In Patients With Refractory Xiphodynia Who Are Not Good Surgical Candidates, Intercostal Nerve Radiofrequency Ablation May Offer A Therapeutic Alternative

SAINT LOUIS UNIVERSITY NEUROLOGY

Treatment of Refractory Xiphodynia with Intercostal Nerve Radiofrequency Ablation Using a Combined Flouroscopy and Ultrasound Approach

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Introduction

- Xiphodynia is a debilitating, painful condition characterized by tenderness of or pain about the xiphoid process.
- Initial therapy consisted of conservative management, including physical therapy and oral medications, however this is often ineffective.
- In these refractory cases, there is emerging evidence to support surgical management with xiphoidectomy.
- However, for patients who are poor surgical candidates or uninterested in surgical management alternatives are limited.

Materials and Methods

IRB exemption was obtained from the Saint Louis University IRB. Patients or their next of kin were consented for inclusion. Patient course and relevant clinical data was obtained via retrospective chart review.

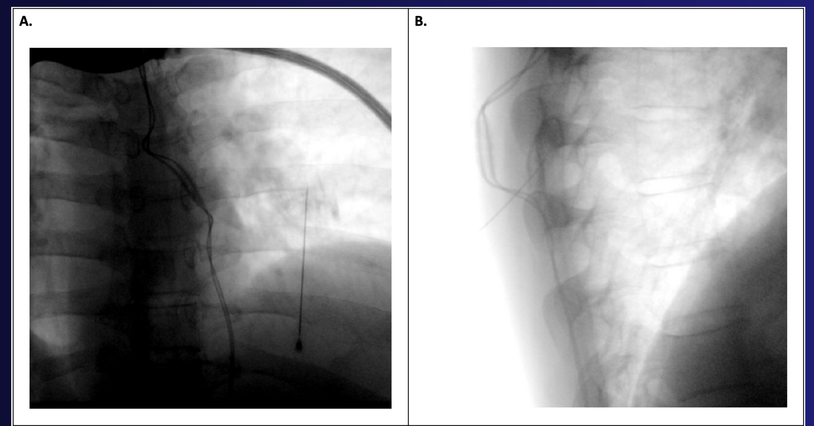
Conclusions/Discussion

- Radiofrequency ablation has emerged as a treatment option for chronic pain syndromes, with application in low back pain, knee pain, and sacroiliac pain.
- There is limited evidence showing intercostal nerve radiofrequency to be efficacious in the management of intercostal neuralgia and post-herpetic neuralgia.
- However, literature on its potential utility in xiphodynia is limited, with only a singular conference abstract to date.
- To this end, we share a case of successful management of refractory xiphodynia with bilateral thoracic level 7 and 8 intercostal nerve radiofrequency ablations using a combined fluoroscopy and ultrasound technique.
- In patients with refractory xiphodynia for whom surgery is not an option, thoracic intercostal nerve radiofrequency ablation may offer a therapeutic alternative to surgical management.

CC: 68-year-old male with 9/10 xiphoid pain and tenderness

Trialed on conservative management: medications and physical therapy

Patient undergoes two rounds of diagnostic blocks with temporary relief



Radiofrequency ablation needle visualized under fluoroscopy in AP (Figure 1A) and lateral view (Figure 1B).

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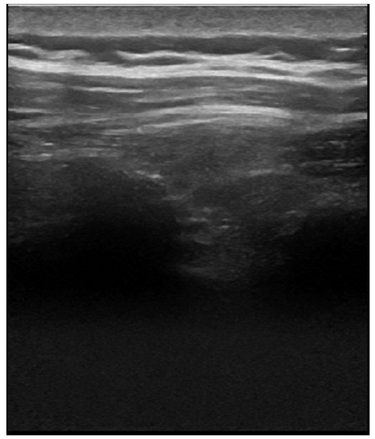
Procedural Approach

- Ultrasound was used to obtain a long-axis view to verify appropriate needle placement within the nerve bundle.
- Motor stimulation was performed at 2 Hz, with no evidence of abnormal motor stimulation while increasing the voltage from 0 to 3v. Sensory stimulation was performed at 50Hz, with sensory stimulation correlating to patient's distribution of pain while increasing the current from 0 to 0.3v.
- Using fluoroscopic guidance, 100 mm, 20-gauge needle with a 10mm active tip was advanced to the inferior aspect of the middle of the rib, then slowly walked off the rib to enter into the nerve bundle.
- The radiofrequency probe was then passed through the needle, the temperature was set to 80° Celsius, and denervation was performed for 90 seconds at each site.
- The patient tolerated the procedure without complication and was discharged to home the same day.



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