Casareport

Septicaemic Melioidosis

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Abstract

Melioidosis is an emerging infectious disease in our country. It is an important cause of community-acquired ‘sepsis syndrome’ particularly in patients with underlying immunosuppression which often goes undetected due to lack of awareness resulting in high fatalities. Here we report a case of septicaemic melioidosis in a diabetic patient.

Introduction

Melioidosis, caused by the bacteria Burkholderia pseudomallei is endemic in South–East Asia and Northern Australia. It has been suggested that this infection is underdiagnosed and underreported in the Indian subcontinent.1 But recently there have been several cases of melioidosis reported mostly from the southern parts of India.2,3 Here we report a case of septicaemic melioidosis.

Case Report

A 71 year old diabetic patient, from Bankura district of West Bengal presented with history of high grade intermittent fever since the last 3 weeks and a gangrenous ulcer on the right foot for the last month. He had been variously treated with antibiotics (Ciprofloxacin, Chloramphenicol, and Ceftriaxone) by local physicians but there was no remission of fever. On the contrary his condition deteriorated day by day and he became extremely weak and bed ridden. The patient was diabetic for the last 7 years but his blood sugar was controlled with oral hypoglycemis. On examination the patient look was profoundly toxic and was running temperature around 101–102°F. He was conscious but very drowsy. There was mild hepatomegaly and proximal muscle wasting. Routine hematological investigations revealed low hemoglobin concentration (7gm/dl), leucocytosis (17,100 /cu mm) with neutrophilia and high ESR (102 mm after 1st hour). Blood sample was examined for unknown febrile etiology including Widal test, Typhi Dot M, and tests for MP, HIV and autoimmune markers all of which were negative. At the time of admission his blood sugar (fasting) was 217 mg/dl. The patient was empirically started on Amoxicillin + Clavulanate. His oral hypoglycaemic drugs were replaced by Human Insulin (20 U before breakfast and 10 U before dinner). Wound swab collected from the foot ulcer was sterile on culture. X-ray of the foot was done but there was no underlying osteomyelitic lesion associated with the foot ulcer. Colour Doppler study of both the lower limbs revealed normal blood flow in the lower limb arteries. The blood collected for culture during a fever spike showed growth of Gram-negative bacilli. The Gram-negative bacteria isolated from blood culture exhibited bipolar staining in Gram’s stain.

It was non-lactose producing, oxidase positive, non-pigment producing, non-fermenting bacilli which grew well on nutrient agar, MacConkey and blood agar. Detailed identification of the bacilli was done in the API automated system, using ID 32 GN kit (Bio-Merieux, France). The bacilli were identified as Burkholderia pseudomallei, the causative agent of melioidosis. At this stage the antibiotic Amoxicillin + Clavulanate was replaced by Meropenem. Meropenem was administered at the dose of 1 gm 8 hourly. After this we noticed rapid clinical improvement and there was normalization of the inflammatory markers. By about the third day of Meropenem administration the patient was afebrile. A repeat blood culture done after 7 days of Meropenem therapy turned out to be sterile. After the patient became afebrile and his general condition was stable, surgical debridement of the foot ulcer was done. The patient was discharged from the hospital after 2 weeks of antibiotic therapy with the advice to take trimethoprim-sulfamethoxazole (320/1600 mg orally) for another 14 days. The patient had achieved good glycaemic control at about the time of his release from the hospital and he was advised to continue the insulin till the next follow up visit.

Discussion

Melioidosis caused by the bacteria B. pseudomallei has been referred to as the ‘remarkable imitator’ because of its varied clinical presentations. Infections may range from subclinical to those that progress towards a fulminant disease resulting in a rapidly fatal course. Infections may be acute or chronic, localized or disseminated and one form of infection may progress into another. In endemic areas majority of the cases present as community-acquired ‘sepsis syndrome’ with a short history (median 6 days; range 1 day to 2 months) of fever and rigors.4 In endemic areas the bacteria is found in soil (particularly in paddy fields) and stagnant waters. Humans acquire the infection by inhalation of contaminated dust or when soil contaminated with bacteria comes in contact with abraded skin. The primary focus of infection may be lung, skin and sub-cutaneous tissue although the evidence of a primary focus may not be apparent in about half of the patients. Predisposing conditions include diabetes, renal disease, malignancy, immunosuppressive therapy (particularly steroids), liver disease, alcohol and drug abuse and pregnancy.4 Melioidosis is associated with a high fatality rate, particularly in patients with co-morbidities. Fatality rate is as high as 80 – 90% for disseminated sepsis. With prompt therapy, fatality rate may be reduced to 40 – 50 %5.

In this case an elderly diabetic patient acquired this...
infection and the primary focus was, in all probability, the leg ulcer. The profile of this patient makes him highly susceptible for acquiring this infection. Since melioidosis has never been reported from this part of the country the index of suspicion for this infection was not very high. Fortunately timely diagnosis followed by appropriate antibiotic therapy resulted in a rapid cure.

Regarding antibiotic therapy, both the duration and the best antibiotic to use remain uncertain as this infection is associated with a high relapse rate resulting from failure to eradicate this organism. Currently Ceftazidime is the drug of choice for treating melioidosis although it has also been reported that carbapenem antibiotics are susceptible against both beta lactam sensitive and resistant strains. In this case administration of carbapenem antibiotics resulted in a rapid clinical and bacteriological cure. More studies are needed to find out how carbapenem antibiotics compare against Ceftazidime in eradicating this infection and preventing its relapse.

Thus in conclusion it can be said that this infection, once considered exotic in our country may not be so uncommon after all. More vigilance is required on the part of microbiologists and clinical practitioners to detect this infection so as to be able to institute a timely therapy and prevent fatalities.

References