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Pyogenic Sacroilitis Due to Burkholderia Pseudomallei Resulting in Septic Shock: A Case Report

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INTRODUCTION

Burkholderia pseudomallei is the causative organism for meliodosis. It is a disease of humans and animals restricted to southeast Asia and north Australia with some reports of occurrence in India [(1)]. The organism is mainly found in soil and water and they mainly infect through inoculation, inhalation or ingestion. Incubation period ranges from 1-3 weeks. It is more common in patients with diabetes mellitus[(2)]. Burkholderia pseudoallei causes various diseases such as asymptomatic infection to abscess, pneumonia, septicemia and disseminated infections

CASE HISTORY

42 year male who is a ticket vendor by occupation in crocodile park for the past 6 years presented with complaints of acute severe Low backache radiating to right leg since 2 days and fever for 2 weeks associated with chills and rigors. He is a known diabetic with poorly controlled sugars. On examination patient was conscious, oriented and febrile (101.3 F).General examination showed mild dehydration, coated tongue.He was tachycardiac, tachypneic but normotensive at admission. Local examination showed tenderness over right sacro-iliac joint with positive straight leg raising test but no neurological deficit. Examination of cardiovascular system was normal respiratyory system revealed bilateral scattered crepitations and abdomen showed hepatomegaly. With clinical differential diagnosis of Psoas abscess or infective spondylitis, patient was started on broad spectrum antibiotics and supportive therapy. Investigations revealed neutrophilic leukocytosis and mild thrombocyto-penia with metabolic acidosis HCO3 -18.2 and lactate levels increased (2.1)

Investigations	Day 1	Day 5	Day 10	Day 15
Total Count	15000	14700	19600	6700
ESR	28	61		
Plateletcount (Lakhs/Cu.Mm)	2.32	0.99	0.80	0.79
Bun	22	14	18	41
Serum Creatinine	1.49	0.94	1.31	2.52
Ast(Sgot)	26	28	82	114
Alt(Sgpt)	44	54	53	60
Sodium	125	123	127	145
Potassium	4.3	2.9	3.4	3.0

He had hyponatremia and mild hepatitis with increasing renal parameters. Chest X-ray revealed the presence of nodular opacities involving the lung base bilaterally. MRI lumbosacral spine showed eveidence of right pyogenic sacroilitis.

With diagnosis of pyogenic sacroilitis and early sepsis patient was started on meropenam after sending blood for culture and sensitivity. Patient condition progressively worsened and he developed multi organ dysfunction along with sudden onset of left hemiplegia and left UMN facial palsy.MRI brain showed infarct in right MCA territory possibly due to septic emboli leading to hemiplegia. Meanwhile his blood culture showed growth of Burkholderia pseudo-allei. Antibiotics was continuedand patient was treated in intensive care unit with mechanical ventilation, inotropes and other supportive medication. However patient succembed to the illnessdue to septic shock.

DISCUSSION

Melioidosis is caused by gram-negative bacilli, Burkholderia pseudomallei which was initially under the group of Pseudomonas species. It is commonly found in our environment mainly in soil and water. Many cases of meliodosis goes undiagnosed and unreported in India. Humans are mainly infected though inhalation or through direct inoculation. People with Diabetes mellitus, HIV positive status and renal disease are more prone to infection on exposure, compared to healthy individuals [(3)]. It presents as a wide spectrum of clinical syndromes affecting various systems ranging from asymptomatic infection to abscesses, pneumonia, and disseminated disease. It mainly manifests with pulmonary involvement and causes fatal pneumonia and septicemia in endemic areas. It also presents as skinulceration with associated lymphangitis and regional lymphadenopathy due to hematogenous spread of the infection. Encephalomyelitis have been reported in 4% of clinical presentation especially in Australia [(4)]. In children meliodosis manifests most commonly as suppurative parotitis and the incidence is 40%[(5)]. It can also affect bone and joints leading to osteomyelitis and septic arthritis, but they are highly uncommon and if present they require surgical management along with intravenous antibiotics [(6)].

Chiranjay et al has reported 16% incidence of bone involvement among the various manifestations of melioidosis in his study [(7)]. This patient had the unsual presentation of sepsis with sacroilitis due to melioidosis which is very uncommon.

Various markers for organ dysfunction such as leukopenia, elevated bilirubin, aspartate and alanine aminotransferase levels,increased renal parametersand metabolic derangements are evident of high mortality in melioidosis [(8)]. Our patient had elevated bilirubin,liver enzymes,renal parameters, hyponatremia and hypokalemia over the duration of illness predicting a high mortality.

Melioidosis requires extensive treatment which includes a intensive therapy with parenteral ceftazidime or meropenam for 2 weeks followed by eradication phase with oral trimethroprim-sulfamethoxazole for 2-3months to prevent relapse. In some cases, it is highly refractory to treatment due to resistance against antibiotics because of enzymatic inactivation and target deletion [(9)].

CONCLUSION

In immunocompromised patients with deep seated infections, Burkholderia should be considered in the differential diagnosis. With a high index of suspicion, early diagnosis and prompt treatment should be initiated to decrease the mortality due to Melioidosis.

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