

Suprascapular catheter for proximal humerus fracture in a patient with cervical spine injuries

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INTRODUCTION

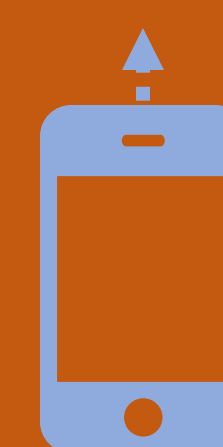
- The proximal humerus receives sensory innervation from the brachial plexus, primarily by the axillary and suprascapular nerves.¹
- Concomitant cervical spine injuries requiring collars/immobilization can make supraclavicular (SCB) and interscalene (ISB) blocks challenging and potentially dangerous.
- We present a case of effective analgesia for proximal humerus fracture using combined infraclavicular brachial plexus block (ICB) with suprascapular nerve block (SSB) in a patient with cervical spine injury.

CASE REPORT

- A 72 year old female presented after a motor vehicle collision with a proximal humerus fracture and a C4 extension teardrop vertebral body fracture.
- The spine surgery team required the patient to wear a cervical collar at all times to minimize neck manipulation, including for nerve block procedures.
- Acute pain service was consulted for persistent shoulder pain attributed to her injury.
- The cervical collar interfered with probe positioning for ISB/SCB. Instead, we performed SSB and ICB with liposomal bupivacaine, resulting in excellent analgesia for 2 days, and sensory return the following day.
- Three days after the initial blocks, patient underwent reverse total shoulder arthroplasty. We placed a continuous SSB catheter and single-shot ICB postoperatively. The catheter remained for 7 days, at which time it was bolused with 10 ml of 0.2% ropivacaine and removed uneventfully.
- Patient reported average pain scores of 4/10 throughout follow up and endorsed satisfaction with analgesia beyond the duration of the single-shot ICB.

The combination of suprascapular nerve and infraclavicular blocks may be an effective alternative to interscalene block in patients with proximal humerus fractures and cervical spine injuries.

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DISCUSSION

- The shoulder joint has complex sensory innervation. The axillary, lateral pectoral, musculocutaneous, and subscapular nerves are part of the distal brachial plexus and covered by ICB. Distal brachial plexus blocks are often less effective for shoulder analgesia due to the departure of the suprascapular nerve at the superior trunk.¹
- When proximal brachial plexus blocks are contraindicated, or when motor blockade is undesirable, use of suprascapular and axillary nerve blocks provide shoulder analgesia.²⁻³
- Advantages of SSB include:
 - Phrenic-sparing shoulder analgesia²⁻³
 - Less cervical manipulation compared to ISB. (Image 1 & 2)
- In patients with a proximal humerus fracture, axillary nerve blocks may be uncomfortable for the patient due to probe positioning directly on the fractured limb and arm manipulation.
- Patients with polytrauma frequently require case-by-case planning for regional anesthesia procedures.



Image 1: Interscalene block position requiring neck manipulation/ C-collar removal.



Image 2: Suprascapular block position without neck manipulation, out of the way of a collar.