Acupuncture for Chronic Venous Ulceration

Tim Mears

Summary
Acupuncture was used to treat a 69-year-old man for bilateral ankle pain related to his rheumatoid arthritis. This led to a dramatic improvement in one of his chronic venous leg ulcers. There is very little recent literature on such cases, where acupuncture may be a useful additional treatment.

Keywords
Acupuncture, chronic venous ulceration, rheumatoid arthritis.

Presentation
This 69-year-old man was well known to the surgery because of his two chronic medical problems. First, he suffered from rheumatoid arthritis, which had been diagnosed some 35 years ago. Secondly, for the past 5-10 years he had had recurrent episodes of venous ulceration. He was under the care of the local rheumatology team for the former condition and the community leg ulcer clinic for the latter, for which he was being treated by compression bandaging.

His rheumatoid arthritis was relatively inactive but had caused extensive joint damage over the years, particularly in both ankles. He had been treated with various drugs including non-steroidal anti-inflammatory drugs (NSAIDs), sulphasalazine, gold injections, oral steroids as well as physical treatments in the form of physiotherapy and hydrotherapy. His current treatment was methotrexate 12.5mg once weekly and oral NSAIDs. Unfortunately, the methotrexate and his previous steroid usage delayed the healing of his leg ulcers.

His chronic venous ulcers had caused much inconvenience and discomfort, waxing and waning in severity. The most successful treatment over the years had been compression bandaging. This would generally heal an ulcer over 12-24 months, there being no evidence of arterial disease (Doppler studies ratio 0.9). Previous treatments, including specialist dressings, varicose vein surgery, and skin grafting, had proved ineffective.

Due to the severity of the ankle pain, intra-articular steroid injections had been tried, but these were without benefit, and in the combined rheumatology-orthopaedic clinic, the patient had been recommended for bilateral ankle fusion. The surgeons, however, were not happy to operate until the ulcers were healed, since there would be an increased risk of infection, especially as staphylococcal ulcer infections were not uncommon.

In view of the failure and lack of other treatment options, I suggested the use of acupuncture to improve the ankle pain, having discussed the potential problems and risks due to the chronic oedema and recurrent infections.

Examination
There were bilateral leg ulcers affecting the ‘gaiter’ area, larger on the right side, where the foot and lateral malleolus area was affected, whereas the left ulcer was on the antero-lateral aspect of the shin. Figure 1 shows an ulcer tracing taken two months prior to acupuncture; unfortunately no photographs were taken at that time. Both lower legs showed signs of chronic venous insufficiency with oedema, fibrosis and discoloration due to haemosiderin deposition, as well as extensive areas of scarring from previously healed ulcers. There was no sign of vasculitis. Both ankles showed the stigmata of chronic rheumatoid arthritis with synovial thickening and joint effusion.
Treatment
I suggested an initial course of three weekly treatments during his attendance at the health centre for changes of his dressings, using ST36, KI3 and LR3 bilaterally. Initially he was treated for 15 minutes without stimulation, increasing the duration or adding stimulation, depending on the response. If necessary, additional local or tender points could be added at a later date. Initial attempts to treat using my standard thin needles had to be abandoned due to the tissue fibrosis which prevented deep needling, so I used 0.35mm by 30mm single use, sterile needles instead.

I suggested the use of a visual analogue scale to assess his response, 0-100 (0 being pain free and 100 extreme agony). His initial pain score was 67, which improved to 45 for 3-4 days following the first treatment session. I repeated my original formulation, increasing the duration of needling to 30 minutes. At review the following week, the ankle pain had remained better but more interesting was the improvement in the ulcer on the left foot. I repeated the treatment exactly as before, and at the review appointment the following week, much to my surprise, the left ulcer was healed. The ankle pain had improved to 21, slightly worse on the right. I increased my efforts, adding manual stimulation, as well as additional points, but there was no change in the ulcer on the right leg or further improvement in the ankle pain. The ulcer has remained healed until now. Figure 2 shows the area after healing.

Discussion
As with so many anecdotal case histories in acupuncture, the discussion or conclusion raises more questions than it answers. This case could be simply a placebo effect in a responsive individual, and had the response been limited to the ankle pain this would be quite possible. However the response of another condition not addressed by the acupuncturist would seem to make this less likely. It is possible that the use of these ‘strong’ classical points had a disease-modifying effect in a traditional Chinese medicine sense, but in any event, I feel this is an area that warrants further research.

The total cost to the National Health Service of treating leg ulcers has been estimated at £600 million, and contributes significantly to the workload of both primary and secondary care. The mainstay of treatment remains compression bandaging which has a strong evidence base to support its use.

In this patient the effect of venous insufficiency was further compounded by his rheumatoid arthritis, which even in the absence of vasculitis, affects the rate of healing. Various other treatments such as skin grafting, laser therapy or specialist dressings, though widely used, remain of unproven efficacy.
The effect of acupuncture on blood flow and healing has been investigated by many authors over the years, and the mechanism is thought to be through both regional sympathetic inhibition and the release of vasodilator peptides, particularly calcitonin gene related peptide (CGRP). The release of CGRP has been demonstrated in both skin and muscle as a consequence of antidromic stimulation of afferent nerves. The improvement in arterial blood flow following local or regional acupuncture should improve tissue oxygenation and healing, for it is thought that the underlying pathology of venous ulceration is hypoxia due to chronic oedema and subsequent fibrosis.

The use of acupuncture in the specific treatment of ulceration is less widely documented in the English Language medical literature. However, Bacchini et al and Di Bernardo et al have investigated the use of acupuncture, particularly electroacupuncture in the treatment of arterial conditions, such as thromboangiitis obliterans and Raynaud's syndrome and trophic and venous ulceration, and report significant benefits. They attributed improved healing rates to the relief of arterial spasm and improvement in collateral circulation.

This case report would further support Bacchini's and Di Bernardo's work and suggests that acupuncture may be a useful additional treatment modality in venous ulceration.

**Reference list**

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