

Thoracic paravertebral block for breast surgery in a patient with myasthenia gravis

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To the editor: Myasthenia gravis (MG) is a chronic autoimmune disorder characterized by progressive muscle weakness and fatigue secondary to the destruction of postsynaptic acetylcholine receptors. Therefore, anesthesia in patients with MG requires special attention, particularly in the use of non-depolarizing muscle relaxants and volatile anesthetic agents, which accelerate the effect of these muscle relaxants. Compared to general anesthesia (GA), regional anesthesia techniques can provide superior postoperative analgesia, decreased surgical stress response, and a reduction in postoperative nausea and vomiting (PONV), which can benefit MG patients [1]. Paravertebral blockade (PVB) is characterized by the unilateral regional blockade of several dermatomes without sympatholysis and with effective blockade of pain stimuli [2]. Previous studies report statistically significant reductions in PONV with the use of PVB [3]. Klein et al. [1] have shown that PVB provides improved analgesia during the first 24 h after breast surgery when compared with GA. The improved analgesia may last as long as 72 h after the initial block. The incidence of hypotension with PVB is rare; Lonnqvist et al. [4] observed a 4.6% incidence of hypotension with this regional technique. We report here the use of PVB as a primary anesthetic, without muscle relaxants, in a patient with MG undergoing mastectomy with axillary lymph node dissection.

A 47-year-old female patient (84 kg; 164 cm; American Society of Anesthesiologists [ASA] II) presented for left partial mastectomy with axillary lymph node dissection for invasive ductal carcinoma. She had been diagnosed with ptosis and progressive muscle weakness in the legs and arms 25 years prior to this presentation and had been classified as stage IIa according to Ossermann [5]. Her medication included pyridostigmine, 60 mg daily, taken in two 30-mg doses. There were no signs or symptoms of MG at the preoperative evaluation. Blood pressure was 130/80 mmHg; pulse, 78 beats·min⁻¹; and respiration, 14 breaths·min⁻¹. Preoperative forced vital capacity (FVC) was 3.11 L², with a 1-s forced expiratory volume (FEV1) of 2.5 L. Standard monitors included electrocardiogram, pulse oximetry, and noninvasive blood pressure

measurement. The patient was given titrated doses of i.v. midazolam 2 mg and fentanyl 100 µg for moderate sedation during block placement. With the patient in the sitting position, the PVB was performed on the left side, using the technique described by Greengrass et al. [6], with 5 ml of 0.5% ropivacaine and epinephrine 1:400,000 injected at thoracic levels 1–6. After demonstration of adequate blockade by loss of sensation to pinprick 20 min following block placement, there was no evidence of centroneuraxial block or changes in hemodynamic parameters. Intraoperative sedation was provided with propofol 30–50 µg·kg⁻¹·min⁻¹ i.v., titrated to moderate sedation with the patient being arousable on command. The surgery proceeded uneventfully. Her lung function capacity was assessed after 24 h in the post anesthetic care unit (PACU). FVC was 2.71. She was pain-free and extremely pleased with her anesthetic and overall experience when she was transferred to her ward.

We conclude that the risk/benefit ratio of PVB compared to GA and thoracic epidural anesthesia favors the use of this regional technique, because of its unilateral intercostal muscle block, hemodynamic stability, superior postoperative analgesia, high patient satisfaction, and low incidence of PONV. PVB is a useful alternative technique to use when faced with an MG patient requiring breast surgery.

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