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ASEPTIC ENCEPHALITIS IN A CASE OF GUILLAIN BARRE SYNDROME POST INTRAVENOUS IMMUNOGLOBULIN THERAPY: A CASE REPORT AND REVIEW OF LITERATURE

General Medicine

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KEYWORDS

INTRODUCTION

Guillain Barre syndrome is an autoimmune condition in which the immune system of the body attacks mainly the peripheral nervous system by molecular mimicry to gangliosides causing both sensory as well as motor loss depending on the variant. (1) It is a very rare but a threatening neurological disorder. The incidence in India as per 2025 was 170 per 1,00,000 population. (2) The condition is usually preceded by either an infection or immune stimulus caused by organisms like- Campylobacter jejuni, Epstein- Barr virus, Cytomegalovirus etc. The treatment modalities include serial Plasmapheresis and Intravenous Immunoglobulin (IVIG). (3) However, in certain cases, IVIG shows adverse neurological effects inclusive of Aseptic meningitis, Posterior reversible Encephalopathy syndrome (PRES), seizures.

Case Presentation

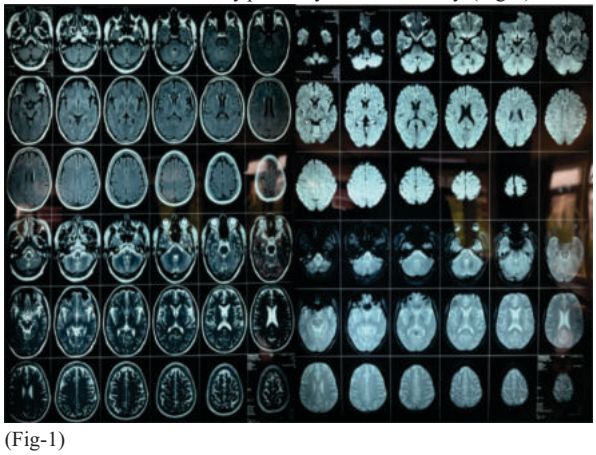
A 54 year old female Resident of Mumbai presented to KJ Somaiya Hospital with complaints of progressive limb weakness extending from the lower limbs to the upper limbs since 2 days. She had a preceding history of passage of loose stools 12 days ago for which she was conservatively managed. She had no comorbidities.

On Examination, Bilateral Upper and lower limb power- 0/5.

All deep tendon reflexes were absent. Crude touch, Fine touch, Vibration, Proprioception and temperature were intact on sensory examination. There were no signs of Bulbar paralysis.

Her routine blood investigations (Complete Blood counts, Liver profile, Renal profile, Serum electrolytes, Erythrocyte sedimentation rate) were within normal limits.

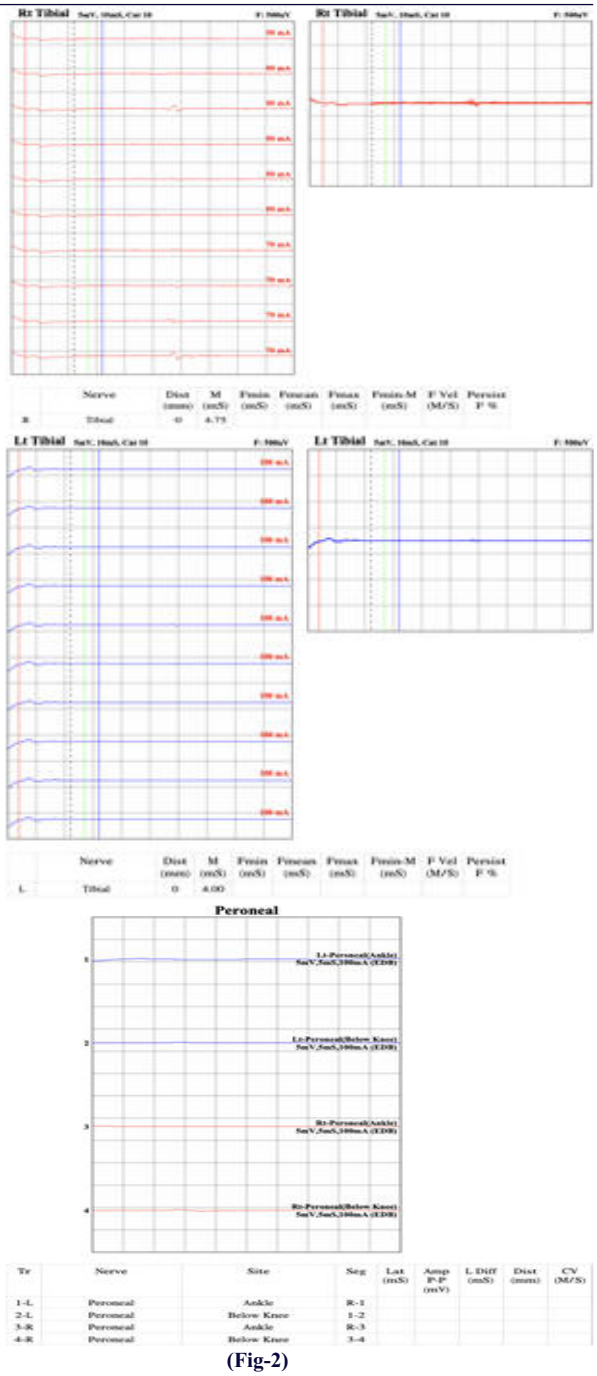
MRI Brain did not show any parenchymal abnormality. (Fig-1)



