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Pneumothorax After Dry Needling of Intrascapular Muscles Using a Rib Bracketing Technique: Insights from the Clinician, Patient, and Clinical Expert

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Abstract

Importance

This case report emphasizes the importance of recognizing and preventing adverse events, specifically pneumothorax related to dry needling (DN), particularly when using rib bracketing techniques in the intrascapular region. It highlights the need for greater clinician awareness to enhance patient safety and minimize the risk of complications during DN interventions.

Objective

The objective of this case report was to describe the clinical presentation, progression, and outcome of a patient who developed a pneumothorax following DN, and to propose alternative methods for safer needling in the intrascapular musculature.

Design

This case report presents a detailed account of a single patient's clinical experience—including the adverse event, its management, and outcome—supplemented by expert commentary from a clinician specializing in dry needling.

Setting

The setting of this case report was an outpatient physical therapy clinic.

Participants

A 24-year-old woman undergoing physical therapy for chronic neck and shoulder pain.

Intervention(s) or Exposure(s)

The physical therapist administered DN to the left intrascapular muscles using a rib bracketing technique to treat trigger points.

Main Outcome(s) and Measure(s)

The primary outcome was the development of a pneumothorax, identified through clinical symptoms and confirmed by radiographic imaging. Outcomes included hospitalization, symptom resolution, and return to physical activity.

Results

The patient experienced an unusually sharp pain during needle insertion. Over the following 2 days, she developed dyspnea, thoracic pain, dry cough, and chest discomfort. A radiograph confirmed a moderate left-sided pneumothorax, which was treated with chest tube reinflation and 1 night of hospitalization. Post-discharge, the patient had residual symptoms for 2 weeks but achieved complete recovery by 1 month, returning to

activities like hiking and skiing.

Conclusions

DN can result in serious complications such as pneumothorax. Early recognition and immediate treatment can lead to full recovery. This case raises concerns about the safety of the rib bracketing technique for DN in the thoracic intrascapular region.

Relevance

Physical therapists should exercise caution when performing DN, especially in high-risk anatomical areas. Safer techniques should be considered, and vigilance is crucial to detect and manage adverse events promptly. Enhancing practitioner awareness can significantly improve patient outcomes and safety during rehabilitation interventions.

Keywords: Dry needling, Pneumothorax, Adverse event, Safety, Prevention, Risk management

Issue Section: Case Report

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