Persistent Cutaneous Erythema and Allodynia following Interscalene and Cervical Plexus Block for Clavicular Surgery

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Medically Challenging Cases
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POSTER OBJECTIVE

Characterize a persistent postoperative neuropathic pain syndrome after clavicle surgery and regional anesthesia, with emphasis on the differential diagnosis of focal nerve injury versus Complex Regional Pain Syndrome (CRPS)

INTRODUCTION

- Regional anesthesia is associated with increased same-day discharge after clavicle open reduction and internal fixation (ORIF)
- The clavicle has overlapping cervical and brachial plexus innervation; combined interscalene and cervical plexus blocks are commonly used for regional anesthesia
- Postoperative neurologic symptoms following interscalene block are usually transient
- This case describes persistent erythema, allodynia, and neuropathic pain, broadening the differential beyond routine postoperative sensory symptoms

CASE AND REGIONAL ANESTHESIA

- 46M with obesity and hypertension sustained a displaced left midshaft clavicle fracture after a snowboarding fall; no preoperative upper-extremity numbness or tingling
- Ultrasound-guided regional blocks were performed under fentanyl/midazolam sedation without immediate procedural complication:
  - Interscalene: 15 mL 0.5% bupivacaine + epinephrine 1:400,000
  - Superficial cervical plexus: 5 mL 0.5% bupivacaine + epinephrine 1:400,000
- ORIF proceeded under general endotracheal anesthesia without identified anesthetic or surgical complication

CLINICAL COURSE & DIAGNOSTIC EVALUATION

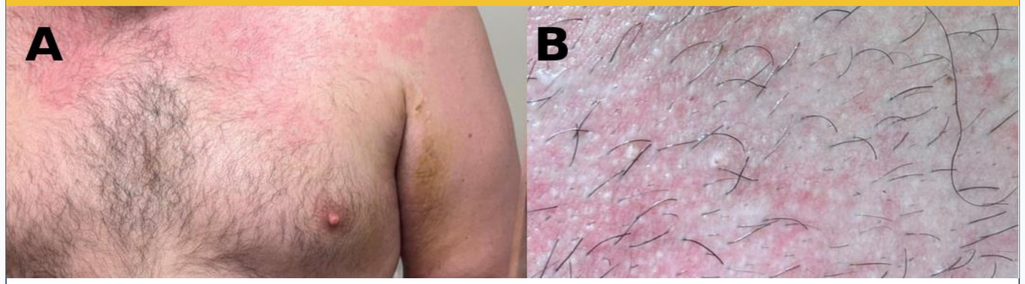


Fig. 1. (A) Erythema over left shoulder, lateral neck, and anterior chest. (B) Skin inferior to medial incision with flesh-colored papules over erythematous base.

CLINICAL COURSE

Initial Symptoms: Severe burning pain, allodynia, dysesthesia, and erythema of the left neck, shoulder, and chest; clothing became intolerable.

Early Course: Erythema resolved over ~2 months, while neuropathic symptoms gradually improved and contracted in distribution despite limited response to medical therapy.

Persistent Course: Focal chest-wall burning and intermittent allodynia persisted through September despite overall improvement.

DIAGNOSTIC EVALUATION

Dermatology (2/25/26): No infectious or primary inflammatory dermatosis; neuropathic pain favored.

Neurology (5/11/26): CRPS favored over focal nerve injury; EMG recommended.

Pain Medicine (5/21 & 9/19/26): Persistent neuropathic chest-wall pain without consistent vasomotor findings; sympathetic block scheduled for 11/12/26

EMG/NCS (6/25/26): Normal; no upper-trunk or lateral-cord brachial plexopathy.

CLINICAL TIMELINE

1/29/26 (Pre-Op)
Clavicle fracture
Displaced midshaft fracture

→ **2/10/26 (POD 0)**
ORIF and Blocks Performed
No immediate complications

→ **2/12/26 (POD 2)**
Symptom onset
Burning pain/allodynia

→ **2/25/26 (POD 15)**
Neuropathic pain favored
No infection/dermatitis

→ **5/11/26 (POD 90)**
CRPS considered
EMG recommended

→ **6/25/26 (POD 135)**
Normal EMG/NCS
No brachial plexopathy

→ **9/19/26 (POD 221)**
Persistent neuropathic pain
Pregabalin + SGB planned

→ **11/12/26 (Future)**
Left stellate ganglion block
Scheduled

DISCUSSION

- Persistent erythema, allodynia, and neuropathic pain after clavicle surgery broaden the differential to include dermatologic disease, focal nerve injury, and CRPS
- Serial multidisciplinary evaluation increasingly favored a neuropathic process in this case; however, CRPS remained a clinical consideration rather than a definitive diagnosis because Budapest criteria were not clearly satisfied and later vasomotor findings were inconsistent
- Normal EMG/NCS argued against upper-trunk or lateral-cord brachial plexopathy despite persistent sensory symptoms
- Ongoing symptoms gradually contracted in distribution and improved in severity, supporting the need for longitudinal reassessment rather than a single fixed postoperative diagnosis.

CLINICAL TAKEAWAY

Persistent postoperative neuropathic symptoms may require repeated multidisciplinary reassessment when dermatologic, plexopathic, and CRPS features overlap.

ETHICS / CONSENT

UC San Diego IRB waives review of case reports. Written informed consent was obtained for case-report submission and use of clinical images. Patient protected health information was de-identified.

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