

Case Report

Acupuncture Treatment for Acute Ankle Injury in the Emergency Department: A Preliminary Case Report

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Acupuncture is an ancient medical treatment that is increasingly attracting the interest of the public. It is a complementary therapy that is widely used for management of pain, especially chronic discomfort caused by migraine, low-back pain and osteoarthritis of the knee⁽¹⁻³⁾. The evidence base for the effectiveness of acupuncture and its clinical applications is controversial, and although its efficacy and safety in the management of acute pain have been demonstrated, the quality of this modality is still questionable. The present study reports a case of acute ankle injury, which was treated with acupuncture.

A 33-year-old man presented with acute twisted ankle injury. He had pain with swelling around the ankle, and he was experiencing difficulty in walking. His clinical diagnosis was acute ankle sprain with severe pain. Several drug treatments are used for pain control, but in this case, we used acupuncture. After treatment, his pain diminished significantly with a decrease in VAS pain level from 8 to 4 in 20 minutes. At follow-up after one month, we found no skin infection in this case.

Keywords: Acupuncture, Ankle injury, VAS, Length of stay, Emergency department

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The use of acupuncture treatment in settings under the control of the Thai Medical Council was initiated in 1982. Currently, 1,600 Thai physicians are qualified acupuncturists, having graduated from short 3-month acupuncture and moxibustion training courses. In 1995, the World Health Organization (WHO) recommended that acupuncture and moxibustion treatment be used to treat approximately 59 kinds of diseases including musculoskeletal problems⁽⁴⁾, and one of the most common of these is acute ankle contusion and sprain. Rajavithi Hospital is the biggest super tertiary hospital under the Ministry Of Public Health, and it is the number one trauma treatment centre in Thailand. In 2014, there were 12,000 trauma cases, and 536 of these in the Emergency Department (ED) were acute ankle injuries. Pain control is a common and serious problem, and analgesic drugs are frequently used to relieve pain and swelling and reduce length of hospital stay; however, some patients have adverse reactions to medication in the non-selective NSAIDs group⁽⁵⁻⁷⁾ and this results in time-consuming delays in service. Acupuncture is a Traditional Chinese Medicine,

which is commonly used in Thailand; however, this alternative pain management technique is not yet used in ED settings.

In 2004, the ED of Abbot Northwestern Hospital, Minnesota conducted a Pilot Study Project⁽⁸⁾ in which acupuncture was used to help control pain, anxiety and nausea in cancer patients. Although acupuncture is commonly used in Thailand for osteoarthritis⁽⁹⁾ and cancer pain, this is the first report of the use of acupuncture treatment for acute ankle injury in any Thai ED.

Objective

This study aimed to assess the efficacy of acupuncture in controlling pain and swelling in acute ankle injury treatment. The amount of time spent in Rajavithi ED was also observed.

Material and Method

This case report was reviewed and approved by the ethics committee of Rajavithi Hospital (No. 126/2558), and written informed consent was obtained from the patient, a 33 year-old Thai male trauma patient who presented with acute twisted ankle injury. He had pain and swelling, and he had difficulty in walking assessed by the Ottawa Ankle Rules (OAR)⁽¹⁰⁾. The QIUXU (GB-40)⁽¹¹⁾ (Fig. 1, 2) and KUNLUN (BL-60)⁽¹²⁾ points (Fig. 3) were identified, and sterilized disposable acupuncture needles size 0.25x40 mm and length 1.5 inches were

