

Absence of Analgesic Benefit of a Pecs II Block vs. Surgical Field Infiltration for Open Biceps Tenodesis

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INTRODUCTION:

Axillary pain is a known complaint after open biceps tenodesis because axillary skin is not covered by the interscalene or supraclavicular brachial plexus block. Anesthetic options for open subpectoral biceps tenodesis include Pectoral Nerve Block (Pecs blocks), and infiltration of surgical site with local anesthetic. The purpose of this randomized control study is to compare the analgesic efficacy of two treatment options for open subpectoral bicep tenodesis: Pecs II block versus infiltration of the surgical site with local anesthetic.

METHODS:

This is a randomized single-blind trial that enrolled 160 subjects who underwent open biceps tenodesis in association with shoulder arthroscopy. Subjects were randomized (computerized generated) into two groups: Pec cohort (Pecs II block with 20 mL of 0.25% bupivacaine) or local infiltration cohort (infiltration of surgical site with 15 mL of 0.25% bupivacaine by the surgeon). All subjects received an interscalene nerve block using 20 mL of 0.5% plain bupivacaine.

The primary outcome of this study was opioid utilization (morphine milligram equivalent, MME) during the first 24 hours after surgery. Secondary outcomes included pain score (Numeric Rating Scale; NRS) collected in the PACU and on post-operative days 1 and 3, reaction to surgical incision such as tachycardia or motor response, nausea/vomiting, and a postoperative anesthesia (sensory) response to touch in axillary region in PACU. The data was collected in the PACU and via a phone call on the respective postoperative day.

RESULTS:

All data is presented as median (IQR). The PACU pain score in the surgical infiltration cohort [0.0 (0.0-2.0)] was lower than the Pecs II cohort [0.5 (0.0-4.0)] but the difference ($p=0.049$) did not reach minimal clinically important difference (MCID). There was no difference in the intraoperative (0.36) or overall ($p=0.34$) MME usage between the two groups. Additionally, the two groups had similar postoperative day 1 ($p=0.32$) and day 3 ($p=0.5$) NRS score, incidence of nausea/vomiting ($p>0.9$), motor response of the arm during incision ($p=0.55$), tachycardia during incision ($p=0.41$) and postoperative skin anesthesia (0.89).

DISCUSSION AND CONCLUSION: The results of this RCT shows that pectoralis nerve block and infiltration of surgical site with local anesthetic have equianalgesic efficacy after open biceps tenodesis. Infiltration of surgical site with local anesthetic is a simple and easy to perform option and provides adequate postoperative analgesia.