CASE REPORT

Anaesthetic Management of a Patient with Gullain Barre Syndrome Posted for Emergency Caesarean Section: A Case Report

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ABSTRACT

Gullain Barre Syndrome (GBS) is an acute inflammatory demyelinating polyradiculopathy of rare occurrence in pregnancy. We report a case of a 36 weeks pregnant patient posted for emergency Caesarean section for foetal distress. At 28weeks of pregnancy the patient was diagnosed with GBS for which she was intubated and was on mechanical ventilation for 19 days. Subsequently she was extubated and discharged after 36 days. During this period, she received treatment with intravenous immunoglobulins and plasmapheresis. The patient continued to have weakness of both lower limbs and bladder incontinence prior to surgery. General anaesthesia was administered to the patient keeping in view the autonomic system involvement in the disease and presence of foetal distress. The intraoperative course was smooth and patient was extubated uneventfully.

KEY WORDS: Gullain Barre Syndrome, Pregnancy, Autonomic dysfunction, General anaesthesia, Emergency caesarean section.

Introduction

Gullain barre syndrome (GBS) is an acute inflammatory demyelinating polyradiculopathy characterized by progressive motor weakness, areflexia and ascending paralysis.[1] The annual incidence of GBS has been documented to be 0.75-2/100000 in general population.[2] We report anaesthetic management of a pregnant patient with GBS who was posted for emergency caesarean section (CS).

Case History

Consent for publication was obtained from patient. A 27-years primigravida, weighing 67kg, height 149cm with 36 weeks of gestation was posted for emergency CS. History revealed that at 28 weeks of gestation she developed weakness of lower limbs and change in gait for which she was hospitalised. She was diagnosed to have GBS based on CSF analysis. Her condition deteriorated further, and she developed complete paralysis of both lower limbs. The weakness continued to ascend and after 10 days she started complaining of difficulty in breathing with drop in oxygen saturation. The patient was intubated and started on mechanical ventilatory support. Patient received intravenous (IV) immunoglobulin at 400 mg/ kg for 5 days and plasmapheresis. Weaning from mechanical ventilator was started from 14th day of intubation and she was extubated on 19th day. She was subsequently discharged after total hospital stay of 36 days. Throughout the course of illness regular antenatal checkup was done and viability of fetus confirmed. The patient continued to have weakness of both lower limbs with grade 3 power and bladder incontinence even after discharge. At 36 weeks the patient went into labour and was posted for emergency CS for fetal distress. Routine blood investigations were within normal limits. Patient had a heart rate of 112 beats/min and blood pressure

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108/60mmHg. Airway examination showed adequate mouth opening and Mallampati grade 2. The patient still had weakness of both lower limbs and bladder incontinence. The patient had been nil by mouth for almost 8 hours prior to surgery. An 18G IV cannula was secured and patient started on ringers' lactate solution. Standard monitors like SPO_2, ECG, NIBP and peripheral nerve stimulator (PNS) were connected.

The patient was premedicated with inj Metaclopromide 10mg, inj Pantoprazole 40mg, inj Ondensetron 4mg, inj Glycopyrrolate 0.2mg. Inj Fentanyl 50 micro gm was given to suppress the laryngeal response. After pre oxygenation with 100% oxygen and induction with inj Propofol 100mg, rapid sequence intubation was done under inj Rocuronium 40mg with 7 no cuffed endotracheal tube. Patient was maintained on nitrous oxide and oxygen of 1:1. The incision to baby extraction time was 5 minutes. A single live baby weighing 2.4kg was extracted whose Apgar score was 7. Following baby extraction patient was administered inj Midazolam 1.5mg and inj Oxytocin 20 IU was added to 500 ml of Normal saline infusion. The haemodynamics of patient remained in normal range throughout the procedure. The patient did not require any additional dose of muscle relaxant. The patient received 1.2 liters of IV fluids intra operatively, urine output was 150ml and blood loss was approximately 500ml. The surgery lasted for 35minutes. After adequate breathing attempts were present and train of four (TOF) count on PNS was four, Inj Neostigmine 2.5mg and Inj Glycopyrrolate 0.4mg were administered and patient extubated. The patient had an uneventful postoperative period.

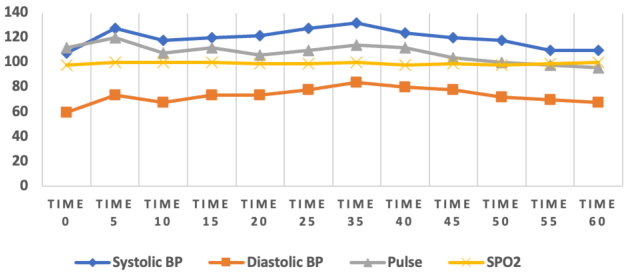

Figure 1: Intra operative vital parameters of the patient

Discussion

Pregnant GBS patients have a higher risk for neurological deficits with respiratory failure rate of 35%, and maternal mortality rate of 10 to 35%.[1] Diagnostic criteria of GBS are (a) relatively symmetrical weakness of two or more limbs due to neuropathy, (b) areflexia, (c) disorder course less than 4 weeks, (d) exclusion of other causes like absence of fever, (e) typical CSF finding on lumbar puncture, (f) and electrophysiological evidence of demyelination from electromyogram.[3] The appropriate mode of delivery and anesthetic management of parturient patient with GBS depends on patient's clinical condition at the time of delivery. There are no established guidelines for safe anaesthetic techniques in such cases. The present case was taken up for emergency CS due to foetal distress.

In patients with GBS, both regional and general anesthesia may be performed. There is no superior mode of anesthesia, as both have been associated with potential risks.[4] Patients with GBS are sensitive to local anesthetics and may have profound hypotension, bradycardia along with cardiovascular collapse primarily because GBS causes autonomic nervous system instability.[5]

Hebl et al. reviewed the medical chart of 139 patients with history of CNS disorder who received neuraxial anesthesia or analgesia from 1988 to 2000. They found no case of new or worsening neurologic symptoms, therefore concluding that adverse events after regional anesthesia to patients with CNS disorders are not as frequent as once thought and regional anesthesia should not be considered an absolute contraindication in them.[6] Though many reports of uneventful administration of regional anaesthesia in cases of GBS are present, adverse events following regional anaesthesia have also been reported. Wiertlewski et al. reported a GBS case, with worsening of symptoms after delivery via epidural anesthesia. The patient did not fully recover from motor block after epidural anesthesia and neurological symptoms worsened immediately after delivery.[7] We preferred general anaesthesia over spinal anaesthesia as our patient had autonomic dysfunction as indicated by presence of bladder incontinence and due to the emergency of procedure. In case of general anaesthesia, succinylcholine should be avoided because of its risk of hyperkalemia.[8] Considering the risk of aspiration in pregnancy we performed rapid sequence intubation using inj Rocuronium as muscle relaxant. Prolongation of duration of non-depolarizing muscle relaxants has been observed in demyelinating disorders.[9] Hence we used neuromuscular monitor in this case and patient was extubated only after adequate recovery

confirmed by TOF count four.

Conclusion

GBS in pregnancy is a challenge to anesthesiologists due to its associated neurologic and sympathetic involvement. Careful history, systemic examination, preoperative clinical evaluation of patient is important in making the choice of anaesthetic technique as both regional and general anaesthesia have been successfully used for management of these patients. General anaesthesia is a safe option in patients with autonomic dysfunction.

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