Soft tissue swelling and cold abscess after embedded acupuncture

Acupuncture is claimed to be an effective therapy for a broad range of medical problems with minimal side-effects. However, regardless of its efficacy, it can be associated with complications including bacterial infection.\(^1\)\(^2\) We describe a case of unilateral foot oedema with negative culture as a complication of catgut embedding (a therapy related to acupuncture) which has not, as far as we know, been reported previously.

**HISTORY**

A 27-year-old woman with inflammatory bowel disease who had received catgut embedding therapy (a type of Chinese acupuncture therapy) over several sessions, presented with unilateral soreness and non-pitting oedema of the right lower extremity below the right knee, 2 weeks after her last treatment session. Maximum swelling was observed in the foot area. Her foot and leg were warm but not red. She reported no history of trauma, blood transfusion or any other probable causes of haematogenous abscess, but she mentioned a history of acupuncture which was discussed as a possible cause of her complaint. The patient was admitted to hospital for investigations. She had symmetric pulses in her lower extremities. Her examination and routine blood tests showed no signs of renal failure. She had no fever or any other signs of infection such as a raised white blood cell count. Her immune system was not compromised in any way.

She was given broad spectrum antibiotic therapy. Her pain reduced but there was no change in the grade of oedema. The results of Doppler sonography did not support a diagnosis of deep vein thrombosis. An assumed diagnosis of acute lymphoedema was made and the patient received conservative therapy including bandage, elevation and calcium dobesilate (Doxium) with anthocyanoside.

After 4 months of this therapy, her foot oedema had lessened, but her calf oedema had become more prominent, although warmth and redness were no longer present. Laboratory tests including erythrocyte sedimentation rate (ESR) and rheumatoid factor were normal. An ultrasonographic examination of the right lower limb conducted to rule out malignancy, showed a mixed-echo mass. Right lower limb MRI to evaluate mass location and involvement of surrounding tissues, confirmed a soft tissue mass suggesting a soft tissue sarcoma ([figure 1](#)).

The patient was scheduled for excisional biopsy. After an incision was made over the lesion, a yellowish odour-free liquid was discharged. Culture of a sample showed no bacterial growth, and smear culture for tuberculosis was negative.

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**Figure 1** Soft tissue mass in MRI of the right lower extremity.
The cold abscess was located on the lateral side of the anterior compartment in the upper third of the right lower leg and measured 10×7×6 cm. The patient did not receive any other medications or interventions except for those already mentioned.

The patient’s final diagnosis was cold abscess. The patient reported a history of suture insertion over the site which was confirmed by the acupuncturist. The suture had been left to reabsorb as is usual in catgut embedding therapy. Considering the lack of other possible causes, and previous reports describing abscess formation due to acupuncture, we concluded that the abscess was caused by acupuncture. The leg oedema had resolved by 2 months after surgery and at 6-month follow-up there was no difference in leg sizes and the patient had no complaints, with normal use of the right leg without sensory or motor function disturbance.

COMMENT
The use of acupuncture is becoming increasingly popular among medical as well as non-medical therapists.1 Catgut embedding therapy is an associated method that involves deep insertion and retention of catgut; it is a modern technique and is used in integrative medicine.2–4

While acupuncture is said to be relatively safe with extremely rare reports of morbidity and mortality, adverse events are sometimes described. Infections, commonly bacterial, including abdominal, epidural, cervical and retro-peritoneal abscesses, are reported as the most prevalent side-effects of the procedure, usually caused by retention of broken needles, inadequate sterilisation of needles or inappropriate needle insertion sites.5 Causation is sometimes difficult to determine beyond doubt. Adverse events caused by catgut suturing were reported in one previous case in which multiple tender subcutaneous nodules developed at the site where catgut had been embedded 1 month previously.6 Infection at acupuncture sites due to needle insertion can present acutely, or hours, days or weeks after the procedure. Spinal epidural abscess is an uncommon but severe, life-threatening reported bacterial side-effect of acupuncture.7

The abdomen is a common site for acupuncture in patients with epigastric discomfort from peptic ulcers. In one form of acupuncture common in northeast Asia, needles are inserted in the body and then deliberately broken off so they are left permanently in place.8

Peritemporomandibular abscess as a side-effect of acupuncture has also been reported and was assumed to be due to gross contamination or inadequate sterilisation of the acupuncture needle because culture showed Staphylococcus associated with Clostridium.9

Infections are the main complication of acupuncture and abscess formation has been reported.9–10 So far, reports have mostly described abdominal abscess with a bacterial source as a common side-effect of acupuncture, but we have described a leg abscess which caused unilateral foot oedema. In our case, given the lack of any relevant history suggesting haematogenous spread, and the proximity of the cold abscess to the site of catgut insertion (confirmed by the acupuncturist), it is probable that the leg oedema and abscess were a complication of catgut insertion.

In view of previous reports and the presenting symptom in our patient (leg oedema), it is recommended that in a patient presenting with oedema and a history of catgut embedding, cold abscess from acupuncture should be considered in the differential diagnosis.

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