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Guillian-Barre syndrome: 2 cases reports

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Abstract: **Guillain-Barré syndrome is a rare but serious autoimmune disorder in which the immune system attacks healthy nerve cells in your peripheral nervous system (PNS). The incidence rate is fewer than 100 000 case per year in India.The type of Guillain-Barré syndrome can be classified as Acute Inflammatory Demyelinating Polyradiculoneuropathy (AIDP), Miller Fisher Syndrome (MFS), Acute Motor Axonal Neuropathy (AMAN) and Acute Motor Sensory Axonal Neuropathy (AMSAN). The most common symptom are weakness of the upper body and arm, tingling, numbness and can eventually cause paralysis. The people who are more at rick of developing this syndrome are men more than women and also young adult with respect to their age group. In those case report all the patient meet the criteria and treatment for Guillain-Barré syndrome.**

Keywords: **Guillain-Barré syndrome, AIDP, AMSAN, Immunoglobulin infusion,Urinary Tract Infection, Pyelonephritis, Alcohol dependence.**

I. INTRODUCTION

Guillain-Barré syndrome (GBS) is a rare neurological disorder in which the body's immune system mistakenly attacks part of its peripheral nervous system[1]—the network of nerves located outside of the brain and spinal cord .

Guillain-Barré syndrome can be defined as a loss of reflexes and symmetric paralysis which usually start from the leg and has become the most common cause of acute flaccid paralysis.[2] The affected people rapidly develop weakness of the limbs, weakness of the respiratory muscle, and loss of reflexes.

Guillain-Barré syndrome can affect anyone. It can strike at any age (although it is more frequent in adults and older people) and both sexes are equally prone to the disorder but are slightly more common in males than in women.[3]

Guillain-Barré syndrome is estimated to affect about one person in 100,000 each year.[4] The exact cause of Guillain-Barre syndrome is unknown.

Most cases usually start a few days or weeks following a respiratory or gastrointestinal viral infection. Occasionally surgery will trigger the syndrome. In rare cases vaccinations may increase the risk of GBS.

Guillain-Barré syndrome has been categorized into acute inflammatory demyelinating polyradiculoneuropathy (AIDP), acute motor axonal neuropathy (AMAN), acute motor sensory axonal neuropathy (AMSAN), Miller Fisher syndrome (MFS), and pure sensory and pandysautonomic types.

The most commonly identified infections coinciding with GBS are *Campylobacter jejuni*, *Haemophilus influenzae*, *Mycoplasma pneumonia*, and cytomegalovirus, while an antecedent infection with *Escherichia coli* is very uncommon.[5]

All patients with Guillain-Barre syndrome need meticulous monitoring and supportive care.[6] Early initiation of intravenous immunoglobulins (IVIg) or plasma exchange is of proven benefit and crucial, especially in patients with rapidly progressive weakness.[7]

II. CASE REPORT

A. Case report 1

A 38 year male patient presented with lower limb swelling which was gradually in onset, progressive in nature and difficulty while walking also with lower limb knee joint pain.there was no history of seizures or loss of consciousness.

The patient has also a complain of slurring of speech, multiple episodes of trauma, depigmentation of oral mucosa (OSMF) leukophakia, chest pain which was pricking type noise on inspiration.

The patient has a knew history of alcohol dependence since 3 years and excessive smoking for 5 years.the complain was manage in the hospital.

On examination the male patient was conscious, well oriented from time, place and person. Icterus was positive.

Laboratory investigations on the time of admission was showing decrease of haemoglobin level 10.6 g/dl, RBC 2.6 million cells per microliter and PCV 35% which give a result of monocytic anaemia. As well a decrease of level of sodium 134 mEq/L and potassium 3.3 mEq/L.

Some lab data was showing a raised level of uric acid 9.6 mg/dl.

Abdomino-pelvic ultra sound scan report was done and show:

- ✓ Diffuse liver disease with fatty change
- ✓ Splenomegaly
- ✓ Non-obtructive R renal calculi.

The case was reported as peripheral Neuropathy, acute flaccid paralysis, GBS (Guillain-barre syndrome).The patient was treated with intravenous IVIG (Immunoglobulin infusion).

B. Case report 2

A 50 years old female patient was alright when she developed weakness of both lower limb associated with low back pain, recurrent episodes of lower limb weakness and impairment of sensation in the lower limb.she also complained of fever which is intermittent in nature associated with chills and rigors, and had an episode of vomiting non foul smelling containing food particle and also speech slurred appear after some time.

The patient has a known history of seizure disorder for last 20 years and was on tablet Clobazam, Urinary Tract Infection (Pyelonephritis) and newly detect type 2 Diabetic Mellitus.

On examination the female patient was conscious, well oriented from time, place and person.

Laboratory inverstigations on the time of admission was showing decrease level of potassium 2.2 mEq/L and haemoglobin level 9.3 g/dl.

The case was reported as Guillian-barre syndrome/ sensory axonal neuropathy/ bilateral pyelonephritis, newly detect T2 DM and seizure disorder.

The patient was treated with neuropathic pain medication such as tablet Gabamax sr (methylcobalamin/mecobalamin+ pregabalin) and tablet Carbamazepine, and was given IVIG (Immunoglobulin infusion) for a period of time of 5 days, and also tablet Fluconazole was given. The patient was able to walk without support but after some days the patient again complaints of lower limb weakness and difficulty to walk and was referred to another hospital for further neurological examination.

III. DISCUSION

Guillain-Barré syndrome usually occur after a viral or bacterial infection.

Case report 1: In this report, the patient was diagnosed as AIDP (which is one of the type of GBS), alcoholic dependence and also the abdomino-pelvic ultra sound scan report was showing Diffuse liver disease with fatty change, splenomegaly, non-obtructive renal calculi. In one journal it presents a clinical study of several patients general physical examination and inverstigations disclosed acne or spider nevi in 3, liver cirrhosis in 3, fatty liver in 2, splenomegaly in 3 and esophageal varicosis in 2 patients.[8]

Case report 2: In this report we describe a case where the patient presented a previous multiple episode of urinary tract infection which was specified as pyelonephritis. After that she complain about weakness of the lower limb. Conversely, UTIs, which are predominantly cause by uropathogenic *E. coli*(UPEC), are one of the most common bacterial infections encountered in clinical practice and account for significant morbidity, yet GBS cases in which an antecedent UTI or infection with *E. coli* have been implicated are rare.[9]

During a 3 year study, we observed 5 patients with s history of chronic alcohol abuse who within 14 days, developed a severe ascending flaccid tetraparesis with areflexia, sensory loss in a glove and stocking type distribution. They were all referred under the provisional diagnosis of acute GBS.[8]

IV. CONCLUSION

Guillain-Barré syndrome is an autoimmune disease which attack nerve and damage myelin sheath which cause weakness of the lower body and spread to upper body and can lead to paralysis. It is following by viral and bacterial infection such as Zika virus, Campylobacter jejuni, Influenza virus. In this case report we assume that the patient alcohol abuse caused AIDP and also we assume that Pyelonephritis caused by E. Coli are leading to AMSAN which are a subtype of Guillain-Barré syndrome.

IVIG has replaced plasma exchange as the preferred treatment for severe Guillain-Barré syndrome in most hospitals because of its greater convenience.

Guillain-Barré syndrome requires balance diet, vitamin supplement and abstinence from alcohol.

About 80% of the patient can walk independently 6 months after diagnosis. About 60% fully recover motor strength one year and also about 5 to 10% have very delayed recover for Guillain-Barré syndrome.

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