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Anaesthetic management of Emergency LSCS in a k/c/o of Myasthenia Gravis

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ABSTRACT: Myasthenia Gravis is autoimmune disorder of neuromuscular junction with peak onset amongst women of reproductive age. Here we report a case of 20-year-oldprimigravida who is a known case of Myasthenia Gravis for emergency LSCS case was conducted under spinal anaesthesia and was uneventful.

KEYWORDS: myasthenia gravis, spinal anaesthesia, caesarean section.

I. INTRODUCTION:

Myasthenia gravis is an autoimmune disease affecting neuro muscular junction, pathology of which is known to be the presence of auto antibodies directed against Acetyl Choline receptors which destroy it. Fatigable weakness of voluntary muscles due to reduced acetylcholine release on repeated stimulation is characteristic of MG. Anaesthetic management is a challenge as there could be a range of bulbar involvement, respiratory involvement, autonomic dysfunction in severe disease and also there exists a risk for peri operative exacerbation. In pregnancy, the disease may go into remission or exacerbation. In this case report we present the case of a 20-year-old female k/c/o Myasthenia Gravis on medication who was administered subarachnoid block for lower segment caesarean section Spinal anaesthesia is faster and more reliable than epidural anaesthesia.the total dose of local anaesthetic requirement will be minimum. However, there will be more cardiovascular instability and higher block because of speed of onset and inability to titrate the effect.

Combined spinal-epidural anaesthesia has the advantages of both spinal and epidural as anaesthesia can be rapidly attained with relative cardiovascular and respiratory stability.

General anaesthesia is indicated in patients with respiratory insufficiency and in those with contraindications to neuraxial anaesthesia. suxamethonium is contraindicated. Dose of neuromuscular blockers should be kept to minimum because of their increased sensitivity. high dose of neostigmine can precipitate cholinergic crisis where generalised muscle weakness may be difficult to distinguish from a myasthenic crisis.

II. CASE REPORT:

A 20 year female primigravidak/c/o Myasthenia Gravis and Hypothyroidism was shifted to OT for emergency Lower Segment Caesarean Section (LSCS) at 39 weeks of gestation.

Our patient was diagnosed with Myasthenia Gravis at 10 years of age when she presented to the hospital for ptosis. Diagnosis was confirmed with acetyl Choline receptor Antibody testing (Radio - Immunoassay). Patient was started on Physostigmine 30mg thrice daily and Prednisolone. Patient used medication for 8 years and stopped medication without medical advice.In the present pregnancy, patient was stared onPhysostigmine30mg TID since the 1st trimester, she was also diagnosed as hypothyroidism in first trimester and started on thyroxine 25 mcg. she remained asymptomatic during the present pregnancy.

On examination, patient was conscious and oriented. She had a Heart Rate of 110bpm with no variability, BP130/80mm Hg and SpO2 98% on RA. There was no evidence of bulbar,respiratory or autonomic involvement.All blood investigations were within normal limits.

The patient was premedicated with Inj. Ondansetron 4mg and Inj. Metoclopramide 10mg. Adequate preloading was done. Under strict aseptic precautions, a subarachnoid block was performed with a 25G Quincke's needle with 8mg Hyperbaric Bupivacaine at L3-L4 interspace. Level of blockade was achieved till T4 (to cold) while avoiding excessive cardiovascular instability from

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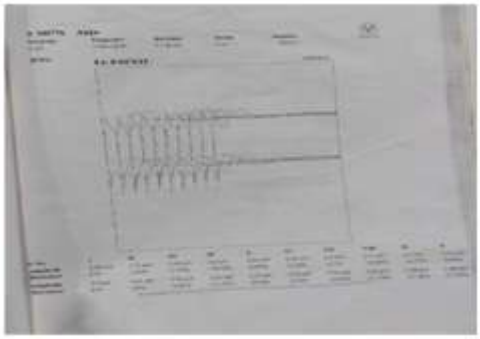
sympathetic blockade or respiratory impairment from paralysing the intercostal muscles too high.15 U of Oxytocin was given in divided doses following the delivery ofbaby.;Surgery lasted for 45 minutes and was uneventful. Outcome was satisfactory.

Patient was shifted to the recovery room. The regular dose of Physostigmine was given after the surgery. The levels of anaesthesia were checked every 2 hourly post operatively to monitor the rate of regression and any residual motor weakness.



III. DISCUSSION:

Myasthenia gravis is a rare disorder affecting Neuromuscular junction where Auto Antibodies cause destruction of Nicotinic Ach receptors. Muscle Specific Kinase (MuSK) and the Low-density Lipoprotein receptor-related protein (LRP4) are also identified as targets in some patients [1].
Myasthenia is characterized by muscle weakness which usually begins with Ocular symptoms like Ptosis, Diplopia and then spread to other muscle groups [2]. This weakness usually worsens with exertion and returns to normal on rest, and periods of exacerbations occur multiple times during the course of the disease [2]. In severe disease, laryngeal, pharyngeal or respiratory muscles may be involved, making the patients prone to pulmonary aspiration and ventilatory support [2, 6]. Diagnosis is confirmed usingAnti Acetyl Choline Receptor Antibody testing and Single Fiber EMG [7]. Thymomas or Thymic hyperplasia can be seen associated with these patients and Thymectomy along with Pyridostigmine and Prednisolone is found to improve the clinical course in most of these patients [3,4]. Other treatment modalities include Immunomodulators like Steroids, Azathioprine, Tacrolimus,Cyclosporine. IVIG and Plasmapheresis are used in severe disease [8]. Oropharyngeal and respiratory muscle involvement require mechanical ventilatory support.

Caesarean section poses unique challenges to the Anaesthesiologist as there are increases. Bulbar involvement or respiratory compromise is the only true indication for general anaesthesia in these patients.invasive blood pressure monitoring can be considered in the presence of autonomic dysfunction. Although most intravenous and inhalational agents can be safely used in Myasthenic patients, use of muscle relaxants should be as limited as possible. Succinyl choline may produce unpredictable responses and hence is better avoided, while non depolarizing muscle relaxants should be administered cautiously using neuromuscular monitoring [14]. Delayed emergence, residual muscle paralysis and respiratory failure needing prolonged ventilatory support has been reported [14] which adds to the list of problems pregnancy itself causes while administering general anaesthesia.In this patient, wepreferred spinal anaesthesia because it is more reliable,faster and low dose of local anaesthesics was required.

IV. CONCLUSION:

Myasthenia gravis has an unpredictable course during pregnancy, thereby producing serious management challenges to the obstetrician and anaesthesiologist. Caesarean section if indicated in such patients poses unique challenges to the anaesthesiologist as all available modes of anaesthesia are associated with its own risks and benefits.

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