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General Medicine

ACUTE DISSEMINATED MELIODOSIS PRESENTING WITH SEPTIC ARTHRITHIS AND SEPTIC PULMONARY EMBOLI IN AN OTHERWISE HEALTHY ADULT : A CASE REPORT

KEY WORDS: meliodosis, burkholderia, pseudomallie, septic arthritis

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ABSTRACT

Melioidosis is an infectious disease caused by Burkholderiapseudomallei. It is most prevalent in South East Asia , Northern Australia and India. Septic arthritis is a rare manifestation of melioidosis1. Meliodiosis is usually found in patients with diabetes, heavy alcohol use, or chronic lung disease.

CASE-We report a case of meliodiosis in an otherwise healthy 30 year old, Who presented with acute painful left knee swelling , high grade fever associated with chills and rigors, and night sweats,and a productive cough. Examination revealed active synovitis with effusion involving his left knee, and scattered crackles over both lung fields. Chest X-ray showed diffuse bilateral nodular densities, nodules varying greatly in sizes. Abdominal ultrasound showed wedge shaped hypoechoic lesion,measuring 5x3 Cm, likely splenic infraction. Multiple blood cultures, synovial fluid culture did not grow any organism. He was started on empiricalbroad spectrum antibiotics, But fever was still persisting. During the course of stay, Patient developed a swelling over anterior chest wall on right side, USG was suggestive of a LYMPH NODE. Biopsy was done and culture of biopsy specimen grown Burkholderiapseudomallei.He was started on appropriate antibiotics and responded well, Fever subsided after a week and joint effusions after two weeks.

CONCLUSION- Septic arthritis only occurs in 4 % of patients with melioidosis. When there is diffuse pulmonary involvement, Melioidosis may mimic Disseminated Tuberculosis 1,2, Sepsis syndromes, and Systemic vasculitis syndromes.Meliodiosis should be considered as a differential diagnosis of patients with sepsis or abscesses in endemic regions, so that treatment can be started early to reduce mortality and morbidity.

BACKGROUND

Meliodosis is an infection caused by burkholderia pseudomallie .It is a gram negative bacteria and a facultative intracellular organism. It is predominantly seen in tropical climate especially in South East Asia and in Northern Australia where it is endemic .(3) It is also known as Whitmore 's disease. The clinical presentation is varied and infection may be acute or chronic, localised or disseminated.(4) Severe infection is an opportunistic disease and is more common in pateints with diabetes mellitus , 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(5) We present an interesting case of an young healthy adult with septic arthritis and septic pulmonary emboli with disseminated meliodosis

