ULTRASOUND-GUIDED PERCUTANEOUS CRYONEUROLYSIS FOR ANALGESIA FOLLOWING TRAUMATIC RIB FRACTURES: A CASE SERIES

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INTRODUCTION

Rib fractures occur in 10% of trauma patients, predisposing patients to pulmonary complications with associated morbidity and mortality.¹ Local anesthetic-based (LA) nerve blocks improve pain scores and pulmonary function, but their duration is shorter than the duration of pain.² Ultrasound-guided percutaneous cryoneurolysis is an alternative analgesic modality with the potential to provide multiple weeks of analgesia.

DISCUSSION

In these three cases, intercostal nerve cryoneurolysis provided sustained analgesia which lasted for several weeks, demonstrating the successful use of this modality for extended analgesia in patients with traumatic rib fractures.

Figure 1. Parasagittal ultrasound view of cryoneurolysis of T7 intercostal nerve

METHODS

Case 1: 80-year-old woman presented with fractures of the left 4th-8th ribs requiring intubation for hypercarbic/hypoxemic respiratory failure. Percutaneous intercostal cryoneurolysis was performed to the associated intercostal nerves resulting in precipitous decrease in opioid consumption and successful extubation.

Case 2: 64-year-old woman presented with right 4th-8th rib fractures. Pain at rest was rated 3/10, increasing to 10/10 with coughing or incentive spirometer (IS) use. After cryoneurolysis, her pain at rest decreased to 0/10 and IS values increased from 500 mL to 1500 mL.

Case 3: 73-year-old male presented with right 3rd-6th rib fractures. Pain scores were 6/10 at rest and 8/10 with IS use. After cryoneurolysis, these decreased to 2/10 and 4/10, respectively. IS values increased from 1000 mL to 1750 mL.

At three-month follow up, no patient reported any adverse events or symptoms of neuropathic pain.

REFERENCES

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