1325235 - SUPERIOR LARYNGEAL NERVE BLOCK USING A NOVEL ULTRASOUND TECHNIQUE

Balvindar Kaur¹, Raymond Tang¹, Andrew Sawka¹, Himat Vaghadia¹

1. Department of Anaesthesia, University of British Columbia, Vancouver General Hospital, Vancouver, BC, Canada

Introduction: We investigated the feasibility of performing ultrasound guided superior laryngeal nerve (SLN) block using a novel ultrasound technique. To date, only a single case report performed this block under ultrasound guidance, but the SLN was not visualized and surrogate landmarks were utilized.¹,² We hypothesized that with the improvements in ultrasonographic technology, the SLN could be visualized to enable accurate placement of the needle.

Methods: After ethics and institutional approval, an 8-15 MHz transducer (HST15-8/20 linear probe (Ultrasonix, Richmond, BC, Canada) was used on 2 fresh unembalmed cadavers to identify the SLN nerve bilaterally. Cadavers in the supine, neck extended position were scanned using the transducer placed in the transverse position relative to the skin, to identify the greater cornu of hyoid bone and the superior lateral aspect of the thyrohyoid membrane. By rotating the medial aspect of the probe cephalad, the SLN was identified. A needle was inserted in-plane to the ultrasound beam, advanced to the SLN and 1ml of green dye was injected. Correct dye placement was confirmed by a blinded anatomist. Dye spread was noted and photographed.

Results: In both cadavers, we confirmed successful bilateral dye placement on the SLN by anatomical dissections.

Discussion: Visualization of the SLN has not been consistently successful leading some authors to advocate use of the hyoid image or superior laryngeal artery as surrogate ultrasound landmarks for blockade of the nerve.¹,² Current ultrasound technology has improved image processing and resolution and now made it possible to identify and target the SLN accurately under ultrasound guidance. We propose that this method may be used in humans to perform the block safely and successfully.