

Hand Acupuncture and Vascular Injury

Yiu-Ming Wong¹ and Hiroaki Hobara²

¹Health Science Unit (PEC), Hong Kong Physically Handicapped and Able-Bodied Association, Hong Kong

²Department of Kinesiology, School of Public Health, University of Maryland, College Park, USA



Fig. 1

The hand is a common site for acupuncture; but the needling of acupuncture points in the hand can result in vascular injuries, nerve damage, and muscular fibrosis (**Fig. 1**)^{1,2}.

To estimate the likelihood of vascular injury during hand acupuncture, we performed a prospective observational magnetic resonance imaging (MRI) study. In 20 healthy adults, the most commonly chosen acupuncture point, designated LI4 (**Fig. 2a**), on the dominant hand was outlined with an MRI marker (**Fig. 2b**). With the subjects lying supine with their forearms in a neutral position, the hands were examined with MRI so that the vascular structures under LI4 could be visually distinguished. Frontal MRIs were analyzed for the relative positions between LI4 and the blood vessel underneath (**Fig. 2c**).

Because the locations of blood vessels can vary among individuals, MRIs showed that the first dorsal metacarpal artery or vein was less than 1 cm beneath LI4 (**Fig. 2c**) in 4 of 20 subjects. Thus, this preliminary investigation demonstrates a potential incidence of vascular injury of 20% during acupuncture of LI4. Acupuncture is an invasive procedure and should be performed carefully, particularly for patients who are being treated with anticoagulants or who have peripheral vascular diseases.

Correspondence to Yiu-Ming Wong, Hong Kong Physically Handicapped and Able-Bodied Association, S102, G/F, Lai Lo House, Lai Kok Estate Shamshuipo, Kowloon, Hong Kong

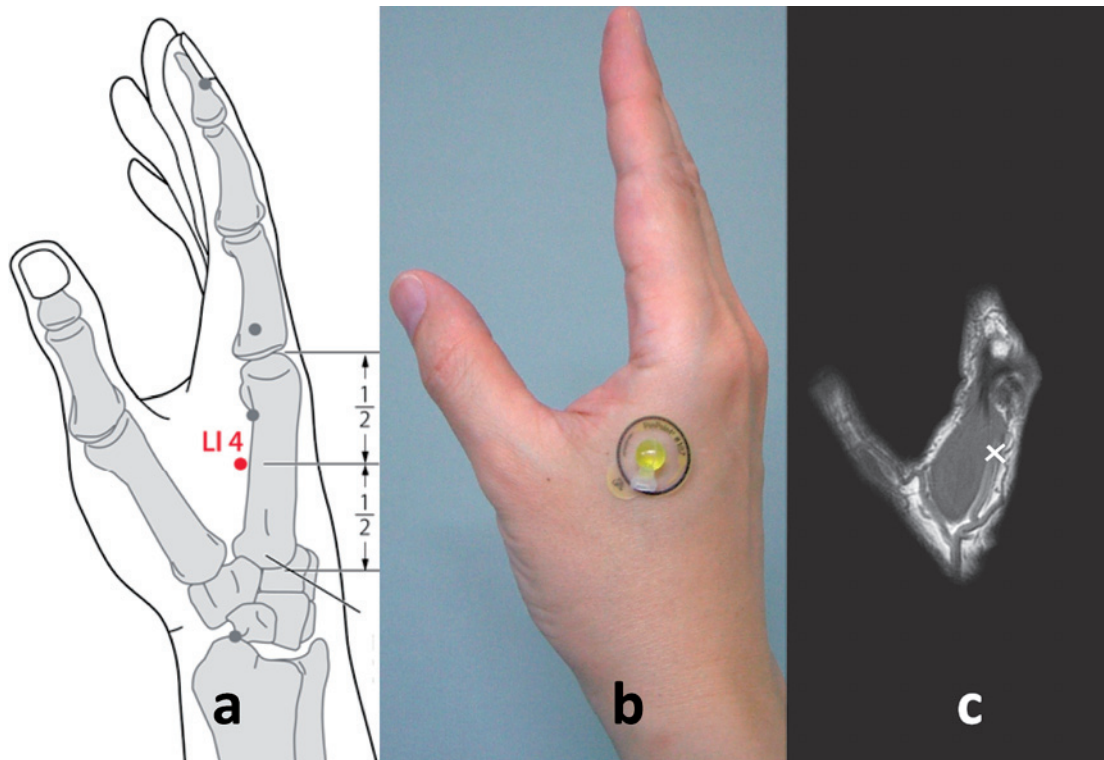


Fig. 2

Fig. 1 Postacupuncture hematomas and inflammation on the dorsum of the hand

Fig. 2 a: World Health Organization standardized acupuncture point LI4.

b: MRI marker placed on LI4.

c: Corresponding MRI of the Figure 2b, the “x” is the LI4 site that overlapped with the first dorsal metacarpal vein underneath.

References

1. Peuker ET, White A, Ernst E, Pera F, Filler T: Traumatic complications of acupuncture. Arch Fam Med 1999; 8: 553–558.
2. Zhang J, Shang H, Gao X, Ernst E: Acupuncture-related adverse events: a systematic review of the Chinese literature. Bull World Health Organ 2010; 88: 915–921C.