



DENGUE AND THE BRAIN: A CLINICAL CASE REPORT ON DENGUE ENCEPHALITIS

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KEYWORDS :

INTRODUCTION

- Dengue is caused by a single – stranded RNA virus causing dengue fever and dengue hemorrhagic fever.
- The virus has four separate but closely related serotypes (DENV-1, DENV-2, DENV3, and DENV-4) among them DENV-2 and 3 are the major serotypes that lead to neurological disorders.
- The neurological manifestations seen in dengue are encephalitis, meningitis, and encephalopathy, stroke, and Guillain-Barré syndrome.
- Dengue encephalitis is a rare and severe complication of dengue fever, result of directly invading neurons leading to neuronal infiltration by dengue virus.
- The incidence being about 4-5% only.
- Frequency of encephalitis was more common in male (M: F: 2:1).
- The most frequent symptom of dengue encephalitis, which occurs in 52.3% of patients, is alteration of consciousness, headache, and seizures.
- The diagnosis of Dengue encephalitis poses significant challenge due to lack of single diagnostic tool.
- CT scan shows intraparenchymal spontaneous hyperattenuating foci representing microhaemorrhages are commonly seen.
- MRI findings in dengue vary. MRI may be normal but hemorrhages cerebral edema, and focal abnormalities involving the hyperintense lesion involving basal ganglia, thalamus, cerebellum and hippocampus are the classical features of Dengue Encephalitis.
- A characteristic involvement of dengue Encephalitis is bilateral thalamic with central area hemorrhage gives characteristic Double Doughnut Sign.

CASE REPORT

- A 13 year old male patient, presented to medicine opd of PRAVARA RURAL HOSPITAL, Loni, with complaints of History of fever since 3 days Was visiting local doctor in Ashwi for same where he was given IV fluids and paracetamol
- Patient was conscious and vitally stable on admission admitted on 15-10-23 at 10:30pm
- Post that at 11:30 pm patient had 2 episodes of vomiting which are projectile and 1 episode of gtes kind of seizure.
- Patient was given inj lorazepam 4 mg iv stat and was shifted to ICU

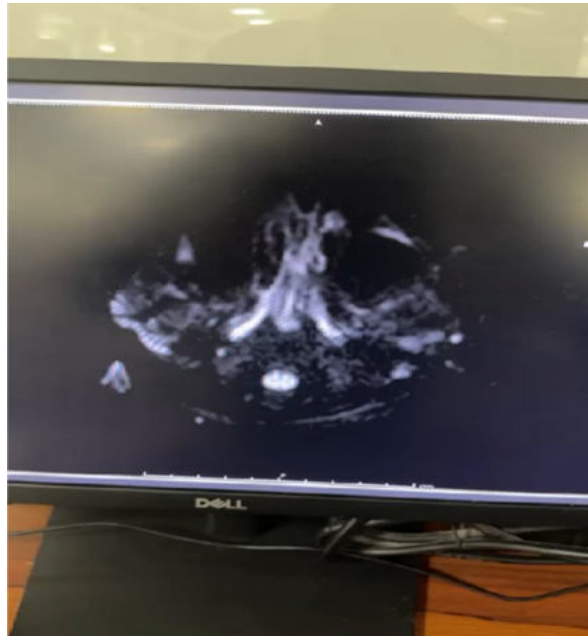
On Examination

- Patient is sedated
- Plantars - B/l extensors
- No fever spike since admission
- No neck stiffness
- Patient was provisionally diagnosed as ? SEIZURE DISORDER ? DENGUE ENCEPHALITIS and all necessary investigations were done.

Blood picture was as follows:

CBC suggestive of thrombocytopenia with platelet count of 65k
Dengue NS1 POSITIVE Rest of the investigations are within normal limits.

MRI brain a+v was done



MRI suggestive of hyperintensities in b/l thalamus s/o dengue encephalitis

TREATMENT

- The patient was initially managed with anti- epileptics (levetiracetam 500mg), antibiotics (ceftriaxone 2g, doxycycline 100mg), acyclovir 500mg, and dexamethasone 8mg, the platelet count dropped to 10000 and was maintained with RDP transfusions.
- Due to the patient's declining state and GCS scores, the patient was intubated and ventilated.
- After five days, the patient was extubated and his condition began to improve.

The patient was subsequently given supportive care, including dexamethasone, antibiotics, and antiepileptic drugs, physiotherapy was suggested. The patient was discharged with minimal improvement.

- Hence the patient was clinically diagnosed with **DENGUE ENCEPHALITIS**.
- Now patient is on regular follow up for close monitoring, and is doing well.**

CONCLUSION

- The rising incidence of dengue encephalitis, coupled with the lack of a single sensitive diagnostic test, poses significant public health challenges, particularly in endemic regions.
- Understanding its clinical manifestations and epidemiological trends is vital for effective diagnosis and management.
- Continued research and surveillance are essential for developing targeted interventions, enhancing public awareness, and reducing the burden of dengue encephalitis on affected populations.
- Addressing these gaps is crucial for improving outcomes in dengue patients.