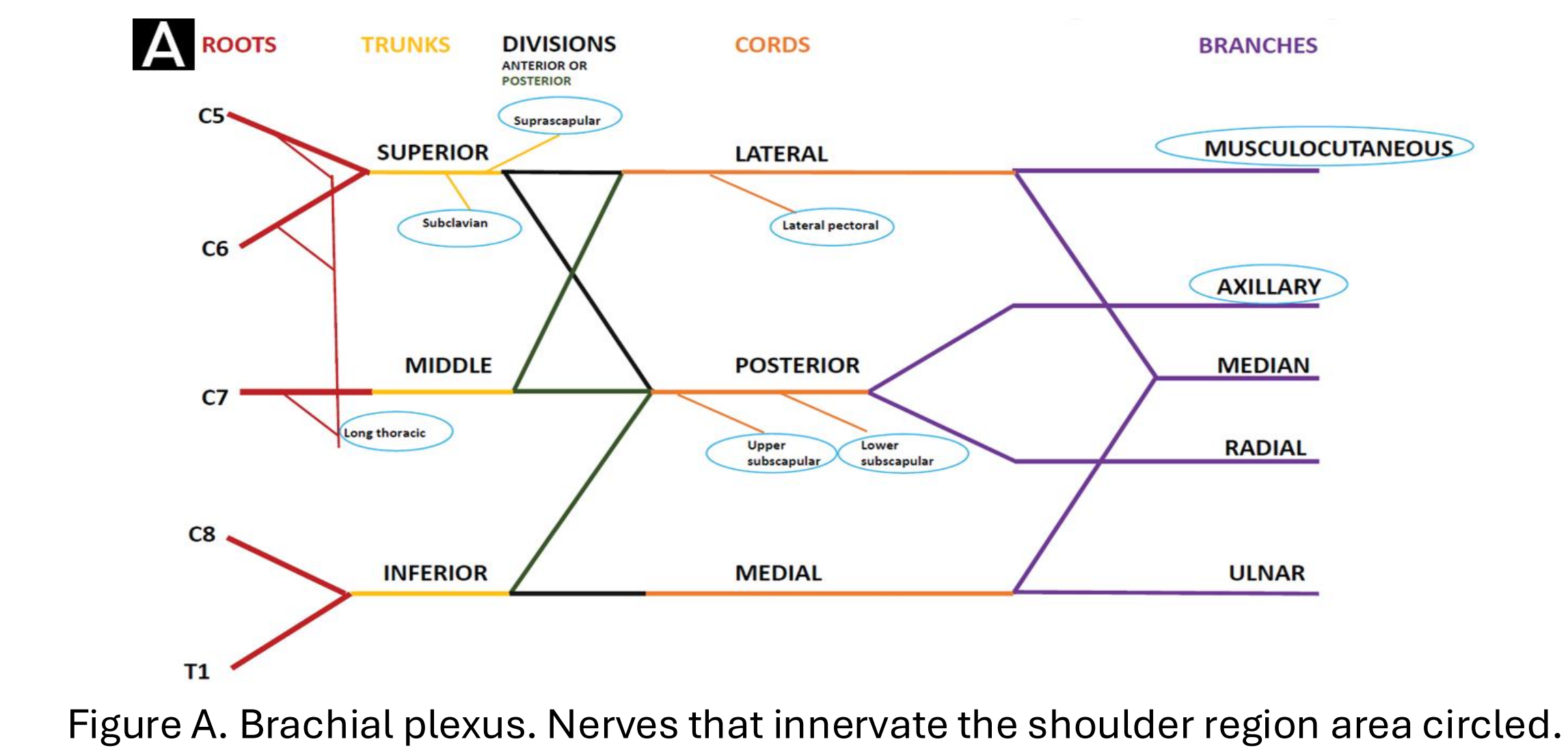


Suprascapular nerve and infraclavicular blocks as an alternative for a patient with high-risk lung disease undergoing TSA

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Introduction

The interscalene nerve block is the gold standard block for shoulder surgeries. This regional anesthetic technique provides complete coverage of the shoulder by targeting the C5 root which gives the suprascapular nerve that supplies most of the shoulder and the C6 root which forms the axillary nerve that innervates the surgical neck of the humerus. Phrenic nerve blockade is a complication associated with this block which could be a relative contraindication in pts with extensive lung disease. Therefore, individual blockade of the suprascapular and axillary nerves has been considered an alternative to the traditional interscalene approach due to sparing of the phrenic nerve. Utilization of ultrasound contributes to a consistent and efficient block.



Case Report

A 72-year-old male presented for elective right shoulder arthroplasty, classified as ASA 3. PMH includes left traumatic diaphragmatic paralysis, morbid obesity (BMI 44), OSA on CPAP, mild to moderate COPD, extensive smoking history, mild pulmonary HTN, DM, and chronic HTN.

Preop ultrasound-guided suprascapular and infraclavicular nerve blocks were done using 20 ml and 10 ml of Ropivacaine 0.5% with 4 mg of dexamethasone for each block. GETA was induced with etomidate, lidocaine, and rocuronium. Opioids were avoided throughout the case which lasted 3 hours in a beach chair position. 30 mL of liposomal bupivacaine 1.3% was injected at the joint by the surgeon at the end. Reversal of NMB with Sugammadex facilitated extubation.

