

## A Case of Dengue Encephalitis with Intracerebral Hemorrhage

Sir,

Dengue fever has varying clinical presentations, ranging from asymptomatic infection to dengue shock syndrome.<sup>[1]</sup> Neurological complications, in general, are unusual; however, sporadic cases have been reported, world over.<sup>[2]</sup> We report here a case of a patient of dengue encephalitis who also developed left-sided hemiparesis, secondary to intracerebral bleed as a result of profound thrombocytopenia.

A previously healthy 28-year-old male farmer presented with high-grade fever for the preceding six days, followed by generalized tonic-clonic seizures and altered sensorium for two days. Clinical examination revealed stable vital parameters and a diffuse erythematous macular rash on trunk and legs. Neurological examination revealed a Glasgow Coma Scale (GCS) of 8, absent neck rigidity and Kernig sign. Pupillary size and reaction were normal, with bilateral extensor plantars. Investigations revealed a hemoglobin of 9 gm%, total leukocyte count of 2,300/mm<sup>3</sup> with normal differentials and morphology; platelet count on admission was 30,000/mm.<sup>[3]</sup> Serum electrolytes and results of renal and liver function tests were normal. Malarial parasite was undetectable in the peripheral blood smear, and rapid card test for malarial parasite(MP) was negative. Cerebrospinal fluid (CSF) analysis (done after transfusion of 3units of platelets; pre-lumbar puncture platelet count, 62,000/mm<sup>3</sup>) showed an elevated opening pressure; clear appearance; 60 cells, all being lymphocytes. Protein was 68mg/dL; and sugar, 80mg/dL. MRI brain was suggestive of diffuse cerebral edema.

The clinico-pathological picture prompted us to make a working diagnosis of acute viral encephalitis, and accordingly the patient was analyzed for serum and CSF using ELISA for Japanese encephalitis (Xcyton, Bengaluru, India) and Herpes Simplex Virus 1HSV-1 (Disse Diagnostics, Italy), both being more common causes of viral encephalitis in our setting. Both were found to be negative in serum and CSF. Paired sera were positive for IgM dengue (IgM capture ELISA for dengue by NIV, Pune, India); and NS-1 antigen (J. Mitra and Company) was found to be positive. CSF also tested positive for IgM dengue. Blood and CSF cultures were negative. X-ray chest revealed bilateral pleural effusion. CSF-PCR (polymerase chain reaction) for dengue could not be done.

After initial improvement for two days, the general condition of the patient worsened, and he developed

bleeding from the IV cannula site and the urinary catheter. Platelet count at this time was 5,000/mm<sup>3</sup>.<sup>[3]</sup> The patient was given 2 units of packed red blood cells and 5 units of platelets. Clinical examination revealed preferential movement of the right side of the body and the left plantar was extensor. MRI brain was repeated, and it revealed an intracerebral bleed in the right basal ganglia region with intraventricular extension. The coagulation profile was normal. The patient was transfused 4 more units of platelets and fresh frozen plasma. Repeat platelet count the next day was 6,000/mm<sup>3</sup>.<sup>[3]</sup> The patient was managed conservatively with general supportive measures. The patient expired on the 10<sup>th</sup> day after admission.

On reviewing available literature, the entity of dengue encephalitis with thrombocytopenia-induced intracerebral bleeding has not been reported. The neurovirulent properties of dengue are not well known. CNS involvement with dengue has been reported in the form of seizures, meningitis, encephalitis, etc.<sup>[3]</sup> This documentation is presented because of a rare manifestation of a common disease, and it also highlights an important, potentially fatal complication of this disease.

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<b>Quick Response Code:</b> 	<b>Website:</b> <a href="http://www.jgid.org">www.jgid.org</a>
	<b>DOI:</b> 10.4103/0974-777X.81707