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Pectoral nerve block1 versus modified pectoral nerve block2 for postoperative pain relief in patients undergoing modified radical mastectomy: A randomized clinical trial

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Background: Pectoral nerve block1 (PEC1) given between pectoralis major and minor, and modified pectoral nerve block2 (mPEC2) performed between pectoralis minor and serratus anterior, can provide continuous analgesia after Modified Radical Mastectomy (MRM) when catheters are placed before skin closure. This study was designed to compare PEC1 and mPEC2 block for providing postoperative pain relief after MRM.

Methods: Sixty-two physically fit patients undergoing MRM were assigned into two groups (Group PEC1, n¼31 and Group mPEC2, n¼31). Before wound closure, the epidural catheter was placed in the group designated muscle plane and 30ml of 0.25% bupivacaine was injected through the catheter after wound closure. Bupivacaine 15ml of 0.25% top up was given on patient's demand or whenever visual analog scale (VAS) score was >4. Time for the First Analgesia (TFA), number of top-ups and VAS was recorded at 0.5, 6, 12, 18, 24h after surgery. Sensory blockade was assessed 30min after extubation.

Results: Analgesia was significantly prolonged in group mPEC2 [mean(SD)] 313.45(43.05) vs 258.87(34.71)min in group PEC1, P<0.001. Total pain experienced over 24h was significantly less in group mPEC2 [mean(SD)] 9.77(6.93) than in group PEC1 24.19(10.81), P<0.0001. Consequently, top up requirements were significantly reduced in group mPEC2 than in group PEC1 [median(range)] 3(2-4) vs 4(3-5) respectively, P<0.001. Lateral pectoral (77.42% and 35.48%) and thoracodorsal nerves (93.55% and 48.39%) had a higher incidence of sensory block in group mPEC2 than group PEC1, P<0.001.

Conclusions: mPEC2 provides better postoperative analgesia than PEC1 when catheters are placed under direct vision after MRM.

Biography

Shreya Goswami completed her Medical School from Institute of Post Graduate Medical Education & Research in 2010. She completed her Residency in Anesthesia and Critical Care from Vivekananda Institute of Medical Sciences in the year 2017. During her tenure as a resident, she received a Gold medal for best paper from the state of West Bengal in Sarojini Devi Memorial Paper Presentation, ISAJAC, 2015. She also represented her state at the national level in the prestigious Dr TN Jha Memorial Paper Presentation and received Dr KP Chansoria travel grant in ISACON, Jaipur, India, 2015. As a resident, her work on PECs block was published in the British Journal of Anesthesia. A part of the study was presented in the World Congress of Anesthesia in Hong Kong 2016 and the abstract was published in Anesthesia & Analgesia. She is currently a Senior Resident in Vivekananda Institute of Medical Sciences, Kolkata, India..

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