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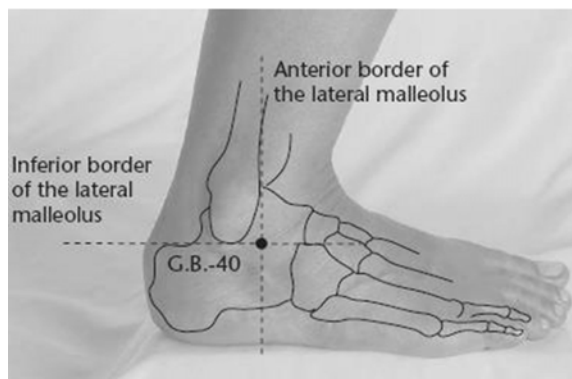
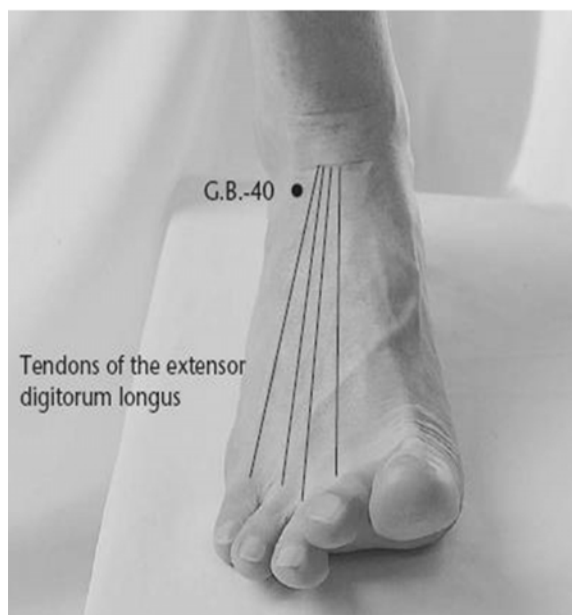


Fig. 1 Lateral view of foot⁽⁸⁾.



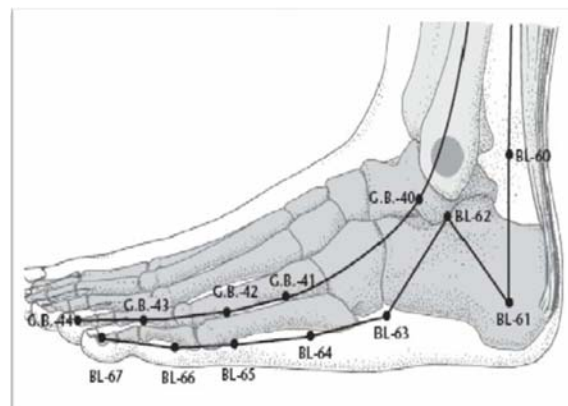
QIUXU Point (GB-40)⁽¹¹⁾

Location: Anterior and inferior to the lateral malleolus, lateral to the tendon of the extensor digitorum longus muscle.

Needling: 0.5-1.5 cun vertically or slightly obliquely in the area of The fibulotarsal ligaments towards the medial arch of the foot.

Fig. 2 Antero-posterior view of Foot⁽⁷⁾.

used in the treatment. One needle was applied at KUNLUN (BL-60) point depth 0.5-1.0 cun, and the other needles were applied at QIUXU (GB-40) point with depth 0.5-1.5 cun (Fig. 4, 5). The patient's self-assessed pain level was recorded using the Visual Analog Scale (VAS), an 11-point numeric scale, ranging from 0 = no pain to 10 = maximum pain).



KUNLUN Point (BL-60)⁽¹²⁾

Location: The line connecting the Achilles tendon and the highest prominence of the lateral malleolus.

Needling: 0.5-1.0 cun vertically contraindicated during pregnancy.

Fig. 3 Lateral view of foot⁽⁹⁾.

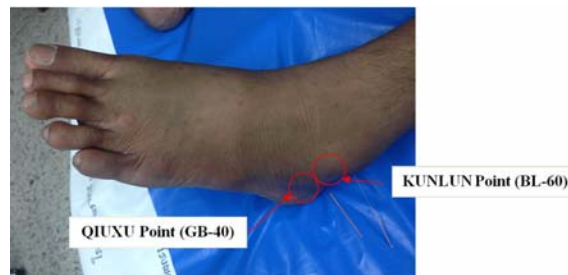


Fig. 4 Antero-posterior position of left ankle, at time 0 min.



Fig. 5 Oblique position of left ankle, at time 0 min.

Results

Plain radiography of the ankle showed no demonstrable fracture, no subluxation and no dislocation. The patient was placed in the supine position and treated with acupuncture. After therapy, his VAS pain level decreased by 50% from 8 to 4, and

he was able to ambulate with a walking aid. One week after injury, the clinical signs of pain and swelling had diminished, and the ankle anterior drawer stability test showed a negative result. The patient reported that his pain was alleviated after 10 minutes, and he was satisfied with the acupuncture treatment. No complications were reported, implying that acupuncture could be safe for use in cases of acute ankle injury.