In the PACU, pain scores were reported as 0/10 pain and no opioid analgesics were administered. Incentive spirometry was encouraged. IS efforts achieved 1000 mL, and no respiratory complications were observed. After the surgery, the patient was transferred to the IMCU and went to the regular floor on POD 1 with eventual discharge on POD 2.

The multimodal analgesia regimen included acetaminophen, ketorolac, and tramadol. Prescribed medications for discharge were acetaminophen and tramadol. Daily pain scores reported ranged from 0-2 out of 10.

Discussion

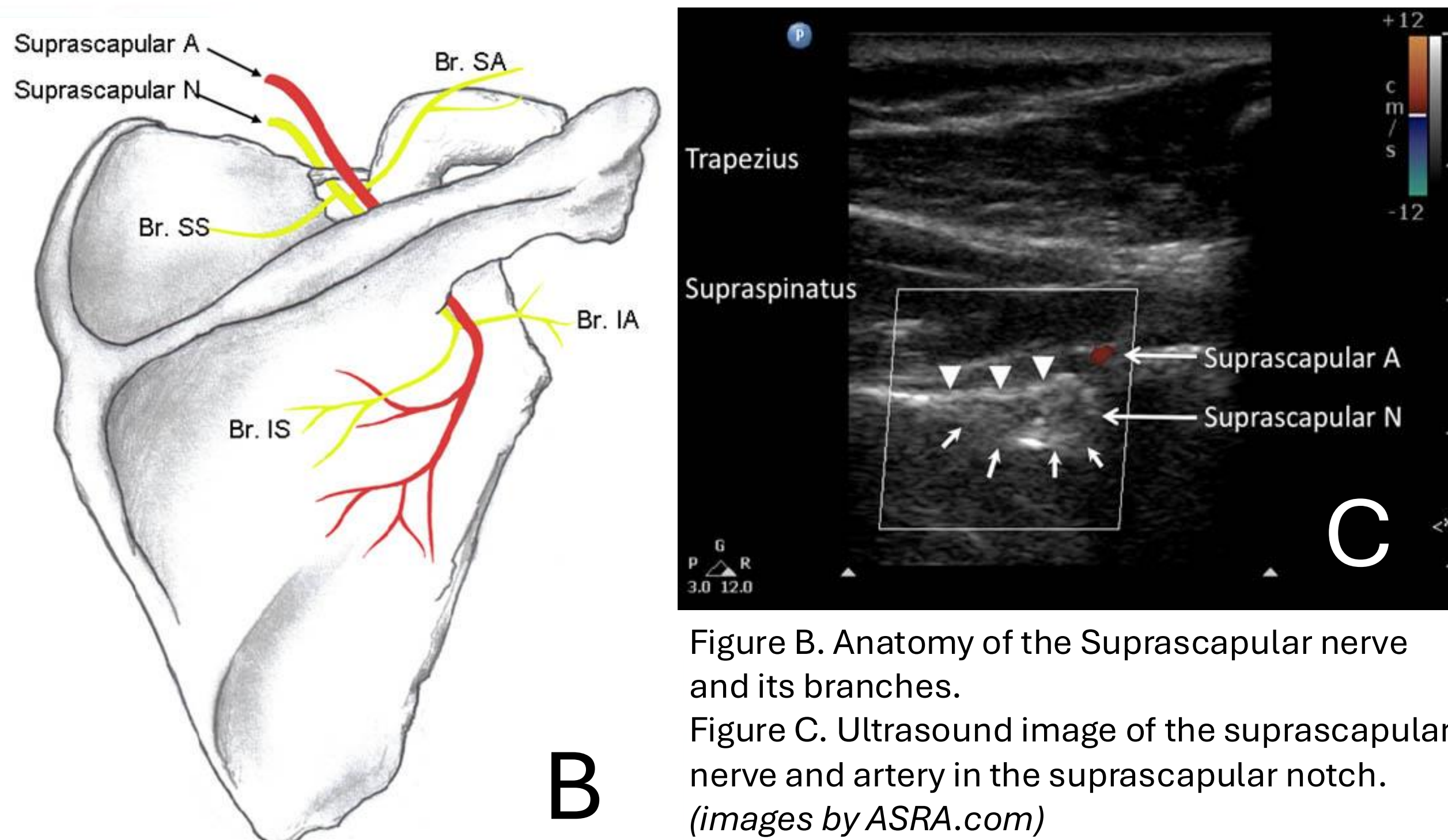
The nerve supply of the shoulder is provided by the suprascapular nerve (SN), and the axillary nerve (AN). The interscalene block is the gold standard but is associated with ipsilateral phrenic nerve blockade which significantly increases the risk of post-operative respiratory complications, especially in patients with extensive lung disease.

Individual blockade of the suprascapular and axillary nerve can be an effective alternative. US-guided SN blockade can be achieved by targeting the nerve at the suprascapular notch under the supraspinatus and the transverse scapular ligament covering most of the innervation of the shoulder joint.

The addition of the axillary nerve block with ultrasound provides more complete analgesia. The technique involves a posterolateral approach of the shoulder targeting the nerve within the deltoid muscle towards the surgical

neck of the humerus. Although it is effective, this procedure is known to be painful. Since the axillary nerve is a branch arising from the posterior cord of the brachial plexus, an infraclavicular block targeting only the posterior cord provides the same effect.

A high-power study is needed to demonstrate compelling evidence for this dual block to be considered an alternative to the interscalene block.



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