

Anesthetic management of a case of chronic inflammatory demyelinating polyneuropathy undergoing major abdominal surgery

Dear Editor,

We describe anesthetic management of patient with chronic inflammatory demyelinating polyneuropathy (CIDP) undergoing extended hepatic resection for carcinoma of gall-bladder. He was 55-year-old male (70 kg) diagnosed case of diabetes mellitus (15 years), hypertension (5 years), and CIDP for 6 months. He had received injection methylprednisolone 1 g pulse and currently, continuing with tablet prednisolone 20 mg once daily. He had 4/5 power in all four limbs, no sensory deficit and gag reflex was present. His hematological, biochemical investigations, 12 lead electrocardiogram, and chest X-ray were normal. Pulmonary function test showed mild restriction with forced vital capacity (FVC) of 2.5 L (normal 3.57 L) and forced expiratory volume in first second (FEV1) was 2.1 L (normal 3 L). His 2D echocardiography revealed normal ejection fraction with no regional wall motion abnormality. Consent for probable need of postoperative mechanical ventilation and epidural analgesia (due to existing motor deficit) was taken.

Nil per oral for 8 h and premedication with tablet ranitidine 150 mg and tablet alprazolam 0.25 mg were ensured. 12-lead electrocardiogram, pulse-oximetry, noninvasive blood pressure, neuromuscular monitoring, and two wide bore intravenous (i/v) cannulae were established with left radial artery cannulation for invasive blood pressure (IBP) monitoring. Injection hydrocortisone 100 mg was given i/v. An epidural catheter was inserted at T6-T7 level. He received injection fentanyl 140 µg, injection propofol 140 mg, and tracheal intubation was facilitated by injection atracurium 35 mg i/v when train-of-four (TOF) count reached 0. Anesthesia was maintained with desflurane in 60:40 nitrous oxide and oxygen. 0.2% ropivacaine infusion was given through epidural catheter. Surgical antibiotic prophylaxis was given (cefuroxime 1 g). Hemodynamics remained stable and EtCO₂ was maintained between 35-40 mmHg. Duration of surgery was 4 hours with 300 ml blood loss. Additional 5 mg atracurium was given every 40-45 minutes when TOF reached 1, total of 15 mg was used in addition to 35 mg during intubation. At the end of surgery, injection ondansetron 8 mg was given and trachea

was extubated after giving injection neostigmine 3.5 mg and glycopyrolate 0.7 mg when TOF count reached 4. Postoperative analgesia was provided by epidural infusion of 0.2 % ropivacaine and injection paracetamol 1 gm 6th hourly. Patient was observed in high dependency unit for 48 hours, steroid was continued and discharged on seventh postoperative day.

The anesthetic challenges in patient with CIDP include neuromuscular weakness, autonomic neuropathy, residual paralysis with use of muscle relaxants, delayed recovery from neuraxial blockade, side effects of drugs like steroids or immunoglobulin, and possibility of prolonged mechanical ventilation.^[1,2] Although disease progression had stabilized, neuromuscular monitoring was done considering possibility of prolonged effect of neuromuscular blockade. Hara et al reported prolonged recovery (80 minutes for 25% recovery) from intermediate-acting muscle relaxant vecuronium.^[3]

IBP allowed close monitoring for hypotension during administration of local anesthetic, pneumoperitoneum or due to autonomic instability. Previously, few authors have considered the possibility of severe hypotension due to autonomic instability and adding adjuvant (morphine or fentanyl) to local anesthetic drug.^[2,4,5] Despite low FVC, our patient did not encounter any respiratory problem in postoperative period due to careful monitoring, adequate analgesia, incentive spirometry, and early mobilization.

Perioperative management of patient with CIDP is intensive requiring coordination among surgeon, anesthetist, and neurologist along with counseling of patient's family.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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