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A RARE CASE REPORT OF GUILLAIN BARRE SYNDROME

Clinical Science

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ABSTRACT

Guillain-Barre Syndrome (GBS) is an autoimmune disorder which is characterized by bilateral progressive symmetrical limb weakness and areflexia. It is seen to affect more males than females (ratio 3:2). This case reports a 62 year old female patient with history of hypertension and suffering with GBS. The diagnosis was confirmed based on symptoms exhibited along with MRI reports and nerve conduction study. Treatment mainly included immunomodulators which showed promising result by alleviating the symptoms associated with GBS. Physiotherapy also helped in relaxing muscles, nerves and aided in relieving pain and improving the mobility of the patient.

KEYWORDS

Guillain-Barre Syndrome, immunoglobulins, magnetic resonance imaging, nerve conduction study, physiotherapy.

INTRODUCTION

Guillain-Barré Syndrome (GBS) is an autoimmune disorder that encompasses a diverse range of pathological and clinical characteristics [1]. A common cause of acute flaccid paralysis is GBS, which is characterized by symmetrical limb weakness and hypo or areflexia and reaches its peak severity in 4 weeks. It has an incidence of 0.81-1.89 (median 1.11) per 100,000 people per year, GBS is a rare disease that affects more men than women (ratio 3:2). The incidence varies globally, for instance, Brazil reported a low rate of 0.40 per 1, 00,000 persons per year whereas Curaçao and Bangladesh reported higher rates of 2.5 per 100,000 persons per year. About half of GBS patients have prior infections that can be identified and at least one-third of these infections are caused by campylobacter jejuni, haemophilus influenzae, Epstein-Barr virus, Mycoplasma pneumonia, Cytomegalovirus and Influenza A viruses [2]. Primary symptoms include bilateral, progressive, symmetrical weakness of the limbs in GBS patients. 90% of patients experience proximally progressing weakness that begins in the legs. Due to weakened respiratory muscles, 10% to 30% of patients require mechanical breathing [3]. GBS can be diagnosed by supportive tests like CSF (cerebrospinal fluid) examination which is helpful to rule out other medical conditions such as Lyme disease or HIV-related radiculitis. Anti-ganglioside antibodies are found in GBS patients with Miller fisher syndrome [4]. The medical management includes immunomodulatory therapy which is to be started when patients are unable to walk independently for 10 meters. Both plasma exchange (200-250 ml plasma/kg body weight in five sessions) and intravenous immunoglobulins (0.4g/kg body weight daily for five days) are considered effective therapies to treat GBS [5].

CASE STUDY

A 62-year-old female patient was admitted to the general medicine department at a tertiary care hospital with chief complaints of a dragging sensation in right lower limb along with difficulty in walking, swallowing, neck pain radiating towards the back, weakness of bilateral upper limbs and lower limbs, sore throat, one-sided headache on left side. The patient had history of hypertension and was on Tablet Amlodipine 5mg for 20 years.

On examination, she was found to have areflexia and was conscious, coherent and afebrile. Her blood pressure was 150/90 mmHg. Pulse rate was 85 beats per minute. Respiratory rate was 20/minute and SPO2 was 99% at the radial artery. Heart sounds S1 S2 were heard.

Laboratory Tests Reported Were As Follows

The Random Blood Sugar level (RBS) was 102mg/dl. Magnetic Resonance Imaging (MRI) of the spinal cord revealed thickening of the cauda equina and intrathecal nerve roots. Nerve conduction studies were performed which suggested abnormality and showed evidence of axonal motor neuropathy involving all 4 limbs. The Radiometer ABL 800 blood gas analyzer was used to determine the following blood-related parameters which were also abnormal as reported in Table 1. From the above confirmatory tests, the patient was diagnosed with Guillain Barre syndrome.

Table 1: Radiometer Abl 800 Blood Gas Analyzer Results

Sl. No	Laboratory Test	Test values	Standard values
1.	pH	7.446	7.350-7.450
2.	pCO2	28.8 mmHg	32.0-45.0 (mmHg)
3.	pO2	78.3 mmHg	83.0-108 (mmHg)
4.	Sodium ions (Na+)	154mmol/L	136-14 (mmol/L)
5.	Potassium ions (K+)	2.8mmol/L	3.4-4.5 (mmol/L)
6.	Chloride ions (Cl-)	115mmol/L	98-106 (mmol/L)
7.	Lactate levels	22mg/dl	5-10 (mg/dl)
8.	Glucose levels	282mg/dl	65-95 (mg/dl)

The treatment regimen prescribed was intravenous immunoglobulin (IV-IG) 0.4 gm/kg/day to prevent harmful antibodies which were produced in the patient from nerve damage. Tablet (T) Gabapentin 500 mg twice a day was given to relieve nerve pain. Other prescribed medications were: Injection multivitamin one ampoule in one-unit normal saline IV OD, Syrup Sucralfate 15 ml BD to treat sore throat, Injection Pantoprazole 40 mg IV OD to reduce any acidity, Injection Ondansetron 4mg IV BD to relieve nausea and Amlodipine 5mg for hypertension. These prescribed medications were observed to show improvement in patient condition which were administered during the complete length of hospital stay. As the symptoms improved the patient was discharged with the following medications such as: T. Gabapentin 500 mg BD to relieve nerve pain, T. Folic acid 400 mcg was prescribed to treat any folate deficiency as prophylaxis as folate deficiency would worsen the condition. T. Multivitamin was given as a nutrient supplement and T. Methylprednisolone 500 mg BD was prescribed to treat muscle weakness and aid in speedy recovery.

DISCUSSION

When a patient exhibits common or typical GBS symptoms, diagnosis is typically simple, but when a patient exhibits atypical symptoms (ophthalmoplegia, bulbar palsy or urinary retention), GBS can occasionally be challenging to diagnose. Thus, a lumbar puncture test is advised even in patients with typical symptoms to rule out other possible infections such as spinal root inflammation caused by cytomegalovirus (CMV) or HIV, transverse myelitis, Lyme disease, leptomeningeal malignancy or poliomyelitis. If none of the infections are confirmed in the patient then GBS should be considered as the probable medical condition [2]. However, in this patient, the CSF value was reported to be normal which did not necessitate the requirement for a lumbar puncture test. The patient was also advised to go for long-term physiotherapy, rehabilitation in order to improve her mobility issues [6]. In this case administration of Intravenous Immunoglobulin (IV-IG) 0.4gm/kg/day was found to be effective and helped in improving the immune system by reducing the weakness in the upper and lower extremities [7].

CONCLUSION

The treatment with intravenous immunoglobulin (IV-IG) was found to

be very beneficial in patient recovery. The patient showed better improvement in motor movements and the weakness of limbs improved. Physiotherapy was also recommended as it would help in relieving the pain and help in relaxing the muscles and increasing the mobility. Identification of symptoms and timely diagnosis and appropriate medications are considered crucial in providing optimum patient care without any life-threatening complications.

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