CASE REPORT

A 30 year old, previously healthy engineer from madikere presented to our tertiary hospital with history of acute onset of left knee joint pain and swelling with prior history of high grade fever with chills, night sweats since last 7 days . No history of trauma to the joint .History of cough one week prior to the illness for which he had received oral antibiotics in a nearby local clinic prior to admission in our hospital.Pateint continued to have high spiking fever during the stay.Examination revealed active synovitis of the left knee joint with scattered crackles over both the lung fields. There was no palpable organomegaly and no lymph nodes palpable except for pallor.The left knee joint synovial fluid aspiration was done and sent for analysis and culture and then the patient was started on inj piperacillin/tazobactum 4.5 gm iv tid empirically for septic arthritis. The preliminary investigations revealed mild normocytic normochromic anemia with neutrophilic leucocytosis. Hb – 10 g/dl leukocyte count- 12,700/cumm neu trophils- 76% lymphocytes- 13% eosinophils—01%monocytes- 10% ESR- 76 mm/1sthour RBS- 115mg/dl. s.creatinine- 0.78mg/dl S.uric acid- 2.8mg/dl s.albumin- 2.94mg/dl S. total bilirubin- 3.10 mg/dl Serum conjugated bilirubin—2.44mg/dl Serum unconjugated bilirubin—0.66mg/dl SGOT- 321IU/L SGPT- 71IU/L ALP- 458IU/L LDH- 220IU/L CRP—237.15mg/l . The chest xray and the xray of left knee joint AP/LATERAL was normal .The ultrasound of the left knee joint revealed minimal free fluid in the suprapatellar recess with minimal internal echoes . Ultrasound of the abdomen revealed hepatomegaly with decreased parenchymal echogenicity and mild splenomegaly with a hypoechoic lesion in splenic parenchyma likely infarct. Pateint continued to have high spiking fever in the ward and severe pain in the left knee joint and also pain in the bilateral elbow and the shoulder joints with swelling inspite of empiricaliv antibiotics treatment and NSAIDS for the pain relief. The synovial fluid analysis showed 5300 cell/cumm with neutrophils- 81%with glucose- 14mg/dl with numerous pus cells with no bacteria and the pcr GENEexpert for mycobacterium tuberculosis and afb staining was negative. ANA profile and HIV tests were negative .The fever spikes continued to be present with persistent cough and multiple joint pains . The synovial fliud culture and the blood and urine culture detected no growth. Bone marrow aspiration and biopsy showed mild hypercellular marrow and culture of bone marrow showed no growth.In view of persistent fever CT chest and abdomen was done which revealed multiple nodules in both lung fields with central cavitation and feeding vessel suggestive of septic pulmonary emboli. Spleenomegaly with non enhancing wedge shaped splenic infarction with hypodense filling defect in the splenic vein near the splenic hilum suggestive of thrombus. There was also ill defined enhancing lesion in the right lobe of the liver with transient hepatic attenuation difference.During the course of stay in the hospital patient developed swelling over the anterior wall of the chest on the right side measuring 0.6x1.1 cms noted in the subcutaneous plane .Ultrasound of the chest showed hyperechoic lesion in the subcutaneous plane in the anterior chest wall on the right side suggestive of granuloma/lymphnodes .Biopsy of the swelling was done and sent for analysis . The culture of the biopsy specimen detected growth of burkholderia

pseudomallei which was sensitive to ceftazidime and doxycycline and imipenem. The patient was started on inj ceftazidime 2 gm iv Q6H. In spite of that patient continued to have high spikes and then case was discussed with the microbiologist and the antibiotics was changed to inj imipenem 1 gm iv Q8H. Then tab doxycycline was intaited after 2 weeks and both of them was for 4 weeks and was adviced opd follow up. At his next opd follow up he was afebrile with no joint swellings/pain. He was adviced to continue only oral doxycycline 100 mg bid for total duration of 20 weeks.

CONCLUSIONS

Septic arthritis only occurs in 4% of pateints with meliodosis. When there is diffuse pulmonary involvement meliodosis may mimic disseminated tuberculosis (6) and systemic vascultic syndromes. Meliodosis should be considered as a differential diagnosis of pateints with sepsis or abscesses in endemic regions , so that treatment can be started early to reduce mortality and morbidity. The disease is usually common with immunocomprised conditions but our patient had no risk factors. An important feature of this disease is its ability to produce latent infection that can reactivate many years after the primary exposure (8) Although there are variety of detection techniques available such as indirect hemagglutination, ELISA and PCR, definitive diagnosis still requires a positive culture (9).Burkholderia pseudomallie is charactersictically resistant to pencillin, ampicillin ,gentamycin and polymixin (10). The potential severity of meliodosis indicates that the gram negative bacteria can survive intracellularly and it has potent virulence factors and the most important are polysaccharide capsule and lipopolysaccharide.(11) They mediate resistance to complement mediated killing. (12) The recommended treatment of meliodosis is 3 to 4 weeks of intravenous ceftazidime, meropenem or imipenem, followed by oral trimethoprim / sulfmethoxazole/ doxycycline for 3-6 months (13) . These infections need to be identified quickly and accurately so that pateints can receive timely and appropriate medical care which will increase their chances for survival (14).

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