

A Promising Regional Anaesthesia Approach for Awake Clavicle Surgeries; The SCUT Block: A Short Communication

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ABSTRACT

Regional anesthesia plays a crucial role in enhancing perioperative pain management and avoidance of general anaesthesia for amenable cases. The article titled "Selective Blockade of Supraclavicular Nerves and Upper Trunk of Brachial Plexus; 'The SCUT Block' towards a site-specific regional anesthesia strategy for clavicle surgeries-A descriptive study" presents a descriptive analysis of a regional anaesthesia technique for use in awake clavicle surgeries. This short communication aims to provide insights and discuss the potential implications of this innovative approach.

Keywords: General anaesthesia; Clavicle surgeries; Nerve blocks; SCUT block

DESCRIPTION

The SCUT block described in the article depicts a novel and site-specific regional anesthesia strategy for clavicle surgeries. We address the considerations associated with a complete regional strategy for clavicle surgeries, including complex and overlapping innervation of the clavicle, the block technique, the assessment of the block to confirm its selective nature, surgical positioning [1].

Literature showed a consensus of dual plexus strategies with or without general anesthetic, by performing both the superficial cervical plexus and the interscalene approach to the brachial plexus [2-4]. The interscalene plus superficial cervical plexus block, are not selective blocks, and complications such as phrenic involvement is high and sometimes not favorable. A selective strategy described blocking the supraclavicular nerves along with the C5 ventral rami alone, however the authors found that the shoulder relaxation was not adequate and had a 25% failure rate as a strategy [5]. Apart from nerve blocks, a fascial plane block notably the clavipectoral fascial plane block has been described for use in high-risk patients for clavicle surgery, however consistency of Local Anaesthetic (LA) spread for success and the complication profile is yet to be described [6]. Tran, et al. delineate the specific nerves that innervate the clavicle, from which we derived that by selectively targeting the Supraclavicular Nerves (SCN) and Upper Trunk (UT) of the brachial plexus.

"The SCUT block", we could possibly provide a precise and focused regional strategy [7]. However, prospective, randomized trials should be designed to compare the block profile, success, and the complications of the above-mentioned strategies for clavicle surgery.

The technique described involves identification of the SCN cluster at the level of the C6-7, lateral to the tapering edge of the Sternocleidomastoid (SCM) muscle, over the anterior and middle scalene muscles in the plane between two fascial layers, investing layer that covers the SCM above and the prevertebral layer that covers the scalene muscles below. The UT was identified after visualizing the C5 and C6 ventral rami combining with each other. An equal mixture of 2% lignocaine with adrenaline and 0.5% Bupivacaine was used for the blocks. The SCN cluster was blocked with 3ml of LA mixture and the UT with 5 ml. Following the block, complete conduction blockade of the individual nerve branches was assessed to ascertain the selective nature of the SCUT block, which determined that while the supraclavicular nerves, the suprascapular nerve, axillary nerve and musculocutaneous nerve were completely blocked with total sparing of the greater auricular, lesser occipital, ulnar and median nerves in all patients, however the transverse cervical and radial nerve were involved in 20% of patients. We found that the SCUT block could be performed consistently and as strategy, was successful in 96% of patients. In 4% of patients, patients complained of pain

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at the lateral end of the clavicle during fracture reduction, which subsided with LA infiltration at the surgical site and a minimal amount of supplemental IV analgesic was required. A possible explanation for this pain, could be transmission of noxious impulse via the spinal accessory that supplies the trapezius, or through direct branches of C3-4 supplying the sternocleidomastoid or even through the medial pectoral nerve supplying the pectoralis major muscle. These are all muscle attached to the lateral end, and are not included in the SCUT block.

One notable strength of this study is its prospective observational design, which described feasibility, efficacy, and safety of performing an USG guided SCUT block in a real-world clinical setting. While the results are encouraging, it is important to acknowledge some limitations of the study. As a descriptive study, it lacked a comparative group or randomization, which could have provided stronger evidence for the efficacy of the SCUT block compared to other anesthesia techniques or general anesthesia. Additionally, the sample size was relatively small, warranting further research with larger cohorts to validate the findings and assess potential complications.

Although not discussed elaborately in the article we feel it is important to know to state that there is a learning curve both for the surgical team as well as anaesthesia team when we embarking on site specific regional anaesthesia techniques. This involves appropriate patient selection, patient position, instances where the anatomy is anticipated to be difficult, an anxious patient or even if the surgery is anticipated to be difficult or complicated with a long duration, then the block may be provided in conjunction with a general anesthetic for overall safe clinical management. When doing surgery under regional technique alone, since a general anesthetic is not administered, it becomes even more pertinent to ensure patient comfort, aspects such as maintaining the ambient temperature, avoiding hard sandbags to elevate the side to be operated, and over extension of the patient's neck or stretching arms which would anyways be harmful. Also, surgical draping should be done such that they enable easy access and communication with the patient without

compromising the sterility of the surgical field and surgical team should take care to avoid placing instruments on the patient.

CONCLUSION

In conclusion, the SCUT block technique described in the article shows promise as a site-specific regional anesthesia strategy for clavicle surgeries. It has the potential to provide effective surgical anesthesia and avoid the complications of general anaesthesia. However, further research is necessary to establish its broader applicability, safety profile, and comparative efficacy, ultimately guiding clinical decision-making and optimizing patient outcomes.

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