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Case Report

A 35-year-old young patient with acute idiopathic polyneuritis (Guillain-Barré syndrome): a case report

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ABSTRACT

Guillain-Barré syndrome (GBS) is an acute polyneuropathy characterised by varying degrees of weakness that peaks in 4 weeks. We were presenting a case of men of 35 year of age, who had tingling sensation in lover limb (right>left), which was gradually extended, imbalance walking, unable to stand from squatting position and respiratory weakness. The patient took treatment at local hospitals and refer to KEM hospital, where he was diagnosed with GBS syndrome by diagnostic test. He was administered with medication and intravenous immunoglobulin.

Keywords: Guillain-Barré syndrome, Acute idiopathic polyneuritis, Intravenous immunoglobulin treatment, Extremity weakness

INTRODUCTION

GBS is an acute polyneuropathy characterised by varying degrees of weakness that peaks in 4 weeks. Approximately 5% of GBS patients are later diagnosed with chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) with acute onset (A-CIDP).[1] Peripheral nerves transmit sensory information (such as pain and temperature) from the body to the brain, as well as motor impulses (such as movement) from the brain to the body. GBS is marked by weakness, numbness, or tingling in the legs and arms, as well as probable loss of movement and sensation in the legs, arms, upper body and face.[2]

CASE REPORT

A male client "X" 35 year of age referred to King Edward memorial hospital (KEM), Parel, Mumbai. Client had no any significant past medical and surgical history.

On 17 March 2022, he had tingling sensation bilateral lower limb (right>left) and he visited to the Buldana Hospital and took treatment but there was no relief. Client also went for ayurvedic doctor for routine test and took treatment, but no outcome was observed.

On 20 March 2022 client went to neurologist for further treatment, there doctor labelled this condition as fibre neuropathy. He prescribed some treatment and advised for MRI. MRI was done and all were in normal limits. After it, doctor advised CSF study, intravenous IG and referred to Avishleav Hospital. On same day patient developed bilateral weakness, he was able to walk but had imbalance while walking. Weakness in bilateral lower limb which was gradually progressed in 5-6 days and patient was unable to stand or get up from squatting position. Then patient was referred to Apex Hospital, Aurangabad, where nerve conduction study and CSF study was done. The CSF study result showed presence of high amount of protein (85 mg/dl) in CSF. The patient

was admitted from 27 March 2022 to 31 March 2022 where he was diagnosed with atypical GBS and received injection solumedrol. Afterward the patient was referred to KEM Hospital Parel, Mumbai. Here patient was diagnosed with GBS, injection methylprednisolone was given to patient for 5 days. The patient doesn't have any history of fever, diarrhoea, nausea, vomiting, headache, abdominal pain, any fall, trauma and surgery. No history of loss of sensation, involuntary passage of urine or faeces and no muscles pain. The clinical observation of patient was ascending symmetrical flaccid paralysis preserved reflex to reference of GBS.

Investigation and treatment

The various investigations were done for patient "X" which were as follow. The finding of USG was in normal limit. The 2D ECHO finding exhibited that, grade 2nd diastolic dysfunction, ejection fraction 60%, CPK 32 U/l and triple H negative. CSF study finding exhibited that, protein 0.85 g/dl, sugar 99 mg/dl, TLC 02 mm^3, lymphocytes 02 cells/µl and adenosine deaminase level was 4 U/l. MRI study (brain and spine) suggested mild disc bulge at C_5-C_6 vertebrae, disc dissection of L_4-L_5 level and rest all the findings were in normal limit. The nerve conduction study finding was in normal limit.

He was administered with medication and intravenous immunoglobulin 5 gm in 100 ml NS QID and the patient received total 12 doses (Table 1).

Table 1: Medications.

