Guillain Barre Syndrome in Pregnancy - A Rare Case

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INTRODUCTION

Guillain-Barre syndrome is an immune mediated acute demyelinating polyradiculopathy, linked to various infectious agent. GBS has a very low incidence during pregnancy, estimated population incidence ranged from 0.62 to 2.66 cases per 100,000 person-years across all age groups.[1] It is usually preceded by a bacterial or viral infection. Infections like CMV, EB, HIV-1, Hepatitis virus and campylobacter jejuni has been implicated as etiologic agents. Most common infectious agent associated with GBS is campylobacter jejuni.[2] GBS classically presents with pain, numbness, paraesthesia, or weakness of the limbs, areflexia.

Ascending paralysis with weakness beginning in the feet and migrating towards the trunk is the most typical symptoms. Life threatening complications particularly occurs if there is involvement of respiratory muscles. Increased incidence of respiratory complications is mostly due to gravid uterus. However, GBS is more common in the third trimester and the first 2 weeks of postpartum.[3] GBS is known to worsen in postpartum period due to an increase in delayed type IV of hypersensitivity response. Delayed diagnosis is common in pregnancy or immediate postpartum period because the initial nonspecific symptoms may mimic changes in pregnancy. GBS in pregnancy associated with high maternal mortality. A third of pregnant women required ventilator support with a mortality rate of 13 %.[4] Diagnosis is based on the clinical presentation, laboratory and electrophysical investigations. Nerve conduction studies and EMG show an evolving multifocal demyelinating polyneuropathy. Management of GBS in pregnancy is a multidisciplinary approach. IVIG injection in high dose or plasmapheresis is beneficial if given within 1 to 2 weeks of motor syndrome.[3] Maternal GBS is not an indication for caesarean section and operative delivery should be reserved for obstetrics indications only.

PRESENTATION OF CASE

A 25 years old, primigravida patient was relatively alright 9 days back, when she started complaining of weakness in right hand it was acute in onset and progressing gradually with time. The next day patient started having difficulty in standing up. On 29 / 07 / 2019 she was unable to move all four limbs. Patient was taken to private hospital where she was investigated. Her NCV was suggestive of severe acute onset polyneuropathy. She received IVIG at private hospital where her tracheostomy was done. She was brought by relatives to Indira Gandhi Government Medical College, Nagpur on 04 / 08 / 2019. On examination her general condition was not satisfactory, afebrile, pulse rate was 120/min, BP was 110 / 80 mm Hg, RBS 186 mg %. On CNS examination she was conscious oriented with time, place and person, bilateral planters absent, DTR absent, Power in all four limbs was zero.

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Per abdomen examination revealed that uterus was corresponding to 28 weeks of gestation, cephalic presentation. Patient was admitted in MICU put on ventilator, SpO2 was 99 % on Oxygen support. Patient had regular ANC visits at private hospital. Her LMP was 07 / 01 / 2019, EDD was 14 / 10 / 2019. Her gestational age at the time of admission was 29 weeks 6 days. During MICU stay patient was regularly examined by senior obstetrician. To prevent thromboembolic complication low molecular weight heparin started.

She developed signs of mild pre-eclampsia at 30 weeks of gestation. Her BP record was kept which was 140 / 100 mm Hg with urine albumin$_{+1.}$ Patient was started on antihypertensive (Labetalol 100 mg) & two doses of 12 mg betamethasone were given. Her biochemical investigations were normal. Fetal study was done weekly including NST, AFI fetal Doppler study. Patient had developed asymmetrical IUGR. Elective LSCS was planned at 36 weeks of gestation due to sever PIH with moderate IUGR under very high risk as patient was on ventilator. She delivered on 18 / 9 / 2019 (one and half month after admission on ventilatory support) with a female child weighing 2 kg. Baby cried immediately after birth and was shifted to NICU for observation. Patient was shifted to MICU and her post-operative course was uneventful. Slowly over next 2 weeks patient started showing improvement in power of limbs and her oxygen requirement decreased and weaning from ventilator started. Eventually patient was weaned from ventilator after 2 months and tracheostomy closure was done. Patient was finally discharged after a MICU stay of nearly 2 ½ month (10 weeks) after admission with grade 3+ power in all limbs.

CLINICAL DIAGNOSIS

On the basis of the clinical presentation of the patient and the nerve conduction study a diagnosis of Guillain barre syndrome in a primigravida with mild preeclampsia with asymmetrical IUGR was made.

PATHOLOGICAL DISCUSSION

In GBS exact aetiology is not known but autoimmune mechanism play main role in pathogenesis. It is often preceded by an infection, surgery, immunization, lymphoma, or exposure to toxins. The preceding infection may cause an autoimmune response against the various components of peripheral nerve myelin and sometimes the axon.

DISCUSSION OF MANAGEMENT

The management of GBS does not differ much in the pregnant women from non-pregnant women with the disease however it needs multidisciplinary approach. Supportive management in an ICU setting forms a corner stone in the management of GBS in pregnancy. Management of airway, prevention respiratory infection and nosocomial infection, prevention of thromboembolic events (DVT prophylaxis), adequate fluids and electrolyte management, effective physiotherapy and psychological support is needed. 34.5 % of women suffering from GBS during pregnancy requires ventilator support and the maternal mortality exceeded 10% [2]. High maternal and perinatal mortality rate (> 10 %) is associated with GBS. Maternal mortality is usually due to respiratory complications and perinatal mortality due to preterm labour and delivery. In case ventilator support is required in pregnancy, the risk of premature birth has been noted to be greatly increased.[5]

In this case as the patient had developed sever preeclampsia with asymmetrical IUGR hence decision for LSCS was taken. Good outcome is observed in many patients with plasmapheresis started within 2 weeks of weakness. IVIG is also found to be safe in pregnancy for treatment of GBS.

FINAL DIAGNOSIS

GBS is a rare neurological disease affecting pregnancy and its management is multidisciplinary. GBS is not an indication for LSCS or operative delivery but it can be considered in patient with some obstetrics indications.

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