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ANAESTHESIA MANAGEMENT IN 50 YRS OLD PATIENT WITH MYASTHENIA GRAVIS POSTED FOR LAPRO-SCOPIC CHOLECYTECTOMY

Anaesthesiology

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ABSTRACT

Myasthenia gravis is an autoimmune disease characterized by skeletal muscle weakness and fatigability by various degrees after physical exercises, ptosis, ophthalmoplegia and bulbar symptoms. The incidence of myasthenia gravis is cited as 50 to 142 cases per 1 million population. It is more common in female patients with age group of 20-30 years. Pathologically, it is an autoimmune disease in which there is decrease in acetylcholine receptors at the neuromuscular junction due to its destruction or inactivation by the circulating antibodies. Patients are at increased risk of pulmonary aspiration due to pharyngeal and laryngeal muscle weakness and may present with dysphagia, dysarthria and overall difficulty in clearing airway secretions. In this case report, we describe a patient with myasthenia gravis undergoing laproscopic cholecystectomy using i-gel without the use of muscle relaxant.

KEYWORDS

Myasthenia gravis, Laproscopic cholecystectomy, i-gel, spontaneous ventilation.

INTRODUCTION-

Myasthenia gravis is an autoimmune disease characterized by skeletal muscles weakness and fatigability by various degrees after physical exercises, ptosis, ophthalmoplegia and bulbar symptoms. The incidence of myasthenia gravis is cited as 50 to 142 cases per 1 million population. It is more common in female patients with age group of 20-30 years. Pathologically, it is an autoimmune disease in which there is decreased in acetylcholine receptors at the neuromuscular junction due to its destruction or inactivation by the circulating antibodies. Patients are at increased risk of pulmonary aspiration due to pharyngeal and laryngeal muscle weakness and may present with dysphagia, dysarthria and overall difficulty in clearing airway secretions. [1] In this case report, we describe a patient with myasthenia gravis undergoing laproscopic cholecystectomy using i-gel without the use of muscle relaxant.

Case report

50 years old female patient weight 65 kg presented with acute cholecystitis and was planned for laparoscopic cholecystectomy. After one week she was posted for surgery. During preoperative evaluation it was revealed that she was K/C/O myasthenia gravis diagnosed 15 years back when she presented with fatigue and weakness of upper limbs. Patient was on medical management since then and was taking 40 mg pyridostigmine thrice daily. At the time when she was posted for surgery, her symptoms were well controlled. She didn't give any history of respiratory and bulbar muscle involvement and her preoperative airway examination and investigations were within normal limit.

Before taking patient for planned surgery, all risks and benefits were explained to her and her family. Fresh informed consent was taken. She received her medication, antiaspiration prophylaxis on the morning of surgery day. Anesthetic technique planned was general anaesthesia with i-gel and epidural insertion.

After taking the patient in operation theatre, all standard monitoring and BIS monitoring were attached. IVF was attached to 18 g IV cannula in left hand. Under all aseptic precautions, epidural catheter was inserted at T10-T11 level. After preoxygenation, patient was induced with fentanyl 100µg and propofol 2mg/kg. Airway was secured with i-gel no 4 and fixed after confirming bilateral air entry. Propofol infusion was started @ 75 µg/kg/min and suction catheter was inserted through i-gel. Anaesthesia was maintained with N2O:O2: propofol infusion and isofluane 0.2-1%. After induction , vitals were noted , epidural was activated with 4cc of 0.5% H Bupivicaine and Inj.Dexamethasone 8mg was given before start of surgery.

Intraoperatively, multimodal analgesia was given in form of IV PCM 1gm, IV diclofenac 75mg, additional IV fentanyl 50 mcg and epidural activation. Patient was spontaneously breathing throughout the procedure and peak pressures were monitored. Inj. Periset 4 mg was given after gall bladder removal and propofol infusion was stopped after abdominal port closure. Inhalational agents were stopped and oral suctioning was done. When patient started obeying commands, i-gel was removed. Patient was shifted to PACU and monitored and postoperative period was uneventful.

DISCUSSION:

Myasthenia gravis imposes challenge for anaesthetist due to pulmonary, muscular and cardiovascular involvement as well as drug interactions. Neuromuscular Blockers (NMB) facilitate controlled ventilation and provide improved surgical conditions for laparoscopic surgeries. However, myasthenic patients demonstrate increased sensitivity and unpredictable response to muscle relaxants even with minimal disease or in remission phase.[2] Sugammadex has shown rapid recovery of the neuromuscular function after administration of rocuronium in myasthenics [3,4]. However, sugammadex is still not available in many parts of the world including India. We decided to avoid use of muscle relaxant due to higher sensitivity of these patients to non-depolarizing muscle relaxant and resistance to depolarizing agents. We used isoflurane to facilitate i-gel insertion and for providing muscle relaxation during surgery. Inhalational agents allow neuromuscular transmission to recover with rapid elimination of these agents at end of surgery. In another study using isoflurane only for anaesthesia, the recovery from anaesthesia was also rapid with minimal postoperative residual muscle weakness or respiratory depression.[5] Georgiou L et al., reported successful management of laparoscopic cholecystectomy in a myasthenia patient using a combination of thoracic epidural and general anaesthesia [6]. I-gel has advantage over endotracheal tube as it causes lesser airway resistance and it does not require neuromuscular blocking agent for insertion.

CONCLUSION-

We conclude that use of I-gel provided a safe airway securing technique as well as limit the use of neuromuscular blocking agents which ensures rapid postoperative recovery in myasthenia gravis patient for laproscopic cholecystectomy.

CONFLICT OF INTEREST- NIL

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