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Erector spinae plane block as a sole anaesthetic technique for simple mastectomy in a cardiorespiratory crippled female

Sir,

We wish to report a case of simple mastectomy in a geriatric patient with carcinoma breast and multiple comorbid illnesses managed solely under regional anaesthesia.

A 70-year-old moderately obese female presented with a lump over the left breast and after evaluation was posted for left simple mastectomy. The surgery was part of a staging mastectomy to decide on chemotherapy and radiotherapy protocols. Pre-anaesthetic checkup revealed history of chronic obstructive pulmonary

disease (COPD) and on and off inhaled bronchodilator and steroid combination therapy for the past 10 years. She also revealed a history of systemic hypertension and coronary artery disease for the past 4 years. Her effort tolerance was poor. Her pulse rate between 60-65/minute with a blood pressure of 126/76 mmHg. On examination, she had an active wheeze. 2D-echocardiography revealed an ejection fraction of 25%. The other investigations were normal. She was taking oral atorvastatin, nitroglycerine and aspirin, which were continued. In view of an active wheeze with severe COPD, general anaesthesia was termed relatively unsafe with a high risk of perioperative pulmonary complications. Hence, our anaesthetic plan was erector spinae plane block. Preoperatively, patient was administered nebulised salbutamol with budesonide for optimisation, after which wheeze had reduced. After getting an informed written consent from the patient, she was shifted into the operation theater and standard anaesthetic monitoring with

electrocardiography, non-invasive blood pressure and pulse oximetry was instituted. Baseline vitals were noted. With the patient in left lateral position, using a high frequency ultrasound probe, T3 and T4 transverse processes were identified. Under aseptic precautions and after local infiltration with 2% lignocaine, 10 ml of equal mixture of 0.5% bupivacaine and 2% lignocaine with adrenaline was injected using a hypodermic needle under vision in two aliquots of 5 ml each after negative aspiration of blood. The same technique was used in two spaces. The drug spread was confirmed in the erector spinae plane craniocaudally. The patient was then placed in supine position for the procedure. A pin prick check followed by an instrumental check was done to doubly confirm the efficacy of ESP block. A satisfactory anaesthesia was present between T1 to T6. The surgical procedure done was left simple mastectomy with a single axillary node dissection and pectoral fascia resection. There was no haemodynamic response to surgical incision. The procedure was uneventful, except for mild discomfort during manipulation in the pectoral fascia, for which Inj Fentanyl 75 micrograms was administered intravenously. No other sedative agents were given. The vitals were stable throughout the procedure with an oxygen saturation of 90-95% in 4 liters of oxygen through face mask. A dose of intravenous 200 mg of hydrocortisone was administered as part of the steroid cover protocol. At the end of the procedure, the patient was shifted to the recovery room for monitoring, and then to postoperative ward. Visual analogue scoring and postoperative sensory block was monitored and charted. There was adequate analgesia with a VAS score less than 3 and sensory block from T1 to T6 in the postoperative ward for around 10 hours. There was no requirement of additional opioids. There were no major adverse effects or complications associated with the block. The patient was discharged after 5 days with continuation of cardiac drugs and inhaled steroids.

Ultrasound-guided ESP block is a popular, interfascial regional technique that was initially described for management of thoracic neuropathic pain.^[1] As the erector spinae fascia extends from the nuchal fascia cranially to the sacrum caudally, local anaesthetics extend through several levels, and the block acts over a large area.^[2] It has been tried for postoperative analgesia in thoracotomies, and recently for mastectomies. All the existing studies validated the effectiveness of ESP block as an analgesic technique. There are no studies for mastectomies performed solely under ESP blocks. In our case, the surgeon did not manipulate pectoral

muscles. Stripping of pectoral fascia was done which did give mild discomfort to the patient but managed with narcotics. One axillary node was removed which was not painful. We did not specifically target intercostobrachial nerve but we have blocked from T1-T6.

Hence, further invasions in the axilla could have produced pain. Intercostal block^[3] and paravertebral block^[4] could be alternative options, but with risk of pleural puncture. Thoracic epidural anaesthesia has been used for mastectomies by Ravi *et al.*,^[5] but we did not consider it due to the brittle cardiac condition in our case. We conclude that erector spinae plane block can be considered as an alternative anaesthetic technique for simple mastectomies in high-risk patients.

Declaration of patient consent

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

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Conflicts of interest

There are no conflicts of interest.

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