281186 - COMPARISON OF INFRACLAVICULAR AND SUPRACLAVICULAR BLOCKS FOR ELBOW SURGERY: A RANDOMIZED CONTROLLED STUDY

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Background: While supraclavicular and infraclavicular brachial plexus blocks have both been well described regional anesthesia techniques for surgery of the elbow, there is ongoing debate about variation in the speed of onset and the need for block supplementation[1]. A recent meta-analysis evaluating comparisons of supraclavicular and infraclavicular blocks concludes further research is required due to small sample sizes[2]. There is also a paucity of evidence directly comparing supraclavicular and infraclavicular blocks in elbow surgery.

Methods: In this blinded randomized controlled trial, we directly compare supraclavicular and infraclavicular brachial plexus blocks to determine block effectiveness in elbow surgery. After obtaining ethics approval, we prospectively enrolled 150 adult patients scheduled for elective ambulatory elbow surgery. Following recruitment, patients were randomized to receive either a supraclavicular or infraclavicular block following a standardized protocol by a specialist anesthetist or a directly supervised trainee. Procedure time and complications during block insertion were noted. A separate blinded observer recorded onset of sensory and motor block and recorded postoperative pain score.

Results:
Block Effectiveness
Conversation to general anesthetic due to block failure was 4% in the infraclavicular group and 5.3% in supraclavicular group, showing no statistically significant difference. Supplemental blocks were required in 4% (infraclavicular group) and 5.3% (supraclavicular group), again showing no statistical significance.

Block Onset
The total sensory block onset of the supraclavicular group (20.62 minutes) was significantly faster than the infraclavicular group (23.03 minutes), p
The total motor block onset of the supraclavicular group (21.92 minutes) was significantly faster than the infraclavicular group (24.79 minutes), p
However, when axillary nerve block onset was excluded from the data there was no statistically significant difference between the motor or sensory onset of the groups.

Secondary Outcomes
There was no difference between block performance time or postoperative pain scores.

Discussions: We have demonstrated that supraclavicular and infraclavicular brachial plexus blocks are equally effective for use in elbow surgery with similar block onset times and similar failure rates.

References: