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How Deep is Too Deep?

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Introduction

Acupuncture is a complementary medical therapy that has gained increasing popularity in the Western world in recent years. The practice applies thin needles at specific sites throughout the body in the treatment of a wide variety of conditions such as chronic pain, depression, anxiety, and insomnia. The rate of adverse effects due to acupuncture is low with the most common being needle pain and hematoma. We present the first reported case of hemopneumothorax due to acupuncture in the United States.

Case description

A 41-year-old female presented to the emergency department with complaints of shortness of breath and chest pain one day after undergoing acupuncture to her right posterior thorax. During this session, approximately 15 needles were placed in the right paraspinal region. This was her sixth acupuncture session and she experienced no complications prior to this. She had a past medical history of intermittent asthma and chronic right shoulder pain; she was a non-smoker. The patient experienced exertional dyspnea shortly after the acupuncture session that did not improve with a home breathing treatment. She presented to an urgent care clinic the following day and was promptly sent to the emergency department. In the emergency department, initial vitals were remarkable for tachypnea and tachycardia. A chest x-ray demonstrated right-sided pneumothorax and a CT chest showed right-sided hemopneumothorax.

A chest tube was placed emergently and over the following three days, two additional apical pigtail catheters were placed due to lack of resolution. The patient's hospital course was complicated by recurrent pneumothorax due to persistent air leak. Cardiothoracic surgery was consulted for possible pleurodesis. Fortunately, the patient's air leak resolved after 21 days of medical management. The patient's chest tube and pigtail catheters were removed and she was discharged in stable condition.



Image A: upon day of admission, right side hemopneumothorax after removal of old chest tubes

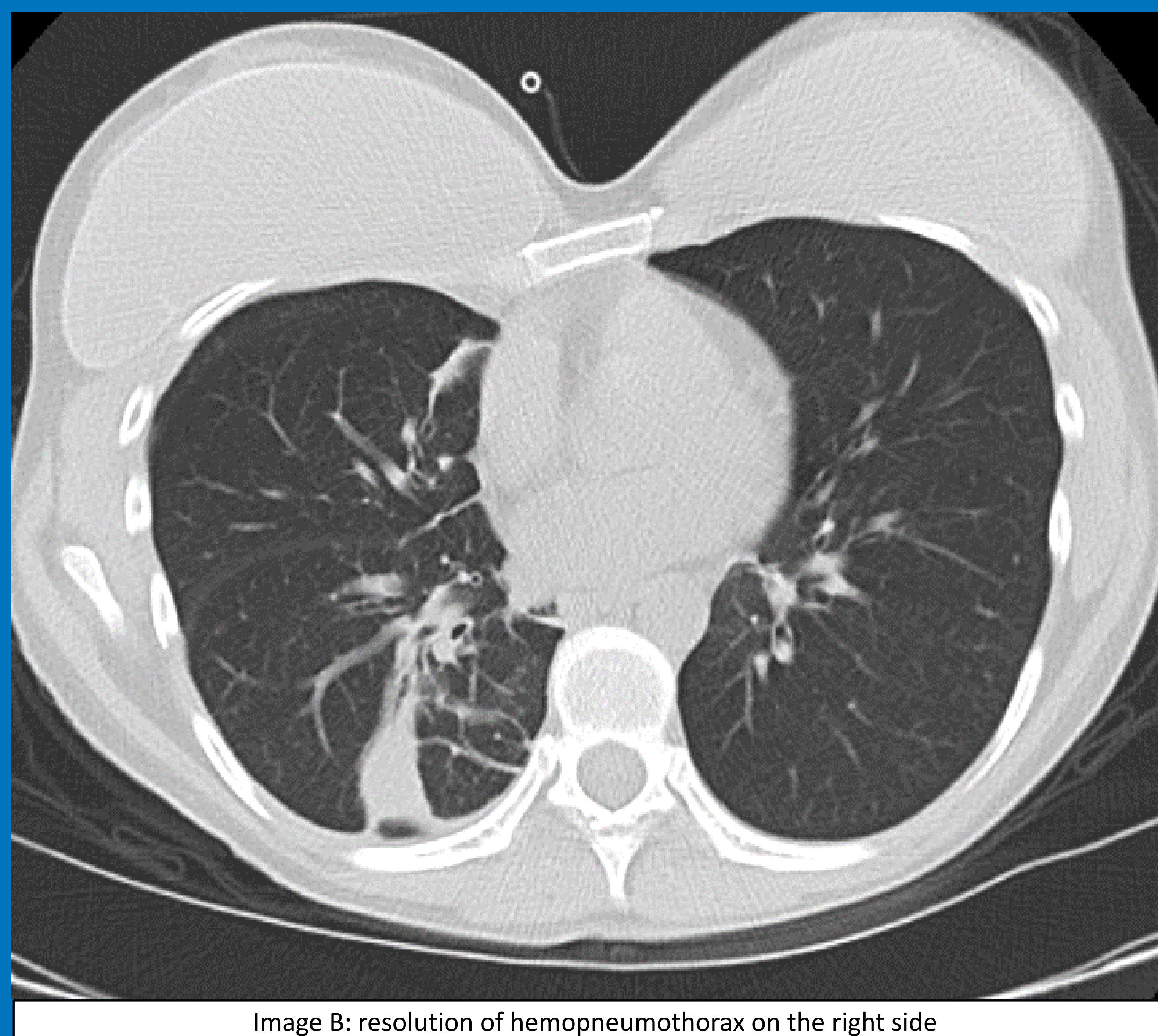


Image B: resolution of hemopneumothorax on the right side

Discussion

The growing popularity of acupuncture as an alternative and complementary therapy in the management of pain is bringing about a parallel rise in incidence of adverse affects. While acupuncture is generally safe, it is not without risk. A review article published in china evaluated the adverse events associated with acupuncture. Out of 133 reports from 1980-2013, 183 subjects experienced an adverse event. The study demonstrated a broad range of adverse affects, the most serious being pneumothorax, central nervous system injury, peripheral nerve injury, deep organ injury, hemorrhage, syncope, infection, broken needles, carotid artery aneurysm, shock, asphyxia, and eye injury resulting in vision loss.

High-risk patients are those with a thin body habitus, atrophic neck and thoracic muscles, a history of chronic respiratory diseases and heavy long-time smokers.

Acupuncture induced deep organ damage e.g. pneumothorax, is inevitable even in modern day complementary and alternative medicine. Use of ultrasound might play a role in near future to decrease such adverse events.

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