Acupuncture treatment significantly decreased the patient's VAS pain level from 8 to 4 and reduced patient waiting time by 30 minutes by eliminating the need to obtain drugs from the pharmacy and wait for them to take effect in ED. At follow-up after one month, no skin infection was found in this case and the patient had full dorsiflexion movement (Fig. 6) and plantar flexion (Fig. 7).

Discussion

Previous studies have shown that acupuncture is effective in reducing chronic pain, but its efficacy in treating acute pain has not yet been clearly demonstrated. This study assessed pain and swelling in a patient with acute ankle injury who received acupuncture treatment. The pain scale was assessed and his VAS pain score halved from 8 to 4 in 20 minutes.



Fig. 6 Left ankle Dorsiflexion position, after 20 minutes.



Fig. 7 Left Ankle Plantar flexion position, after 20 minutes.

This research is in agreement with a study by Liu et al⁽¹³⁾ in an emergency department, which reported that there was a significant reduction in pain measured by the VAS scale after 15 minutes of acupuncture for acute low-back pain. The authors, therefore, concluded that acupuncture might be effective in decreasing acute low-back pain rapidly and safely. Acupuncture is frequently used for acute low-back pain, but few studies have documented its use in acute ankle injuries.

To assess the long-term effects of acupuncture therapy, pain outcomes and the stability of the patient's ankle joint should be observed for one month after treatment. A limitation of this research was that it studied only one case, so that the results cannot be generalized. A larger sample size in the future is required for use in a well-designed study, and a randomized controlled trial may be appropriate.

Conclusion

Acupuncture showed good clinical results, and the patient was satisfied with the treatment. Acupuncture can be used safely and effectively in the treatment of acute ankle injury in emergency departments. Further studies should be performed to assess a larger number of cases.

What this study adds ?

Acupuncture was shown to be a feasible treatment modality for rapid pain relief in cases of acute ankle injury.

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Potential conflict of interest

None.

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การฝังเข็มผู้ป่วยบาดเจ็บข้อเท้าในหอฉุกเฉิน รายงานผู้ป่วยเบื้องต้น

นพณัฏฐ์ ตันติเวทเรืองเดช

การลดอาการปวดในผู้ป่วยบาดเจ็บข้อเท้าเฉียบพลันโดยมาตรฐานมักใช้ยาแก้ปวดเพื่อรักษาผู้ป่วย ในปัจจุบันการรักษาโดยการฝังเข็มเพื่อลดอาการปวดได้รับความนิยมมากขึ้นในการลดปวดจากกล้ามเนื้อหลังอักเสบ ปวดจากการกระจายของโรคกระดูก การปวดเข่า

ในการรายงานผู้ป่วยเบื้องต้นเป็นผู้ป่วยชายไทยอายุ 33 ปี เพศชาย สุขภาพแข็งแรงข้อเท้าข้างซ้ายบวมหลังอุบัติเหตุเดินตกฟุตบาท ข้อเท้าซ้ายพลิก เดินลำบากแล้วปวดมาก ได้รับการประเมินและเอกซเรย์วินิจฉัยเป็นข้อเท้าแพลง โดยทั่วไปการรักษาโดยการให้ยาเพื่อลดอาการปวด แต่ในผู้ป่วยรายนี้เลือกใช้วิธีการฝังเข็มซึ่งเป็นทางเลือกหนึ่งในการรักษาพบว่า ผู้ป่วยรายนี้มีอาการปวดลดลงหลังจากรักษาด้วยการฝังเข็ม อาการปวดลดลงจากระดับ 8 เหลือระดับ 4 ภายใน 20 นาที ภายหลังการติดตามในหนึ่งเดือนไม่พบภาวะแทรกซ้อนจากการติดเชื้อทางผิวหนัง และผู้ป่วยพอใจต่อการรักษา แต่อย่างไรก็ตามยังต้องมีการศึกษาเพิ่มเติมเพื่อยืนยันประสิทธิผลและความน่าเชื่อถือ เพื่อยืนยันประสิทธิผลของการรักษาด้วยการฝังเข็ม
