Case Report

Guillain-Barre Syndrome in Pregnancy

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Abstract

Guillain-Barre syndrome is a group of immune mediated demyelinating peripheral neuropathies manifested by ascending flaccid paralysis. It is rare in pregnancy. Diagnosis is clinical; supported by albumino-cytological dissociation in cerebrospinal fluid analysis. Electromyography may show low amplitude action potential. Imaging studies of brain and spinal cord may be helpful. Immunomodulation with immunoglobulins and plasmapheresis usually result in full recovery in 70-80% patients. A case of GBS is presented pregnancy with a successful outcome both month and baby.

Key words: Guillain Barre Syndrome, Pregnancy,

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Introduction

Guillain Barre Syndrome (GBS) is an autoimmune disease characterized by acute ascending flaccid paralysis. Jean Landry first described this disorder in 1859.[1] However, the syndrome is named after three French physicians, Guillain, Barre and Strohl who reported this disease in French soldiers, in 1916.[1] Incidence of GBS is 1.7/100,000 in general population.[2] Its risk is increased by 20% for every 10 year increase in age and is higher in males than females.[2] It is rare in pregnancy; few cases are reported in the literature.[3] It may occur in any trimester but usually in 3rd trimester of pregnancy. Its risk is increased in puerperium due to enhanced delayed hypersensitivity.[4]

This case is being reported due to its rare occurrence in pregnancy. Diagnosis needs high index of suspicion for early detection and timely management. Supportive measures under multidisciplinary care in intensive care unit may result in improved fetomaternal outcome.

Case Report

The case is being reported with the consent of a 25 years old pregnant lady. She was married for 5years, G_2P_1 previously delivered via caesarean section. She presented through emergency with complaints of generalized weakness for one month and facial droop for eight days. She was unable to walk for the last one day. She was at 23+5 weeks of gestation. Her pregnancy was progressing smoothly when she developed generalized weakness of lower limbs following one episode of a sore throat at 20 weeks of gestation. Her weakness was progressive; involving all four limbs. She was unable to walk or maintain erect posture. Later on she developed facial weakness and was unable to chew food. She neither reported any problem with deglutition nor with swallowing of fluids. Further she had normal bladder and bowel functions. She was hypertensive for 5 years and was noncompliant with her treatment. Her obstetric and family history was unremarkable.

On general physical examination, there was facial asymmetry with a deviation of angle of mouth towards left side associated with loss of wrinkling and incomplete closure of eye lids. No lid lag or lid retraction was noted and pupils were bilaterally reactive to light. Facial sensations were intact. Power was 3/5 in upper & lower limbs. Deep tendon reflexes were diminished in all the four limbs and Babinski sign was absent. Glasgow comma scale was 15/15.

Her blood pressure was 140/90mm of Hg, pulse 90 beats/minute. She was not febrile and her respiratory rate was 18/minute. Her systemic examination was unremarkable. On obstetric examination, her symphysio-fundal height was 24 cm and fetal heart sounds were audible on doppler sonicaid.

Clinical diagnosis was of Guillain- Barre Syndrome was made, supported by CSF analysis that revealed proteins 57 mg/dl (15-40), with a leukocyte count of 5

mm^3 (<5). Her baseline blood biochemistry, chest X-rays and echocardiography was normal. Her MRI brain and lumbar spine were unremarkable. Obstetric ultrasound revealed single alive fetus corresponding to 24^{+3} weeks with no gross congenital anomalies.

The patient was managed in intensive care unit in collaboration with neuro-physician, anesthetist and physiotherapist. Intravenous immunoglobulin and corticosteroid were given. Five sessions of plasmapheresis were done on alternate days. Her coagulation profile, serum electrolytes (serum sodium, potassium, chloride and bicarbonate) and serum proteins were monitored. Serum albumin was low (2.2 g/dl) and replaced by albumin infusions. Low serum potassium (3.2 mmol/ L) was replaced by slow infusion of potassium chloride.

