

Iatrogenic bilateral pneumothorax arising from acupuncture: a case report

WM Lee

Accident and Emergency Department, Kwong Wah Hospital, 25 Waterloo Road, Kowloon, Hong Kong

HB Leung, WC Wong

Department of Orthopaedics and Traumatology, Kwong Wah Hospital, 25 Waterloo Road, Kowloon, Hong Kong

ABSTRACT

Acupuncture is often regarded as innocuous. However, its complication can be serious and deadly if unattended. We report a case of iatrogenic bilateral pneumothorax after acupuncture therapy. Setting up a government regulatory body and using needles with safety design can prevent further inadvertent incidences from occurring.

Key words: *acupuncture; complications*

INTRODUCTION

Acupuncture, under the realm of traditional Chinese medicine, has become increasingly popular. This has been supported by a disclosed physiological basis,¹ documented clinical effectiveness,² and safety.^{3,4}

However, acupuncture, when performed improperly, may induce complications, some of which are serious and even deadly.⁵ The actual incidence of mishap is underreported⁶ due to the lack of a regulatory body and report mechanism; nonetheless, a Norwegian article did report up to 250 cases of iatrogenic pneumothorax following acupuncture therapy.⁷

CASE REPORT

A 36-year-old Chinese woman presented to a registered traditional Chinese medicine practitioner in December 2003 with long-standing back pain. She had received a number of doses of herbs together with sessions of acupuncture therapy on her limbs and forehead. In February 2004, the practitioner performed acupuncture on sites around her back. When the acupuncture needles were withdrawn (between spinous processes and scapulae), she experienced severe back pain especially during inhaling and exhaling. She attended the emergency department of Kwong Wah Hospital

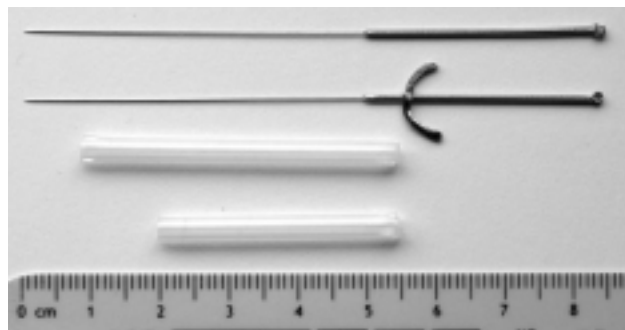


Figure 1 Chest radiograph of the woman at presentation. Arrows highlight the border of both lungs.

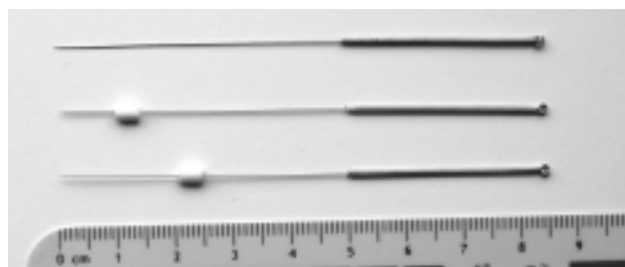
in Hong Kong immediately. She was mildly tachypnoeic, but no abnormal signs were detected relating to her respiratory system. Pulse oximeter measurements showed normal oxygen saturation of the blood. Chest radiography revealed bilateral pneumothorax in 15% of the lungs (Fig. 1). She was observed for an hour, and conservative treatment was planned in view of her satisfactory condition. A further hour later, she experienced increased shortness of breath. Despite no other evidence of decompensation, chest drains were inserted to both pleural cavities, and she was subsequently hospitalised. The chest drains were removed on day 4. She recovered uneventfully with no residual deficit after 5 days in hospital.

DISCUSSION

Peuker et al.⁸ have performed an anatomical study on this issue. They found that a puncture depth of 1 cm to 2 cm is capable of penetrating the lung through regions adjacent to the sternum, of the mid-clavicular line, and over the medial scapular line. Pneumothorax is unlikely to develop by the use of a solid needle unless the



(a)



(b)

Figure 2 (a) From top: a traditional acupuncture needle, a fencing needle, and 2 transparent protective sheaths are shown. When used with a fencing needle, the 1-cm and 2-cm protective sheaths allow maximal skin puncture depth of 1 cm and 2 cm, respectively. (b) From top: a traditional acupuncture needle and 2 needles with a plastic bean anchored to the shaft are shown. The plastic bean allows visualisation of skin puncture depth and prevents inadvertently over-advancing the tip of the needles. The 1-cm and 2-cm shouldered needles allow maximal skin puncture depth of 1 cm and 2 cm, respectively (devices designed by HB Leung, patent pending).

visceral pleural is punctured. According to the literature, the potentially dangerous acupoints include GB21, ST11, and ST12 of the supraclavicular region; LU2, ST13, and KL27 of the infraclavicular region; KL22 to KL27 over the parasternal points; ST12 to ST18 in the midclavicular line; and BL41 to BL50 on the medial scapular line.⁹

Although experience and knowledge of anatomy is indispensable, awareness of the depth of needle insertion is more important. By using protective sheaths and needles with shoulders (Fig. 2), practitioners can prevent inadvertently over-advancing the tip of the needles when applied to the abovementioned acupoints. This measure might prevent further incidence of iatrogenic pneumothorax from occurring, especially in inexperienced hands.

In Hong Kong, the standard of acupuncturists is

not verified by a unified professional examination. It would not be surprising that some inexperienced acupuncturists do not have sound anatomical

knowledge. To rectify the situation, a government-regulatory body to uphold the standard and safety of the practice should be set up.

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