Pectoralis block for breast surgery: A surgical concern?

Sir,

There is a growing interest in pectoral nerve blocks (PEC) for breast surgeries, as it provides reliable analgesia, without the potential risks of a neuraxial block.[1] We report an interesting intraoperative finding with the use of this block.

A 50-year-old woman was scheduled for right modified radical mastectomy. After premedication with fentanyl 100 μg and midazolam 2 mg, general anaesthesia was administered using propofol 50 mg and atracurium 25 mg, and the airway secured with a size 3 Supreme ®laryngeal mask. Under all aseptic precautions, ultrasound-guided 10 mL of local anesthetic (LA) [bupivacaine 25 mg plus lignocaine 100 mg] was administered between the pectoralis muscle (PEC I) planes and 20 mL of LA (bupivacaine 50 mg plus lignocaine 100 mg] was injected in the plane between the pectoralis minor and serratus anterior muscle, as described by Blanco (PECS II).[1] No haemodynamic or motor response to surgical incision was observed. During surgery, on reaching the axilla for axillary lymph node clearance, surgeons observed fluid beneath the fat plane [Figure 1]. In the presence of fluid, electrocautery (Coviden Force FX® Electrosurgical generator) failed to work at a current strength of 50 mA, and surgery was continued using scissors and surgical blade. Rest of the surgery was uneventful. In the post-operative period, the patient was pain-free and received a planned dose of oral paracetamol (1 gm) at the end of 6 h which was continued eight hourly. The worst pain score recorded in first 24 h, at movement, was <3/10.

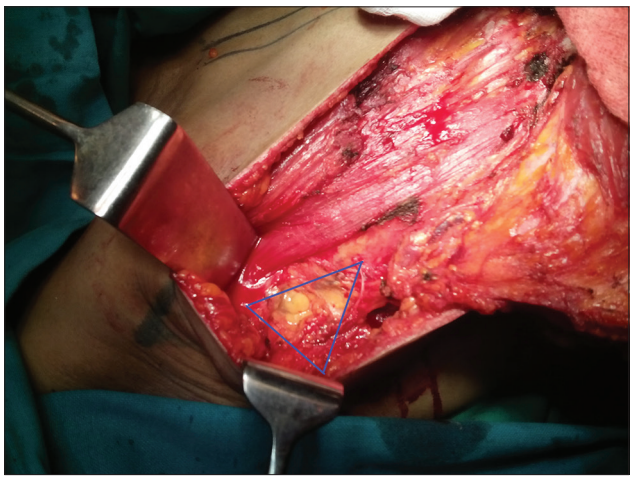

Figure 1: Local anaesthetic accumulation (area marked) seen during axillary dissection, in a patient in whom pectoral nerve block was administered

We had similar experiences in other patients, who were administered the PECs block; fluid filled tissue planes were encountered during axillary tail dissection. The spread of dye along the tissue planes has been seen in previous radiological and cadaveric dissections which in fact explains the efficacy of the block.[1,2] Inability to use the electro cautery during surgical dissection is the result of the local anaesthetic spread along the tissue planes.[3] In the presence of tissue oedema, tissue conductance increases and higher the conductance, lower is the resistance and results in reduced efficacy of the electrocautery. Increasing current strength of the electrocautery, changing over to bipolar cautery or harmonic scalpels, in such scenario, may help. The bipolar cautery, which works on the principle of closed loop is least affected by surrounding fluid.[3] The time of injection of PEC block prior to surgical dissection could influence our finding. The onset time of analgesia for PEC block is 3 min on an average.[1] In our case, the block was given after surgical preparation and draping; administering the block in the patient hold area would increase the interval between the block and surgical incision, and may alter the local anaesthetic absorption.

In conclusion, the spread of local anaesthetic along the fascial planes following PECS block could limit the use of electrocautery; the surgical team and the anaesthesiologist must be aware of the same.

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Conflicts of interest
There are no conflicts of interest.

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REFERENCES

1. Blanco R, Fajardo M, Parras Maldonado T. Ultrasound description of pecs II (modified pecs I): A novel approach to breast surgery. Rev Esp Anestesiol Reanim 2012;59:470-5.
2. Mayes J, Davison E, Panahi P, Patten D, Eljelani F, Womack J, *et al*. An anatomical evaluation of the serratus plane block. Anesthesia 2016;71:1064-9.
3. Sarkisian AM, Bernie AM, Lee R. Principles of electrocautery based techniques. In:, Chughtai B, Te AE, Kaplan SA. editors. Treatment of Benign Prostatic Hyperplasia: Modern Alternative to Transurethral Resection of the Prostate. New York: Springer Science + Business Media; 2015. p. 3-6.

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