

CASE REPORT

Meningitis as a primary presentation of Dengue infection

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ABSTRACT

Dengue fever is the most prevalent arboviral infection in the world that is transmitted by mosquitoes. It is an acute illness of sudden onset that usually follows a benign course with symptoms such as headache, fever and rash. Central nervous system manifestations of dengue infection are usually rare. Here, a Dengue case with meningitis as primary manifestation has been presented. *J Microbiol Infect Dis* 2013; 3(1): 39-40

Key words: Meningitis, presentation, Dengue

Deng hummasının birincil sunumu olarak menenjit

ÖZET

Deng ateşi arbovirüslere bağlı enfeksiyonların en sık görüleni olup, sivrisinekle bulaştırılır. Hastalık genellikle baş ağrısı, ateş ve döküntü gibi semptomlarla ani olarak başlangıç gösterir. Deng ateşinde santral sinir sistemi tutulumu nadirdir. Bu yazıda Deng enfeksiyonunun seyri sırasında menenjitte başvuran bir olgu sunuldu.

Anahtar kelimeler: Menenjit, Deng ateşi, başvuru

INTRODUCTION

Dengue fever is a mosquito borne disease caused by a Flavivirus, and has been reported in over 120 countries with around 3.6 billion people living in areas of risk.¹ Malaise, fever, musculoskeletal pain, rash, petechia, purpura, retroorbital pain, nausea, vomiting and abdominal pain are the usual symptoms of dengue fever.

Dengue fever presenting primarily as a central nervous system problem has been rarely reported in medical literature, more so in the pediatric age group.² We presented a child with meningitis as initial presentation of dengue.

CASE REPORT

A 14 year-old boy was admitted with symptoms of high grade fever, vomiting and headache of four days duration. He did not have myalgia, arthralgia, skin rash, bleeding manifestation or any other significant past medical history. On examination child was conscious and oriented. Neurological examination revealed neck stiffness with a positive Kernig's

and Brudzinski's signs, the rest of the examination being normal. Blood picture revealed a normal haemoglobin (11.9 g/dl) thrombocytopenia (56.000/mm³) and elevated total count (12.000/mm³). Serum electrolytes, urea and creatinine were normal. Liver function tests were mildly elevated (Aspartate aminotransferase (AST) 435 U/L, Alanine aminotransferase (ALT) 145 U/L, and Alkaline phosphatase (ALP) 295 U/L). Malaria parasite and Blood culture were negative. Cerebra Spinal Fluid (CSF) analysis showed WBC count of 57 cells/cumm, No RBC, Neutrophils of 11%, Lymphocytes of 89%, CSF glucose 48mg/dl and CSF protein 72 mg/dl. CSF gram stain showed a few pus cells with no bacteria and CSF culture was negative. Serum IgM dengue was positive. An ELISA technique was used for IgM dengue with a sensitivity of 96% and specificity of 97%. CSF for IgM dengue and CT were not done in view of financial constraints. The child was treated symptomatically, became afebrile by the third day, and was discharged on the seventh day after the platelet count normalized. Child was followed up at monthly intervals and was found to be normal.

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DISCUSSION

Uncomplicated dengue infections very rarely presents with meningitis as the initial symptom. The reported time of onset of neurological symptoms is three to seven days from the start of fever.³ Immunosuppression caused by dengue infection, increases the chances of organisms to invade the body and cause widespread viral and bacterial infection. Drowsiness and nuchal rigidity are the main clinical signs noted in dengue meningitis or meningo-encephalitis.⁴

Meningitis is seen in around 3-4% of dengue cases.⁵ Recent studies have revealed the increase in the incidence of dengue neurological infections in endemic areas.⁶ Studies have shown that dengue meningitis usually has a benign outcome. Mortality rates reported in cases of neurological dengue and severe dengue infection was around 5%.⁷

In conclusion, our report demonstrates that meningitis with or without encephalitis can be the first manifestation of dengue infection. Dengue infection should always be considered as a probable etiological agent of meningitis. Platelet counts and

IgM dengue detection in both serum and CSF may help in reaching the correct diagnosis.

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