

ABSTRACT

COMPARISON BETWEEN CONVENTIONAL TECHNIQUE AND ULTRASOUND

GUIDED SUPRACLAVICULAR BRACHIAL PLEXUS BLOCK IN UPPER LIMB

SURGERIES

Background:

The conventional subclavian perivascular technique of supraclavicular brachial plexus block being a blind technique may be associated with higher failure rates and injury to nerves and vascular structures. Ultrasound (US) visualization of anatomical structure is the only method offering safe block of superior quality by optimal needle positioning.

Objectives:

To compare the success rate, time taken for the procedure, onset time, duration of motor and sensory blockade and complications of the conventional subclavian perivascular approach of supraclavicular brachial plexus block performed versus ultrasound guided approach.

Material and Methods:

The study was a single blinded, prospective randomized, comparative study carried out at Thanjavur Medical College, Thanjavur. 60 ASA Grade I and II patients who underwent elective upper limb surgeries, aged from 17 to 60

years with total body weight more than 50 kilograms were randomly allocated into two groups of 30 each. In Group C, supraclavicular brachial plexus block was given by conventional subclavian perivascular technique by eliciting paresthesia. In Group US, supraclavicular brachial plexus block was given under the guidance of ultrasound. Block was performed using 15 ml 0.5% bupivacaine and 15 ml of 2% lignocaine with 1:2,00,000 adrenaline in both the groups. Time taken for the procedure, onset and duration of sensory and motor blockade, success rate and overall effectiveness of the block were assessed. Intraoperative and postoperative analgesic requirement and complications of both the groups were noted.

Results:

We found that ultrasound guided technique has significantly faster onset of sensory and motor blockade, a longer duration of analgesia and improved quality of blockade when compared to the conventional subclavian perivascular approach. Other advantages we have observed in ultrasound group are increased overall success rate and fewer complications but they are statistically not significant. Time taken for a block performed by ultrasound was slightly longer than the conventional subclavian perivascular technique.

Conclusion:

Ultrasound guided technique has a rapid onset of both sensory and motor blockade, prolonged duration of blockade, reduced analgesic requirement both intra- and postoperatively, increased success rate with fewer complications.