(Fig-1)

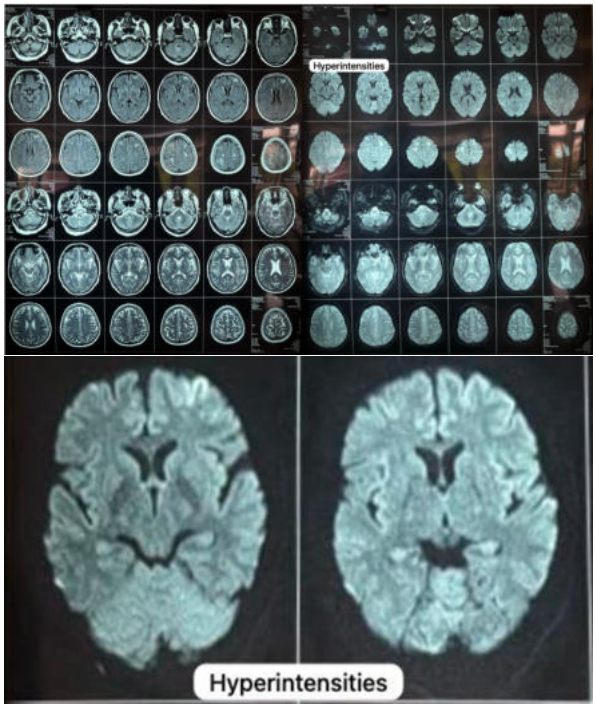
CSF Analysis showed Albumino- cytological dissociation suggestive of GBS.
WBC- 1cell/mm^3, Proteins- 52mg/dl

EMG- Nerve Conduction Study showed axonal motor neuropathy. (Fig-2)



(Fig-2)

A decision was taken to start the patient on IV Immunoglobulins calculated at a requirement of 120gm @ 2gm/kg given as 5 divided doses given consecutive days. On day 3 of the IVIG dose, patient developed tonic clonic seizures and hence repeat MRI Brain with epilepsy protocol was done which showed frontoparietal hyperintensities suggestive of Aseptic Encephalitis. (Fig-3)

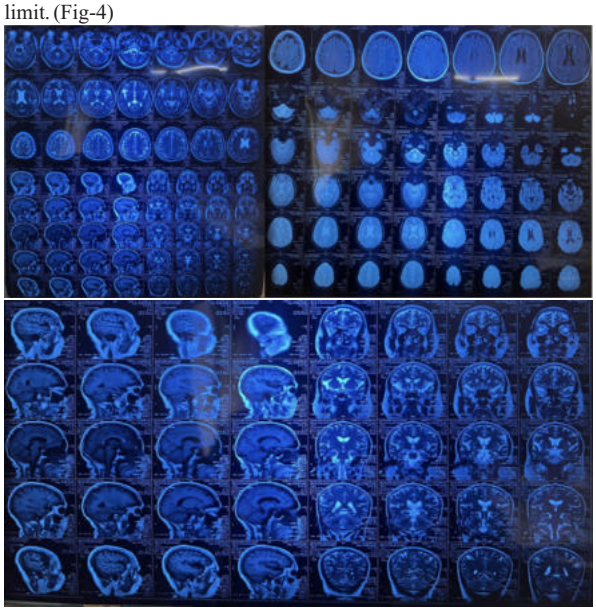


(Fig-3)

The patient was closely monitored and had no post-ictal confusion and new onset focal neurological deficit.

Once clinical stabilisation, she showed improved in her motor weakness and was discharged with Power of ⅖ on all 4 limbs.

On follow up, a repeat MRI Brain was done that was within normal limit. (Fig-4)



(Fig-4)

DISCUSSION

Guillain Barre Syndrome is an autoimmune neurological emergency that needs urgent intervention and management. IVIG is the most commonly used modality of treatment. Although a significant number of patients usually respond to it without any significant effects, a small percentage have adverse effects of Aseptic Encephalitis with seizures sometimes extending as Acute Meningoencephalitis.

Various studies have showed proposed mechanisms inclusive of immune mediated hypersensitivity, cytokine surge, increased blood viscosities due to IVIG causing reduced cerebral perfusion, direct irritation to the cerebral parenchyma because of the stabilisers used in IVIG.(4) It is characterised by symptoms of high grade fever, severe headache and photophobia. Neurological symptoms are inclusive of altered sensorium, agitation, seizures and rarely focal deficits. (5) The management is primarily supportive and focuses on stopping the inciting agent and is usually reversible. On imaging studies such as MRI Brain shows Meningeal and parenchymal enhancement.(6) The prognosis of this entity is excellent and usually seen 24-48 hours after cessation of IVIG. (7)

IVIG associated aseptic encephalitis despite being uncommon has to be recognised due to its significant overlap with neurological emergencies which are life threatening. Hence, prompt diagnosis and exclusion of infectious causes and supportive management causes complete recovery in majority of the patient.

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Conflict Of Interest

No potential conflict of interest was noted.

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