Home electroacupuncture for persistent postsurgical pain: a patient’s report

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ABSTRACT
A 30-year-old woman presented with iatrogenic myofascial facial pain of 12 months’ duration after surgical treatment for bilateral temporomandibular joint dysfunction. Limited response to manual acupuncture was followed by a trial of electroacupuncture. Response to electroacupuncture was limited in duration and one option was to teach her partner to perform electroacupuncture at home. The patient and partner, trained in beauty therapy, embraced this idea and it proved equally effective as therapist-provided acupuncture. We describe this case report from the perspective of the patient, caregiver or acupuncture partner and therapist. Home electroacupuncture seems to be safe, acceptable and practicable as a maintenance treatment for patients with persistent postsurgical pain of myofascial origin.

INTRODUCTION
This case report describes the successful treatment pathway for controlling persistent postsurgical facial pain. This case is reported mainly by the patient, with comments by the caregiver in a text box and discussion of technical issues by the acupuncturist.

CASE REPORT
History
The patient is a 30-year-old woman who suffered from temporomandibular joint (TMJ) ‘clicking’ on mouth opening, trismus, slight jaw pain in the mornings and bruxism for 10 years. She had tried a gum shield from her dentist and diclofenac from her GP which gave her gastritis, but to no avail. She was referred by her GP to the maxillofacial surgery department of her local district general hospital in July 2006. She was examined by a consultant maxillofacial surgeon in October 2006, who concluded the problems were due to the meniscus in her jaw joint becoming trapped and stuck when opening, which explained the painful clicking sensation. She was advised to try self-physiotherapy and to wear a specially made mouth shield throughout the night, and whenever possible during the day, to try to reduce the pressure on her jaw caused by the bruxism. However, after 4 months the shield had provided no relief and was now becoming stuck in her mouth for 45 min in the morning after waking up with a locked jaw. Her mouth opening was recorded as 40 mm in February 2007. As her condition had not improved, arthrocentesis and arthroscopy were mentioned but she was not keen.

In September 2007 she was no better and an MRI was ordered. She was given the result later that year which stated: ‘Both menisci are anteriorly dislocated. This does not reduce on attempted opening of the jaw. The range of movement of both mandibular condyles is very limited.’ Surgery was deemed the only course of action by her consultant and an arthrocentesis was performed on both her TMJs in March 2007. The aim of the operation was to flush fluid around the cartilage in her jaw joint and wash it out, while also inserting anti-inflammatory medication into the area. Preoperatively, her mouth opening was 44 mm.

Unfortunately the operation was not successful and resulted in severely restricted mouth opening ranging from 10 mm to 20 mm and a great deal of pain. These were new problems which did not exist prior to the operation. After 5 months there was no improvement and she was unable to eat anything other than liquified food. She had great difficulty talking and was in constant pain, which was only reduced by a strong painkiller such as tramadol.
An arthroscopy was deemed necessary. This time the surgery was performed only on the right side, but again this was a failure and exacerbated the problems leaving her with acute facial pain, nerve pain and a perforated right eardrum. After the operation her mouth opening was recorded as between 22 mm and 30 mm.

With no signs of improvement or recovery, the lead consultant advised her that no further operations would be carried out due to the negative outcome of the previous surgery. This left her with very few options and she was very worried that the damage would never be corrected. The consultant suggested acupuncture to try to reduce the pain and she was referred to a specialist within the hospital in November 2008.

The acupuncturist works in a district general hospital setting and has been trained in Western medical acupuncture. He has been practising acupuncture for 20 years and has a special interest in self-acupuncture and electroacupuncture (EA). He provided training and support for the patient’s partner to perform twice-weekly EA for severe chronic iatrogenic facial pain and once-weekly EA for chronic low back pain.

Treatment
The patient had experienced acupuncture previously for back pain and welcomed the opportunity to try to reduce her facial pain using acupuncture, and in time possibly regain some of the reduced mouth opening. In March 2009 the acupuncturist and the patient talked through the problems she was suffering and how intensely she felt the pain. Her pain, measured on a visual analogue scale (VAS), had increased from VAS 50 to VAS 80 out of 100 since her arthrocenteses and arthroscopy. The acupuncturist explained the muscles involved and what could be tried in the way of acupuncture.

For the first few weeks four needles (Seirin J type, 0.16×30 mm Red, Seirin Tokyo, Japan) were placed in tender points in the masseter muscle on one side of her jaw and manually stimulated and left for 1 min initially. This was increased to 10 min after 10 treatments at approximately two-weekly intervals. The acupuncturist explained that these tender points were known as myofascial trigger points (TRPs). Although treatment was painful at first, after a few weeks she found that the pain would lessen after a session. Her VAS reduced from 90 to 60 out of 100 for 2–3 days. This pain relief left her feeling very positive about the use of acupuncture on her jaw. Her acupuncturist suggested adding electricity from an EA machine to enhance the analgesic effects of manual acupuncture (MA). The effects from MA were only lasting a relatively short period of time (3 or 4 days).

The needles were inserted into the masseter muscles as before but were now attached to the EA machine (Cefar Acus 4) by four wires. This has several preset programmes with different frequencies, and allows the patient to control the intensity of the current which then put her in control of her pain management. The first programme tried was Program 2 (2 Hz, 180 μs pulse width), but was too strong on her face. At the next session this was changed to Program 8 (2 Hz, 60 μs pulse width), which she found more comfortable. Finally, after four treatments, Program 6 (10 Hz, 180 μs pulse width, 1.2 mA current) was found to be the most comfortable but, because the TRPs were located high in the masseter, there was a degree of eye and nose twitching. At the next session, lower TRPs at the lower border of the masseter were used which approximated to ST5 and ST6. These were found to be more comfortable and resulted in minimal facial twitching from the EA.

