

Case study

Case Report On: Guillain – Barre Syndrome

Abstract

Introduction: Guillain Barre syndrome is also called as Landry's paralysis. It is the disorder included in the peripheral neuropathy. In Guillain Barre syndrome, the patient's body's immune system attacks on the nerves. This condition may also be triggered by bacterial infections as well as some of the viral infections. GBS is a rare syndrome; approximately there were only 1-2 cases per 1,00,000 people annually. Men are more likely affected than that of women. This syndrome is named after a French physician Gorges Guillain and Jean Alxandre Barre and Strohl who described it in 1916.

Clinical findings: weakness, difficulty in breathing, difficult to hold the breath till 5 seconds, fatigue, elevated blood pressure, difficulty in speaking

Peripheral smear: RBCS _ normal range, atrophy is seen,

Ultrasonography: enlarged vagus nerve

Therapeutic interventions: IV DNS 380 ml, plasma exchange therapy, inj. Ceftriaxone, syrup Phenytoin 9.5 ml, syrup rdpn 10 ml, syp calcimax 10 ml, tab folic acid 5 mg, tab limcee 500 mg, tab baclofenac 10 mg, NEB 3% NaCl, inj pantop 15 mg

Outcomes: after the treatment, the child shows improvement. His weakness and fatigue were relieved and pain in muscle had relieved.

Conclusion: A 5 years old male child was admitted in the pediatric ward no. 18, Acharya Vinoba Bhave Rural Hospital on date 31 July 2021 with a case of Guillain Barre Syndrome (GBS). He had the complaint of weakness, fatigue, lack of co-ordination, difficulty in swallowing. After getting an appropriate treatment, the patient's condition has improved than that of previous.

Key words: Guillain Barre Syndrome, extremity, weakness, peripheral neuropathy, peripheral nerve pain, bacterial

Introduction:

The 5 years old male child with his parents visits AVBR Hospital because of neuromuscular complaints, usually those that involve the neck region and the upper extremities. Peripheral neuropathy is one of the commonly encountered conditions in the clinical practices. Poor diet, lack of attention to the child, improper immunization, are some of the common reasons for the peripheral neuropathy i.e. Guillain Barre Syndrome.

Comment [PERI1]: Please include the size of the problem to be investigated

GBS is one of the complicated neurological disorders which is degenerative as well as acute or chronic in nature. It is the condition which is characterized by progressive, proximal and distal tingling or loss of sensation is the common symptom. Death is rare, the demyelination of the spinal nerve occurs in this disease state.

Guillain Barre Syndrome is occurred within few days or weeks by following some bacterial or viral infections. The most common type of GBS is an acute inflammatory demyelinating neuropathy in which the myelin sheath gets demyelinated. The causes of the GBS is not known. As it is an autoimmune disorder the self immunity. The exact cause of GBS is unknown as it is an autoimmune disease. Both the cellular and humoral immune mechanisms play a role in the immune reactions focused at the nerves. Then it results with the demyelination and inflammation of the neurons. Then the transmission of nerve impulses is stopped or get slowed. Muscles innervated by damaged peripheral nerves undergo atrophy here, atrophy is the condition in which the size of organ and the cell gets decrease or shrink. In the recovery phase, remyelination occurs slowly and neurologic function returns to proximal to distal way. Most of the GBS cases follow a bacterial or viral infection of gastrointestinal or upper respiratory tract infection. The most common virus that causes GBS is cytomegalovirus and the most common bacterial is gastroenteritis. Any surgery or trauma may trigger the GBS.

Patient Identification:

A male child of age 05 year old from Karamabad Wardha brought by his parents to AVBR Hospital on 31st July 2021 and admitted to pediatric ward no.18 with a symptoms of GBS i.e. Guillain Barre syndrome. He was 15 kg in weight and 120 cm in height with slightly elevated blood pressure, and respiration are 32 BPM.

Past Medical History:

A male child of age 05 yrs old was brought to AVBR Hospital on date 31 July 2021 by his parents with the multiple complaints of weakness, fatigue and pain in the tooth as well as difficulty in swallowing.

Family History:

There are four members in his family his parents, elder sister and the client. My patient was diagnosed with one of the disorders of polyneuropathies. i.e. GBS. His parents are normal. Patient's sister is also normal and living a normal life style. The patient was only one in his family who is suffering from this disorder otherwise other members in the family were alright with no any history of illness.

Past interventions and outcomes:

The 05 years old patient was brought to the AVBR Hospital was diagnosed with the GBS, when he was 5 years old and he was admitted in the AVBR hospital on date 31 June 2021. He has no any past medical history of these types of diseases. He was admitted in the hospital and taking treatment from near about 5 to 6 months. The treatment include mostly

the immunity boosters and vitamin supplements etc. The patient doesn't develop any complications till then. The physicians are trying to minimise his symptoms by performing diagnostic evaluations on him.

Comment [PERI2]: please include possible interventions given by the nurse

Clinical findings:

Fatigue, elevated blood pressure (94/112), muscle ache, tooth pain, difficulty in swallowing, pulse (90 BPM) breathing 32 BPM and palpitations, difficulty in holding the breath.

