

ULTRASOUND GUIDED SUPRACLAVICULAR BRACHIAL PLEXUS BLOCK USING VERAPAMIL AS AN ADJUVANT TO LOCAL ANAESTHETIC FOR UPPER LIMB SURGERY

ABSTRACT:

Background:

Majority of Upper limbs surgeries are done under nerve blocks. Nerve blocks are done by ultrasound guidance now a days for better visualization and to avoid complications. Various additives were used with local anaesthetics for faster onset and longer duration of action. Out of that commonly used are opioids, alpha agonists and steroids, it has certain side effects too. I have added verapamil (calcium channel blocker) as an additive to local anesthetics to find out the response.

Aim: Primary aim of this study is to find out the need of rescue analgesia in first 24 hours and number of rescue analgesia required in first 24 hours. Effect of sensory and motor characteristics like onset and duration were secondary aim.

Materials and method: In this Prospective randomized placebo-controlled, doubled-blinded study 60 patients of ASA 1 and 2, posted for upper limb surgeries of both sexes were included. Patient refusal, severe cardio vascular and respiratory disease patients, allergic to local anaesthetics and patient on Verapamil were excluded. 60 patients were divided into 2 groups. **Group 1:** Patients received ultrasound guided supraclavicular brachial plexus block using 30 mL of 0.25% bupivacaine + 2ml of distilled water. **Group 2:** patients received ultrasound guided supraclavicular brachial plexus block 30 mL of 0.25% bupivacaine mixed with 5mg of Verapamil (dilute it as 2ml). Time of request for rescue analgesia, onset and duration of sensory motor blocks and changes in hemodynamic parameters were studied and analyzed. $P < 0.001$ was considered statistically significant.

Results: The time required for the first rescue analgesia was longer in Group 2 (434.06±68.20 minutes) than the Group 1 (375.80±37.38 minutes) with p value of <0.0001 which is highly significant. The mean onset time of sensory and motor blockade were faster in Group 2 compared to Group 1 with p value of <0.0001. The mean duration of sensory and motor blockade were longer in Group 2 compared to Group 1 with p value of <0.0001. Number of rescue analgesia required in first 24 hours for Group 2 is lesser than Group 1.

Conclusion: The addition of verapamil as an adjuvant to bupivacaine for ultrasound guided supraclavicular brachial plexus block provides longer duration of sensory and motor blockade apart from its rapid onset. The requirements of analgesia during post-operative period were minimal.

Keywords: Supraclavicular block, Verapamil, Bupivacaine, Ultrasound