She responded to treatment and her symptoms relieved. On the 10^{th} day of admission, she started walking initially with support and later on independently. Facial asymmetry improved and she started taking semisolid food. The patient was discharged on 20^{th} day on iron, calcium and mecobalamine supplements. She was followed up under combined care of obstetrician and neuro physician. Patient attained full recovery in 10 weeks period and started doing her routine daily activities.

At 38 weeks of gestation, her baseline blood chemistry was within normal limits except she turned out to be anti HCV reactive and her liver functions were mildly deranged. Abdominal ultrasound showed normal liver texture. Fetal biometry corresponded to 38 weeks of gestation with mild communicating hydrocephalous.

She was evaluated by a multidisciplinary team involving consultant obstetrician, neurologist, anesthesiologist, and pediatrician. Her caesarean section was done due to previous one caesarean with breech presentation under regional anesthesia. A baby boy weighing 3.2 Kg was delivered and was evaluated by pediatrician and neurologist.

Mother was kept in intensive care unit for 24 hours postoperatively. She remained stable and was discharged on 8^{th} postoperative day. She was called for follow up 6 weeks postpartum and was symptom-free.

Discussion

Guillain-Barre-Strohl syndrome is a group of immune mediated peripheral neuropathies characterized by lymphocytic infiltration of spinal and peripheral nerves followed by macrophage mediated disruption of myelin sheath at multiple sites. It results in defects and delay in nerve conduction and eventually flaccid paralysis. Severe inflammation may involve nerve axons. Recovery takes weeks to months and is related with remyelination.[2]

Several variants of Guillain-Barre syndrome are recognized, acute inflammatory demyelinating poly-neuropathy being most common. Exact etiology of Guillain-Barre syndrome is not known. Two-thirds of patients develop this condition 3-6 weeks following viral or bacterial infections usually of the respiratory or gastrointestinal tract. [4,5]

Initial symptoms are numbness, tingling or pain in fingers and toes progressing to weakness in lower and upper limbs maximum in 10-14 days. It can lead to difficulty or inability to walk, facial weakness, swallowing or breathing difficulty, slurred speech, diplopia depending upon the severity of the condition. In most of the cases, the condition resolves spontaneously in few weeks to months with full recovery. [2,5]

Diagnosis is clinical; investigations are needed to support the diagnosis and to exclude other conditions that mimic this disease. Electromyography (EMG) and nerve conduction studies are helpful. EMG may be normal in acute cases because it may take 3-4 weeks for fibrillations to develop so normal study does not rule out GBS. Lumber puncture for cerebrospinal fluid (CSF) analysis reveal elevated CSF proteins level >400mg/L with normal cell counts. Magnetic resonance imaging and computed tomography of brain and spinal cord may reveal anterior nerve root enhancement suggestive of GBS. Imaging studies are sensitive but nonspecific; to exclude mechanical causes of myelopathy. ECG may show atrioventricular blocks, arrhythmias, ST depression, QRS widening and T wave abnormalities. Baseline blood biochemistry and serum electrolytes are to rule out other co-existent cause and to assess the patient's functional status and later on prognosis.[2,4,5]

Treatment is supportive to relieve symptoms and to avoid breathing problems. A high index of suspicion, multidisciplinary care in intensive care unit is crucial. Patients may need ventilatory support.[6] Immunomodulation with intravenous immunoglobulin and plasmapheresis result in full recovery in 70-80% cases.[7, 8] Timing and mode of delivery depends on maternal condition and obstetric indication.[9] Type of anesthesia is tailored according to maternal condition. Depolarizing neuromuscular agents should be avoided. Epidural anesthesia may be useful to avoid opioid use in postoperative period. Guillian Barre syndrome is associated with hydrocephalous in 4% of cases. High

protein content in CSF in GBS may be associated with reduced CSF absorption leading to communicating hydrocephalous. [10] Luijckx et al reported a case of GBS in mother and newborn.[11]

Prognosis is good; most of the patients attain full recovery by one year. In 5-10% cases, recovery is delayed with the residual deficit. Maternal mortality is 7% usually due to respiratory complications.[7] Relapse in pregnancy and puerperium is reported.[12] Recurrence is rare.[13]

Abbreviations
Electromyography= EMG
Cerebrospinal Fluid= CSF

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