Sphingobacterium multivorum septicemia in a HIV positive child: A case report

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Abstract

This report describes an 11-year female child with septicemia. Patient was positive for HIV antibody. Blood culture report showed the growth of Sphingobacterium multivorum. This is probably the first case reported from Central India to our knowledge as a cause of septicemia in an immunodeficient individual.

Introduction

Over the last 50 years, various species of the genera Flavobacterium and Sphingobacterium have been regularly implicated in human diseases, especially nosocomial infection [1]. However few foreign studies of Sphingobacterium multivorum has been reported from different clinical conditions as a human pathogen. It has been occasionally isolated from clinical specimens.

In 1987, first case was reported in Lyon, France from a patient of Non Hodgkins lymphoma [1], in 1996 a case was reported from HIV positive patient in Bangkok, Thailand [2]. After that a few foreign studies on immunodeficient as well as immunocompetent persons were reported [3,4]. Here we report a case of 11 year old HIV positive female child with septicemia.

Case

An 11 year old female child presented with sudden onset of high grade fever, chest pain, palpitation and breathlessness since seven days.. Family history revealed that her father was truck driver by occupation and died of Tuberculosis. He was positive for HIV antibody. Her mother was also positive for HIV antibody, who is presently asymptomatic.

On examination child's pulse rate was 160 per minute, respiratory rate 20 per minute with normal blood pressure. White patches were present in the oral cavity suggestive of oral candidiasis. Multiple skin lesions of herpes were present, which were diagnosed by the Dermatologist and confirmed by Histopathologist. Per abdominal examination revealed hepatosplenomegaly. No abnormal findings were found on central nervous system examination. Cardiovascular examination showed S2 gallop. Chest deformity was present. Radiogram of chest showed pulmonary congestion. 2DECHO showed moderate tricuspid regurgitation suggestive of severe pulmonary hypertension. All valves were normal structurally.

Haemogram showed Hb 8 gm% and leukopaenia (TLC- 3400\cumm3). The patient was positive for HIV antibodies. Blood culture was done after overnight incubation of the specimen in trypticase soya broth. Beta haemolytic, small circular, pale yellow colored colonies were seen on blood agar. No growth was observed on Mac Conkey's agar. Organism was gram negative small bacilli, non motile, positive for ornithine decarboxylation, dextrose, indole and Dnase. It was identified as Sphigobacterium multivorum which was resistant to polymixin and penicillin [5]. Another blood sample was collected and cultured which showed the same organism. The organism was sensitive to ceftazidime, and cifran. The patient was responded to the antibiotics given as per sensitivity report.

Discussion

Sphingobacterium species belongs to family Flavobacteriaceae. It is a saprophytic organism, present in soil and environment. Initialy it was thought to be nonpathogenic. Since last 50 years, it is implicated as human pathogen in hospital acquired infections. Now it is identified as opportunistic organism in immunocompromised and immunocompetent individuals as well. To our knowledge, Sphingobacterium multivorum have not been reported from India in immuncompromised patients as a cause of septicemia.

In 1999, Manfridi et al [6] carried out a study of 2412 HIV infected patients, out of that 6 patients developed septicemia due to Flavobacterium species. It suggests that Flavobacterium group of organism may play a pathogenic role in patients with advanced HIV disease even when some commonly recognized risks factors are lacking (e.g. indwelling catheter, instrumentations, IV drug abuser etc.). A very low CD4 count, leukopaenia neutropaenia, concurrent AIDS related infections may act as predisposing factors[6]. In present case apart from Sphingobacterium septicemia, opportunistic infections like oral candidiasis and herpes were also present. Recently, Mark A. reported a case of community acquired sepsis and cellulitis from an immunocompetent individual also [4].

In view of the infrequent occurrence of these infections, early suspicion is essential for both clinicians and microbiologist dealing with immunocompromised patients. Flavobacterium species should be taken into consideration as nosocomial or community acquired opportunistic pathogens due to their relationship with advanced immunodeficiency and their elevated resistance to commonly used antimicrobial agents.

Conclusion

Flavibacterium species should be considered as opportunistic pathogen in community or hospital acquired infections specially in immuno compromised patients as a cause of septicemia.

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