International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Aggrawal S et al. Int J Reprod Contracept Obstet Gynecol. 2022 Dec;11(12):3409-3411
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20223143

Case Report

Successful outcome of pregnancy in a case of Guillain Barre syndrome: report of a rare case and review of literature

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Received: 04 October 2022
Accepted: 01 November 2022

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ABSTRACT

Guillain Barre syndrome (GBS) is a rare autoimmune neurological disorder that has been reported to carry a high maternal risk and maternal mortality risk of >10% if occurred during pregnancy. It is characterized by acute onset of symmetrical ascending paralysis with or without respiratory depression and autonomic dysfunction secondary to gastrointestinal or respiratory infection. This is case report of 30 years old multigravida who presented at 19 weeks period of gestation with sudden onset back pain and bilateral lower limb weakness that progressed to involve bilateral upper limbs with respiratory insufficiency. Based on clinical presentation and relevant investigations like serum electrolyte, arterial blood gas analysis and nerve conduction studies, provisional diagnosis of GBS was made. In collaboration with the physician, she was managed with ventilator support for 12 days, intravenous immunoglobulin and supportive therapy. This was followed by complete and rapid recovery as she was extubated on 12th day and discharged on day 16. Patient was followed by strict maternal and fetal surveillance. She successfully delivered a healthy boy at 38 weeks of period of gestation by caesarean section done in view of meconium-stained liquor grade 3 in early labour and she was discharged on day 3 of LSCS.

Keywords: GBS, Neurological disorder, Ascending paralysis

INTRODUCTION

Guillain-Barré syndrome (GBS) is a group of clinical features characterised by an acute inflammatory polyneuropathy with rapidly progressing symmetrical muscle weakness, areflexia with or without autonomic disturbances and sensory involvement. It is usually preceded by gastrointestinal or respiratory illness, lymphoma, surgery or exposure to toxins. The most common pathogen associated with GBS is Campylobacter jejuni. The estimated incidence of GBS in pregnancy is between 1.2 and 1.9 cases per 100,000 people.

It can occur at any time during pregnancy but particularly in the third trimester and immediately post-partum period. The reason for its occurrence in post-partum period is delayed type of hypersensitivity reaction.[1]

This case was managed with multidisciplinary approach and had successful maternal and fetal outcome in spite of patient being on ventilator support for 12 days during second trimester.

CASE REPORT

A 30 years old G4P1L1A2 with 19 weeks period of gestation presented to gynaecology casualty of Lok Nayak Hospital with complaints of sudden onset of bilateral lower limb weakness and backache for 1 day. The weakness gradually progressed to both upper limbs with difficulty in walking, lifting upper limbs and speaking. This was preceded by flu-like symptoms

a few days back. This was not associated with any pain, tingling sensation or bowel and bladder complaints. She did not give any significant past and family history.

On examination, she was conscious, cooperative PR-90/min, BP- 150/80, decreased power in all four limbs with areflexia and normal sensory examination. The abdomen was gravid, soft and fundal height of 18 weeks. A provisional diagnosis of GBS was made and she was admitted following which all investigations were done including serum electrolytes, arterial blood gas analysis, nerve conduction studies and urine porphobilinogen.

On the same day of admission, she started having difficulty in breathing and was immediately shifted to intensive care unit and was intubated there and put on ventilator support. Arterial blood gas analysis showed pH-7.3, pCO_2- 33.4 mmHg and HCO_3-20.9 meq/l, saturation 96%.

Routine biochemistry including complete blood count, liver function test, kidney function test and serum electrolytes were within normal limits. Electrophysiological studies showed slightly reduced common muscle action potential (CMAF) in the left common peroneal nerve while the rest of the study was normal.

The urine sample was negative for porphobilinogen. The patient was started on IV immunoglobulin for 5 days, parenteral nutrition and supportive care. She was monitored over the next 15 days for improvement in signs and symptoms with respect to power in the limbs and overall status. She rapidly responded to the treatment, regaining power of 3/5-4/5 in all limbs and was subsequently intubated on day 12.

The patient was discharged on tablet methylcobalamin 1500 microgram along with multivitamins and was advised physiotherapy and deep breathing exercises.

She followed up in ANC OPD, maternal and fetal surveillance was done. At 38 weeks she went into spontaneous labour and had meconium-stained liquor grade 3 in early for which she was taken up for caesarean section.

She successfully delivered a healthy baby of 2.7 kg with Apgar of 7, 9, 9 by caesarean section. In the postpartum period, she did not experience any similar symptoms and was discharged in stable condition on day 4 on multivitamins.