The acupuncture sessions were being performed once a week, but by the third or fourth day the positive effects (pain reduction from VAS 90 to VAS 20) had worn off. The EA was significantly more effective in pain reduction and had decreased her pain by 40 VAS points compared with MA. Unfortunately the EA had not increased the duration of pain relief. If the acupuncture could have been performed every 3–4 days, then the cycle of pain would have been reduced.

With this in mind and after consulting with a colleague, her acupuncturist suggested home acupuncture as the best way to continue benefiting from this form of therapy. The acupuncturist has a special interest in self- and home acupuncture (SHA) and had written a hospital policy¹ with the local pain team.

Training for home acupuncture
The patient’s partner welcomed the idea of being trained to perform the acupuncture at home and was well aware of the difference it had made to the patient’s life already. After a few sessions of watching her acupuncturist perform the therapy, the patient’s partner was ready to try it herself in the clinic—with the acupuncturist watching over her and giving her advice as she went along. The patient’s partner achieved this very successfully, which left the patient very positive about managing the pain at home and reducing the number of hospital visits.

The patient and her partner sought out all the equipment they needed and were supplied with information and diagrams of the muscles they would be working on and, with occasional check-ups with her acupuncturist, they were ready to start SHA. At home, Seirin 0.16×30 mm needles were used on the face and Seirin 0.25×30 mm needles on the lower back, with EA from an AWQ-104 L digital unit. The duration of treatment was 10 min and 30 min respectively, between three and five on the output dial was used on the face and on the lower back. Figures 1 and 2 show the patient having SHA with EA to her lower masseter muscles.
OUTCOME
The SHA proved equally as effective as therapist-provided acupuncture. By July 2013 the patient has received more than 320 treatments to her face from her partner. She has also had EA to her lower back almost 100 times. She has only had minimal side effects, consisting of a very small amount of bleeding on the face on a few occasions. Some acupuncturists may be anxious about patients developing therapeutic tolerance to EA, particularly when it is being applied every 3–4 days. This was not a problem in this case and may even be helping to desensitise the masseteric TRPs in the long term.

The caregiver has summarised her perspective of SHA in box 1.

DISCUSSION
Self-acupuncture was first recorded by Willem Ten Rhijne in his *De Acupunctura* in 1683. Since then, self-acupuncture has been written about but never defined in the context of a therapy in the healthcare setting. In the absence of a standard definition for SHA, we define it as follows: ‘Self-acupuncture or home acupuncture is acupuncture performed by a patient or patient’s acupuncture partner following assessment and appropriate training by their attending regulated healthcare professional.’

SHA is potentially controversial; one of the issues seems to be whether it is safe to teach patients or their caregivers to perform acupuncture. Other arguments for and against self-acupuncture have been advocated. All adverse event reports have been in unsupervised individuals needling themselves. Even an acupuncturist has been reported to have injured him/herself: ‘In only one case of self-treatment, which caused spinal cord injury, the patient was a licensed acupuncturist.’ Do-it-yourself needle kits are becoming commonplace for outpatient maintenance of symptom control such as hot flushes associated with tamoxifen therapy. There is a limited amount published for therapists, and very little for patients and caregivers. More recently, self-administered acupuncture has been studied in relation to deliberate self-harm, and self-acupuncture has been assessed in the management of cancer-related fatigue.

The literature in this area is limited in relation to SHA. This may be because SHA is only used by a small cohort of therapists or because SHA has been under-reported and under-investigated in the literature. It has touched on safety, efficacy and acceptability in primary care, and safety, service provision and medicolegal...
aspects in a secondary care pain clinic.²⁴ Teig et al²⁵ looked at safety and efficacy in an audit of chronic musculoskeletal pain from a pain clinic in secondary care but not patient experience in its broadest sense. Filshie and Hester¹⁰ mention self-acupuncture in their policy document relating to acupuncture in cancer patients but do not comment on patient experience. Filshie et al²⁶ had previously looked at self-acupuncture in the context of a treatment for hot flushes in cancer patients. Their results focused on safety and efficacy only. We have found no literature specifically pertinent to the patient experience of SHA.

Knowing which elements to accentuate or eliminate around the patient experience may improve outcomes.²⁴⁻²⁷ An improvement in patients’ experience may improve quality, may save money and may influence outcome.²⁸ Patient experience will become a significant element of an accreditation programme for a larger sphere of patients, caregivers and therapists. Which may make this form of treatment more acceptable to a larger sphere of patients, caregivers and therapists.

SUMMARY

On reflection, had the patient been offered acupuncture as a treatment for her TMJ problems prior to surgery, she firmly believes that surgery would not have been necessary. She would recommend this type of therapy to anyone suffering from similar problems as it has changed her life for the better.

SHA seems to be safe, effective and acceptable in a variety of clinical situations, as demonstrated by this case report. Training friends, relatives or partners to administer acupuncture at home seems to be relatively trouble-free but is underused in the UK for the management of chronic conditions. There is a potential for significant cost-saving and liberation of patients from dependence on state or private healthcare.

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Clinical observation


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