Ultrasound-guided thoracic medial branch block and cryoablation for the treatment of chronic thoracic spine pain

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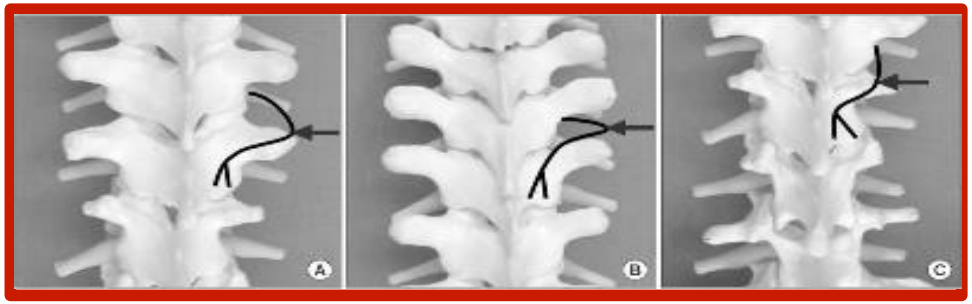
Introduction:

Post thoracic fusion pain in the oncologic population is multi-factorial with muscular, ligamentous, capsular, and articular components. Potential targets for intervention include the facet joint and costotransverse joint. Diagnosis and treatment of facet joint pain is performed via a medial branch block and radiofrequency neurotomy under fluoroscopy. Ultrasound-guided medial branch blocks have been described for cervical and lumbar facet joint pain, however thoracic applications have been limited. We present a case of ultrasound-guided thoracic medial branch block and cyroablation for chronic thoracic pain.

Case:

A 64 year-old female with a history of ductal carcinoma in situ status post mastectomy with metastases (lungs and spine), cervical spinal instability status post C5-T6 posterolateral resection with T4 laminectomy and rod placement, presents with chronic upper back pain located between the scapula. Medical management (physical therapy, oxycodone, gabapentin, and baclofen) provided limited relief.

Figure One. Anatomy of thoracic medial branch nerves.



A left diagnostic T3-T6 medial branch block was performed with the patient in prone position using a L12-5 Linear array ultrasound probe. The costotransverse joint at the respective thoracic level was identified (Figure One). A 25-gauge 2.0 inch spinal needle was advanced in-plane to the posterior edge of the transverse process, and 1mL of 0.5% bupivacaine with 1mg dexamethasone was injected (Figure Two). On follow-up the patient reported approximately 80% relief of thoracic pain compared to baseline. One month later the patient returned for ultrasound-guided cryoabalation of left T3-T6 medial branches. Both procedures were well tolerated and without complications.

Figure Two

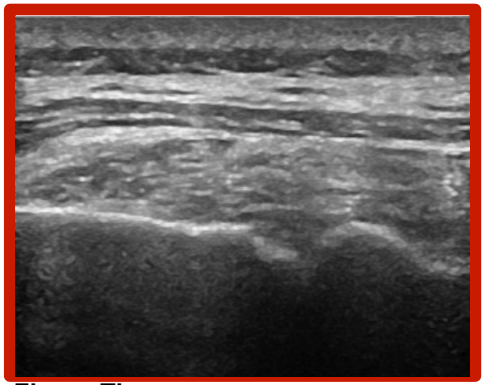
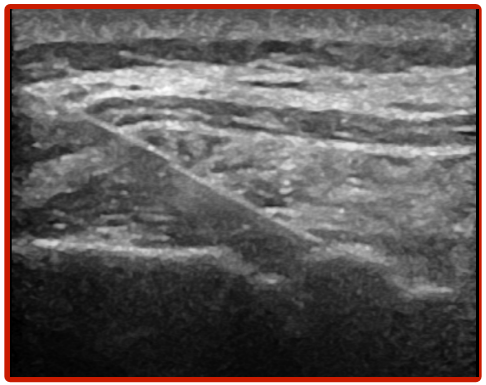


Figure Three



Conclusion:

Pain syndromes following thoracic fusion may originate from multiple sources including the facet joint and costotransverse joint. This case demonstrates a successful diagnostic and therapeutic ultrasound-guided medial branch block of the thoracic spine. This provides additional evidence for the use of this safe and cost-effective technique to target these structures.

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