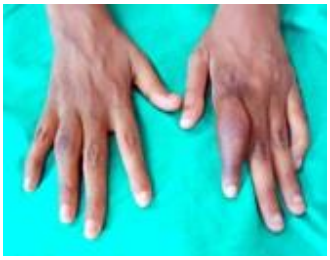

Figure 1c: Swellings involving right ring finger.

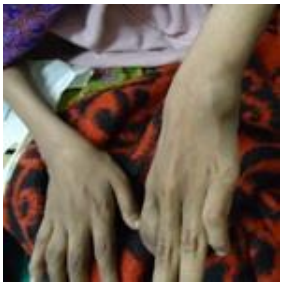

Figure 1d: Swellings involving left wrist, left index finger.

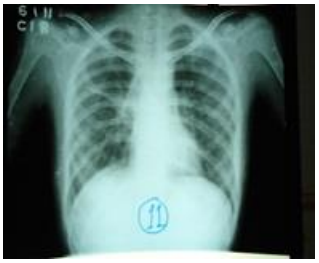

Figure 2a: X-ray chest revealed no abnormality.

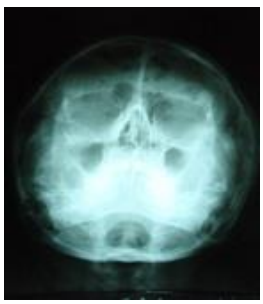

Figure 2b: X-ray periorbital region shows osteolytic lesion.

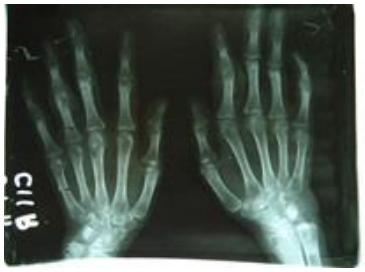

Figure 2c: X-ray hand shows osteolytic lesion.

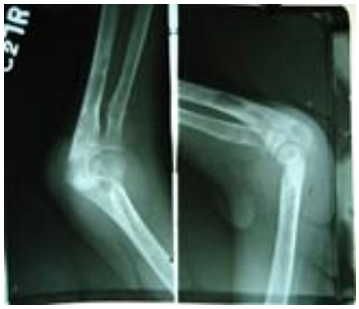

Figure 2d: X-ray elbow shows osteolytic lesion.

Figure 3a: Swelling over periorbital area disappear after treatment.

Figure 3b: Swelling over elbow joint improved after treatment.

Figure 3c: Swelling of wrist joint and finger disappeared after treatment.

DISCUSSION

The cases of melioidosis reported in south-western costal India either had septicaemia, septic arthritis, pneumonia or abscesses in internal organs.[4] One case of cellulitis of neck with septicemia was reported.[3] Fever with multiple abscesses with underlying osteomyelitis is rare. However few cases of musculoskeletal melioidosis have been reported in southern India.[6] Although there are different modes of transmission of infection, localized melioidosis can occur without obvious infected wound or evidence of trauma.[4] Our patient also had no history of trauma. The major risk factors for melioidosis include diabetes mellitus, excess alcoholism and renal disease, chronic lung disease, thalassaemia, malignancies, steroid therapy, iron overload and tuberculosis.[5] Our patient had no such risk factor. Unless there is awareness among the clinicians and microbiologists, cases may be under-reported, and patient management may go in the wrong direction. Similar experience happened in our case also. Chronic infection with *B. pseudomallei* usually produces granulomatous inflammation with epithelioid cells, Langerhan's giant cells and a central area of necrosis which resembles caseation mimicking tuberculosis.[7] But melioidosis with non-caseating granuloma also reported,[8] similar to our case. So, physician must remember that multiple abscess mimicking tuberculosis may be due to melioidosis.

CONCLUSION

Melioidosis is an emerging infectious disease in India, and can involve almost any site. Possibilities of infection in endemic areas with heavy rainfall, and in patients with risk factors should be kept in mind. Strong clinical suspicion and efficient laboratory diagnosis may identify the causative agent frequently. Successful cure from the disease can be achieved by the treatment with proper antibiotic.

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