

“Bell’s Palsy- A Unusual Manifestation Of Dengue Virus”

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I. Introduction

Dengue is the most rapidly spreading mosquito-borne viral disease in the world.¹ Around 2.5 billion population is at risk of dengue infection worldwide, and its endemic zone comprises more than 100 countries of the world. It is caused by arbo viruses which belong to the *Flaviviridae* family. Dengue virus 1-4 are the known serotypes of the virus.² The clinical presentation of dengue has a wide spectrum, ranging from mild clinical febrile illness to severe life-threatening conditions like dengue hemorrhagic fever and dengue shock syndrome. Recently, virological characteristics of dengue viruses have been changing, resulting in widespread neurological complications.³

Neurological manifestations of dengue infection can be grouped into 3 categories: (1) concerned with neurotropism leading to encephalitis, meningitis, myositis, rhabdomyolysis and myelitis; (2) related to the systemic complications of dengue infection that can lead to encephalopathy, stroke (both hemorrhagic and ischemic), hypokalemic paralysis and papilledema; (3) post-infectious leading to acute disseminated encephalomyelitis, encephalomyelitis, myelitis, neuromyelitis optica, optic neuritis, Guillain-Barré syndrome probable Miller-Fisher syndrome, phrenic neuropathy, long thoracic neuropathy, oculomotor palsy, maculopathy and fatigue syndrome.⁴We report a case of a 65-year-old female, who developed right sided facial weakness after dengue fever.

II. Case Report

A 50-year-old female, without any significant past medical illness presented with drooling of saliva and difficulty in talking and closing her right eye completely. Her son also noticed that she had facial asymmetry. There was no history of any limb weakness or paraesthesia. She also had fever for two weeks that lasted for 3-4 days. On presentation, she was conscious, alert and followed verbal commands. She was hemodynamically stable and her physical examination was unremarkable. However, following a neurologic examination, a unilateral lower motor neuron weakness was marked. Her other motor and sensory examination was unremarkable.

MRI scan of her brain with contrast study was concluded as normal. Electrophysiological evaluation of facial nerve revealed normal latency and reduced amplitude. Her peripheral nerve conduction study was normal. Her CBC, LFT and KFT were unremarkable. She was also evaluated for fever and found to have Dengue NS1 antigen positive. Vasculitic markers, lyme serology were negative. She was managed with low dose steroids, antiviral and physiotherapy. Her facial weakness improved gradually and she was discharged under satisfactory condition.



III. Discussion

Dengue has been a known clinical entity since 1780.⁴ The association of dengue infection and neurological abnormalities was first described by Sanguanserm Sri and colleagues in 1976, in a patient presenting with encephalopathy.⁵ Many neurological symptoms are associated with dengue and have been recognized for over a century. The classic signs of acute infection are headache, dizziness, lightheadedness, insomnia, agitation, irritability and depression. A minority of symptoms manifests as encephalopathy.⁶

Among the neurological manifestations that appear post-dengue, meningoencephalomyelitis, transverse myelitis, post-infectious encephalitis, epilepsy, tremors, Bell’s palsy, mononeuropathy and Guillain-Barré syndrome (GBS) stand out.⁷ GBS is a rare complication of dengue fever with an incidence of between 0.6 and 1.9 per 100,000.⁸ The pathophysiology of these neurological complications can be explained by the occurrence of cerebral edema, cerebral hemorrhage, cerebral anoxia, hyponatremia, liver failure associated with portal-systemic encephalopathy, micro-capillary hemorrhage or release of toxic products.⁹

Bilateral facial weakness may be a component of GBS. but electrophysiological evaluation and neurological evaluation was normal except unilateral lower motor neuron type facial weakness. Our case calls for special attention because the dengue infection remains a serious public health problem in tropical countries such as India, but little is known about the actual incidence of neurological complication of dengue.

IV. References

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