Comment [PERI3]: Please add other related risk factors

Etiology:

As the exact etiology of GBS is unknown, the exact cause that causes the GBS is not discovered till now. It is the disorder in which the body's immune system attacks on the body's self immunity. It is both acute or chronic. It is mainly an acute, progressive autoimmune inflammatory demyelination of the myelin sheath of the neuron. The severity of the syndrome depends upon which type of the GBS occurs in the patient. Both viral and bacterial factors are responsible for the disease. The viral causes include cytomegalovirus and *Campylobacter jejuni* 26-41% and the bacterial causes include respiratory tract infections i.e. *Mycoplasma pneumoniae*. Some vaccines like rabies and Avian flu influenza can develop the symptoms of GBS in the children. And the factors that trigger the syndrome are surgery done like tracheostomy. Surgery may increase the risk of GBS, but immunity is responsible for the disorder as it is an autoimmune type of disorder. GBS is non-hereditary or contagious.

Physical Examination:

There is an abnormality found in head-to-toe examination. The patient is thin and looks dull by face, cooperating his surrounding people actively due to the lot of days staying in the hospital. He is weak and not so cooperative. Though it is found that the child had undergone the procedure of tracheostomy, the physician is also done his USG which shows normal renal Doppler study.

Diagnostic assessment:

All the diagnostic assessment has been done by the physician like blood tests which indicate that the Hemoglobin estimation is - 10.7 gm%, Platelets were 250,000 platelets per ml of blood, RBCs were 4.9 million RBC/ml of blood, Monocytes were 03%, Erythrocytes - 02%, MCHC - 34.2 gm/dl, MCH - 24.7 pg

Ultrasonography : enlarged vagus nerve.

Therapeutic interventions:

A 5 yrs old patient was brought by his parents to AVBR Hospital on date 31 July 2021 after all the investigation done, he was diagnosed with GBS and further medication were started to the patient i.e , Intravenous infusion of DNS 400 ml + inj MVI 4 ml, syp phenytoin 9.5ml orally as per suggested ,syp calcimax 10ml orally twice a day ,TAB Folic acid 5mg orally twice a day o, TAB Neurobian once a day ,TAB Limcee 500 mg once a day ,tab beclofen 10 mg twice a day,NEB 3% NAACL , tab Zolam 0.5 mg as per need.

Nursing prospective:

Assessed the genral condition of the patient . Monitored his all the vitals and recorded on the regular basis.planned his nursing care plan on the basis of his diagnosis, and planned the care for the patient. The nurses should give proper care and attention to the patient as he was In preschooler age he deserves the proper care and all the interventions and diet that used to give to the preschooler age.whrn the patient is taking antibiotics the nurses should assess for the adverse reactions and assess the bioavailability of the durg. Also, the nurses have to encourage and provide Health education related to the diet, exercise, nutrition and some mild exercises to the patient's parents so that they get the treatment more effectively for their child.

Comment [PER14]: please add the nursing paradigm used

Discussion:

A male child of age 05 years old from karamabad , wardha was admitted to peditric ward 18 AVBR Hospital on date 31 July 2021 with a chief complaint of pain in the tooth , difficulty in swallowing muscleache and fatigue. His activity level is less than that of normal. He was known case of GBS which was diagnosed when he was admitted in the hospital on 31st June 2021 . As soon as he was admitted in hospital. All the investigation are done and an appropriate treatment were given to the child. After getting an appropriate required treatment , he shows a great improvements and the treatment is still going on till my last date of the care .A study was done on GBS where they studied the occurrence rate of the disease in India for the study, patient's case sheets were collected. Guillain Berre Syndrome is also known as landry's paralysis, it can be acute or chronic inflammatory demylinating polyrediculopathy . It is very rare type of syndrome which is occurs only 1 in 100000 and higher in men than that of womens.it is also classified as one of the most common neurological defect , in which the vagus nerve may affect and the coordination of the body get disturbed. GBS is a heterogeneous condition with the symptoms ranging from light to severe. The worst symptoms are pain (numbness and tingling)and hypotonia (reduced muscle tone) of the limbs and weakness or paralysis of the limbs usually peak within 4 weeks . Autonomic nervous system dysfunction results, with manifestations of earth astatic hypotension, hypertension and abnormal vagal responses (bradycardia,heart block, asystole) other autonomic dysfunction include bowel and bladder dysfunction, facial

flushing and diaphoresis. Cranial nerve involvement is manifested as facial weakness and paresthesia extraocular eye movement difficulties, and dysphagia. Pain is the most common symptoms of the patient with GBS it can include muscular pain, severe or acute cramps and it appears worse at night time. Pain may contribute to the decreased appetite and maintain disturbance with the sleep of the patient. As the patient is toddler it may affect more. One of the most serious and sometimes life threatening complication of the GBS is respiratory failure, which occurs as the paralysis progress is to none of that innervate the thoracic area. The physician need to assess the respiratory system frequently and need to assess for the abnormality of the respiratory rate and depth to determine the need of the immediate intervention including mechanical ventilation and intubation. Researchers believe that the destruction is limited to those area of trunks with an inflammation and direct causes the demyelination. This is all due to the macrophages in the presence of lymphocytes. This harm is also done by T cells.

Comment [PERIS]: please add a citation of the reference source used

Conclusion:

Guillain Barre syndrome is one of the rare syndrome found among the children. It is very important to identify the early stages of the disease conditions to get proper treatment. The patient who was admitted in the hospital has undergone all the investigation and was diagnosed with the GBS he was showing great improvements after getting the treatment and the treatment was still going on till my last day of care.

Ethical clearance and patient informed consent :

Taken from institutional ethics committee.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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