Medicine category	Medication administered
Antibiotics	Injection Xone 1 gm, injection piptaz 4.45 gm, injection metro 100 ml and injection augmentin 1.2 gm
Antacid	Injection Pan 40 mg
Anti-emetic	Injection Emset 1 amp
Analgesics	Injection Pidimol
Anti-allergy	Injection Avil
Laxatives	Syrup Looz 30 cc
Anti-coagulant	Injection Heparin
Supplements	Injection Eldervit, syrup Kesol, tablet Tayo 60 K and tablet MVBC

A nursing intervention like vital sign monitoring, provide adequate position, suctioning to promote breathing, mouth care, nail care, feeding through Ryle's tube to treat imbalance nutrition, oxygen therapy via nasal cannula at the rate of 4 l/min. were implemented to this patient.

DISCUSSION

According to the WHO, the annual incidence of GBS ranged from 0.4 to 4.0 individuals per 100,000. It can affect people of all ages, but it was more common in adults and males.

In hospital-based research in South India, two of the 150 GBS cases reported during a ten-year period belonged to the same family. The majority of patients recover completely from GBS, while some suffer long-term nerve damage. Complications such as paralysis of the muscles that control breathing, blood infection, lung clots or cardiac arrest can kill 3 to 5% of GBS patients. The exact cause of this ailment was unknown; however, it's usually brought on by an infectious sickness such a gastrointestinal or lung infection.

Pikula et al mentioned that, their patient had clinical manifestation which supported the GBS syndrome like progressive over days, relatively symmetrical, cranial nerve involvement, autonomic dysfunction, elevation of protein in CSF and electrodiagnostic studies with slow conduction and prolonged F wave.[3] In current case study, patient had ascending weakness which initially affected both lower limb (right>left), 85 mg/dl protein was found in CSF study, respiratory system involvement was also there so patient received oxygen therapy. Sun et al reported symptoms of patient with GBS syndrome, left arm weakness, glossolalia, right eyelid drops, status of patient worsened by quadriplegia, bilateral facial palsy, bilateral ophthalmoplegia.[4] In current patient found with bilateral lower limb weakness which was more in right side, gradually progressed and patient was unable to walk, no other neurological symptoms was found in current patient similar to Sun et al. Again, according to Sun et al patient undergone various investigation, CT scan (normal), MRI (no significant findings), lumbar puncture and CSF analysis showed high protein level (0.84 gm/l), WBC (5×10^6 /l). Patient found with high level of anti-GQ1b in anti-ganglioside antibody analysis of serum and CSF while others were normal. Nerve conduction study result showed decreased amplitude to bilateral facial, median, ulnar, right fibular motor nerves. Patient received IV immunoglobulin (0.4 kg/day) for 5 days.[4] In current case, patient undergone through investigation like sonography, 2D ECHO, CSF analysis, MRI of brain and spine. In similar to above case study, high protein (0.85 g/l) was found in CSF analysis, and this patient was received IV immunoglobulin for 3 days. In contrary to above case, present case had the nerve conduction study results within normal limits.

Nearby 2/3 of the client who was diagnosed with GBS syndrome adjuvant with previous onset of infection like *Campylobacter jejuni*, *Cytomegalovirus* (CMV), Epstein-Barr virus (EBV), *Mycoplasma pneumonaie* and *Haemophilus influenzae*. With the CSF analysis, we should perform lumbar puncture to distinguish the other possible diagnosis and this step is very crucial before administering IV immunoglobulin because it causes aseptic meningitis.[5]

CONCLUSION

GBS is a four-week-long acute polyneuropathy characterised by variable degrees of paralysis. GBS is

characterised by leg and arm weakness, numbness, and tingling, as well as possible loss of movement and feeling in the legs, arms, upper torso, and face. During the acute phase of GBS, the nurse should educate both the patient and family members about GBS, including symptoms, disease progression, medical management, current GBS treatments such as IVIG and plasmapheresis, risks associated with GBS, required autonomic dysfunction monitoring such as cardiac and respiratory monitoring, and GBS morbidity and mortality. Patients and their families who are admitted to the ICU will need to be taught about the technology and monitoring that is performed on a regular basis in this setting.

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