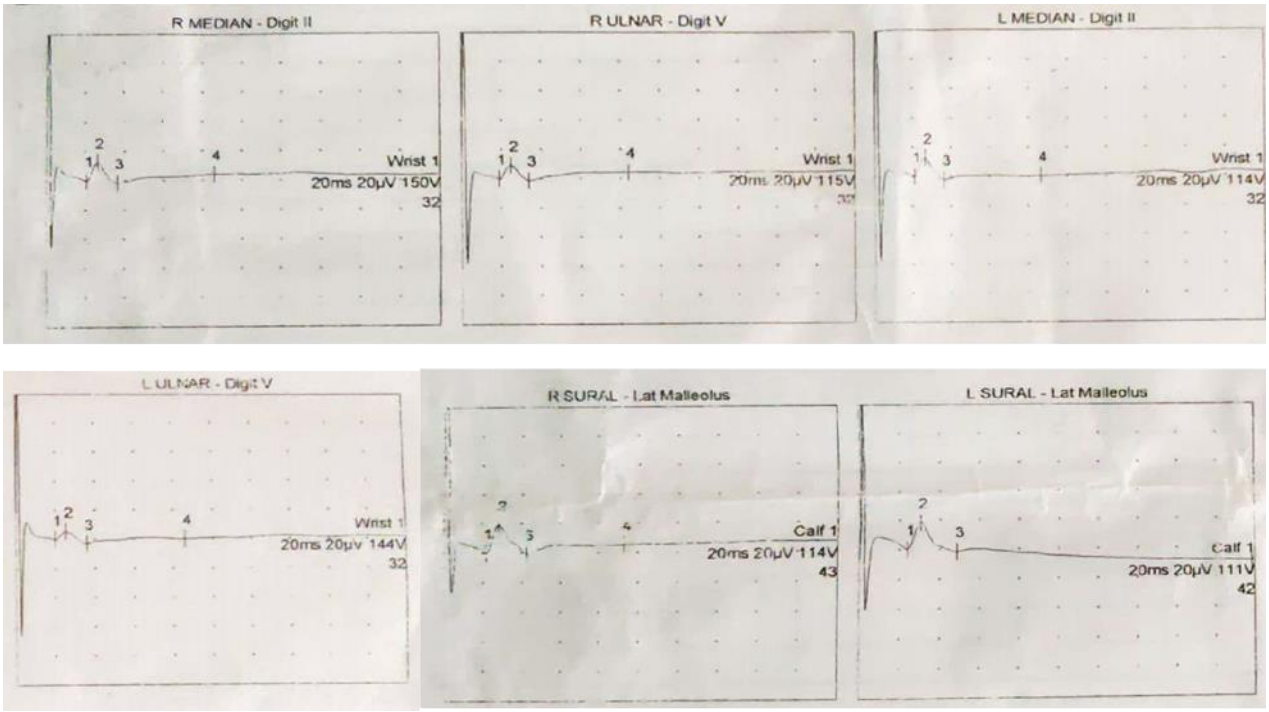

Figure 1: Electrophysiological study showing reduced CMAF in left common peroneal nerve.

DISCUSSION

GBS is a rare condition and high mortality rate. The time of presentation can vary but is usually seen in the third trimester and early post-partum.[2] Though our patient developed GBS in her second trimester.

The pathogenesis of the disease involves the activation of T cells and the production of antibodies against the

myelin sheath of neuron resulting in demyelination and manifestation of symptoms. Only one-third of the patients have a precedent factor like diarrhoea and influenza-like symptoms though the organism can be identified in only 50% of the cases.[3] Our patient also experienced flu-like symptoms few days before the onset of weakness.

The diagnosis of GBS is made by strong clinical suspicion and laboratory tests to exclude other causes of the presenting symptoms. Due to the acute nature of the disease and its rapid progression over the next 24-48 hours, one-fourth of the patients can develop respiratory paralysis and require mechanical ventilation.[4] This uncommon complication was seen in our patient who suffered from severe respiratory insufficiency within 48 hours of the development of symptoms. Such complications along with bulbar muscle weakness and autonomic dysfunction have resulted in a high maternal and perinatal mortality rate in pregnant women with GBS.

The management of GBS in pregnancy is similar to non-pregnant women. It includes supportive care for the symptoms like non-steroidal anti-inflammatory drugs for pain; use of fluids, anti-hypertensive agents, atropine for autonomic dysfunction; venous thromboprophylaxis, parenteral/enteral nutrition and prevention of bedsores. The disease-specific management includes the use of immunoglobulin and plasmapheresis and should be started with 2-4 weeks of the onset of symptoms. Both have similar efficacy in managing severe cases of GBS.[5] Full recovery is expected in approximately 70-80% of the cases with immunomodulatory therapy.[6] Our patient required admission in the intensive care unit with mechanical ventilation along with IVIG and supportive care. She had a full and rapid recovery 1 week post-extubation and discharge from the hospital with adequate physiotherapy. Thromboprophylaxis should be given in pregnant women with GBS due to prolonged immobilisation and thrombogenic state in pregnancy, our patient did not receive any anticoagulation therapy.

GBS is not an indication for caesarean section and should be reserved for only obstetric indication.[7] Adequate pain relief should be provided to avoid increased haemodynamic response and assisted vaginal delivery can be opted to reduce prolonged second stage of labour.[8] Our patient underwent caesarean section for meconium-stained liquor grade 3 in early labour and successfully delivered 2.7 kg boy.

CONCLUSION

To improve the maternal and fetal outcome a high index of clinical suspicion for the disease along with prompt diagnosis and early management with a multidisciplinary team of gynaecologists, intensivist and paediatricians.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Aggarwal S, Sachdeva P, Mala YM, Tyagi S, Shakarwal S. Successful outcome of pregnancy in a case of Guillain Barre syndrome: report of a rare case and review of literature. Int J Reprod Contracept Obstet Gynecol 2022;11:3409-11.