



## Self-harm as a rare sequelae in a case of post dengue encephalitis: A rare case report

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### Abstract

Dengue is the most common human arbovirus infection. The psychiatric symptoms may accompany the acute phase of dengue or can be a late manifestation. Encephalopathy is an atypical manifestation of dengue disease and may present with depressed sensitivity, seizures, nuchal rigidity, pyramidal signs, headache, papilledema, myoclonus, and behavioral disorders. Post - infectious sequelae are mainly memory disturbance, dementia, mania, Reye's syndrome, and meningo-encephalitis. In this report we present a case where self-harm is reported as a rare sequelae in Post dengue encephalitis but not part of organic psychosis.

**Keywords:** dengue, post dengue encephalitis, self-harm, sequelae.

### 1. Introduction

Dengue is the most common human arbovirus infection. It is estimated that dengue infects 390 million persons per year, out of which 96 manifest clinical symptoms of the disease [1]. With increase in the number of cases of dengue, there are reports of different neuropsychiatric manifestations associated with this condition from different parts of the world. Dengue fever could lead to many complications like dengue haemorrhagic fever, Dengue shock syndrome, Neuropsychiatric manifestations etc. The exact incidence of neuropsychiatric manifestation is, however, not certain due to lack of adequate studies. The psychiatric symptoms may accompany the acute phase of dengue or can be a late manifestation. In recent studies, the virus has been demonstrated be neuro-trophic and blamed for neurological sequelae such as Guillain – Barre syndrome, intracranial hemorrhage, ischemic stroke, isolated nerve palsies, and encephalopathy [2]. Encephalopathy is an atypical manifestation of dengue disease and may present with depressed sensitivity, seizures, nuchal rigidity, pyramidal signs, headache, papilledema, myoclonus, and behavioral disorders. Post - infectious sequelae are mainly memory disturbance, dementia, mania, Reye's syndrome, and meningo-encephalitis [2].

### Case report

An 18 year old unmarried male mechanic by occupation, hindi and oriya speaking hailing from rural background resident of Malkangiri, Orissa, not formally educated, belonging to low socio - economic status was brought to the Psychiatry OPD accompanied by his elder brother and father with complaints of decreased social interaction since the past two years, decreased sleep and food intake, decreased self-care, self-harming behavior with many cuts on his left forearm, irrelevant talk and occasional crying spells since the past 2 months. No history of perceptual abnormalities could be elicited. There was no history of

elated mood or increased energy or increased self-esteem or persistent pervasive low mood. There was no history of substance use. Past history revealed that patient had fever with headache two years back with history of one episode of seizure. Complete blood picture was done which showed decreased platelet count of one lakh. Serology tests showed positive IGM for dengue and negative IgG and NS1 antigen. Blood test for malaria parasite, hepatitis B surface antigen, and HIV antibody were negative. CT brain revealed Hyper density in the superior saggital sinus and cortical veins. CSF analysis revealed one cell and normal glucose and proteins with clear appearance. Patient was treated for dengue fever with anti - pyretics and I. V fluids and anti - epileptics and got discharged five days later after he has improved. There was no significant family history and was pre - morbidly well adjusted. His mental status examination showed that patient wasn't co - operative, giving irrelevant answers for questions asked and dis - oriented to time, place and person and rest of the MSE could not be elicited. No other signs of delirium could be elicited in this patient. He was referred to the neurology department to rule out organ city, where he was diagnosed with Post Dengue - encephalitis sequelae and started on Divalproex 500mg. Later he was sent to the psychiatry department for further treatment. He was diagnosed with Post Dengue Encephalitis sequelae and he was advised admission but, attendants refused admission. So he was treated on out - patient basis and was started on Amisulpiride 200 mg and Clonazepam 0.5 mg and was advised regular follow - ups. On follow up after 2 weeks, patient was found to have improved social interaction, adequate sleep and food intake, relevant talk and no self-harming behavior. When MSE was done patient could not recall anything that has happened and doesn't remember the self-harming behavior. Clonazepam was gradually tapered and stopped whereas Divalproex 500 mg and Amisulpiride 200 mg are continued. Patient has been on regular follow up every month since then and is maintaining well now.

## Discussion

It was found in this case that self-harming behavior is an Independent entity and not part of psychosis. Self-harming behavior was not reported in any of the cases of dengue encephalitis before, as such no literature was found. In the present case, patient was treated for dengue encephalitis but his social interaction has not improved later which was followed by self-harm, decreased sleep and appetite and occasional crying spells. Psychiatric symptoms can be seen in dengue patients either due to the disease itself or due to complications. Psychosis, though rare, may be the early manifestation or late manifestation in the course of dengue which could possibly reflect the extent of cerebral involvement by the virus. Mania has been found to be most commonly reported followed by anxiety and depression.<sup>[3]</sup> Psychiatric symptoms following dengue fever have been thought to be the result of intracranial hemorrhage, cerebral edema, metabolic disturbances, or encephalopathy<sup>[4]</sup>. The dengue virus has been known to cause capillary leakage leading to accumulation of fluid in the extravascular space and cerebral edema<sup>[5]</sup>. This has been hypothesized to be the cause of the neurological manifestations such as encephalopathy, delirium, and paraparesis in severe dengue. Recent evidence of virus isolation from brain tissue, however, indicates dengue neurotropism. Other possible explanations are systemic effect of dengue infection or neuroimmune-mediated response<sup>[6]</sup>. Reported mortality and morbidity due to dengue encephalitis itself is low with most survivors recovering fully. Though the common presenting features of dengue encephalitis are fever, headache, reduced consciousness and seizures, other neurologic manifestations may also be evident and classical features of dengue may not always be present<sup>[7]</sup>.

## Conclusion

The complications arising from Dengue fever can be sometimes devastating and care full and prior identification of complications is essential. This case is observed to be the first one where self-harm as an independent clinical feature was identified in a case of Post - Dengue Encephalitis. Though the reported mortality and morbidity due to dengue encephalitis is low with most survivors recovering fully, one has to be cautious enough to identify the high risk neuropsychiatric manifestations seen in dengue.

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