Acupuncture for Low Back Pain in Pregnancy

Mike Cummings

Summary
Medical doctors are particularly cautious about using acupuncture in pregnancy. This derives from the mostly historical and anecdotal claims that acupuncture can promote abortion, coupled with the fact that spontaneous early pregnancy loss is common, and litigation is increasing. This case report describes the circumstances that lead to the author using deep paraspinal and periosteal acupuncture throughout a patient’s pregnancy to help control her low back pain.

Keywords
Acupuncture, low back pain, pregnancy.

Introduction
Acupuncture is used in pregnancy to a greater or lesser extent by different groups of acupuncturists. Medical doctors in the UK are particularly cautious, often limiting their use of acupuncture to a single point (PC6), which, by virtue of its ubiquitous use in early pregnancy, is thought to be safe.1 Their reason for being cautious derives from a concern that spontaneous pregnancy loss, or other complications of pregnancy, may be attributed to acupuncture performed before the event. In physiological terms, it is hard to conceive of how judiciously applied acupuncture could possibly affect the progress of a normal pregnancy, however, one of the numerous and unsubstantiated claims of traditional Chinese theory is that acupuncture can promote abortion.2 Despite this there are reports that suggest acupuncture can be a useful treatment for back and pelvic pain during pregnancy.3-5

The following case report describes the use of acupuncture prior to, and throughout, a normal pregnancy for the control of low back and leg pain.

Presentation & Assessment 1
ASJ first presented to the British Medical Acupuncture Society’s London Teaching Clinic (LTC) in April 2001. She was 32 years of age, not yet pregnant, and had been suffering on and off with back pain for six years. She was seeking treatment for an acute episode of pain, which had been present for 13 days, and had not responded to osteopathic treatment. The pain was centred on the low back, but could radiate to the upper hip girdles, buttocks, posterior thighs and inner thighs. The pain tended to occur on one side or the other. The pain was usually a dull ache, but became sharp with some movements, and was burning in nature after sitting for more than 15 minutes. The severity varied from a mild ache to a severe pain. It was made worse by sitting and was relieved by ice and light stretching.

ASJ had undergone no operations, and had suffered no serious illnesses; however, she noted an episode of ‘sciatica’ in 1995. She took paracetamol and codeine intermittently for headaches and menstrual pain. She was married with no children (at the time of presentation), worked in a sedentary profession, consumed minimal alcohol, and described herself as a ‘still quitting’ smoker.

On examination ASJ’s gait appeared normal and she could perform toe and heel walking without difficulty. From a standing position she could not bend forward because of pain, though lumbar extension and right lateral flexion were full and pain free. Left lateral flexion appeared slightly restricted, but was not painful. Lower limb reflexes were intact, straight leg raise was 90 degrees on both sides and the bowstring test was...
negative. Palpation revealed tenderness in erector spinae at L5, and in gluteus medius bilaterally. My impression was that most of her pain was muscular in origin and that there was no indication of nerve compression, or, nerve root or dural irritation. The symmetrical nature of the muscular tenderness made me suspect an underlying central cause; however, it was not clear what this might be.

Treatment and Results 1
A treatment plan was discussed with the patient, and this included direct needling to the tender muscles, assessment of the response, and the possible addition of electroacupuncture, depending on her sensitivity to manual needling. In the author's experience, electroacupuncture appears to be successful in some patients who do not respond to manual needling.

The four tender sites were needled with moderately strong manipulation of the needles for about 10 seconds. The needles were left in place for a further 20 minutes. At follow up one week later she described some aching on the evening of the first treatment, followed by a significant improvement for five days. She noted that all the worst pains had gone. There was no leg pain, and the 'burning ball' of pain in her back had disappeared. Treatment at the second session involved moderately strong manual needling to symmetrical points in quadratus lumborum and gluteus medius. Six points were needled for five seconds only. At each site pain recognition was noted, i.e. the sensation generated from needling the points mimicked, or was reminiscent of, the pain of which she had been suffering.

At follow up one week later she described some post-needling soreness for 24 hours followed by a significant improvement. Overall she felt there had been an 85% improvement after the first two sessions. Ten minutes of electroacupuncture was given at the final session, between needles in quadratus lumborum and gluteus medius on each side.

Presentation & Assessment 2
ASJ returned to the clinic in March 2002 with a new presentation of back and leg pain that had started in December 2001. On this occasion the pain was to the left of the spine at L5/S1, and radiated into the left buttock and to the left calf. The pain was exacerbated by left lateral flexion of the lumbar spine (standing) and a combination of
lateral flexion, rotation and extension to the left (seated). Flexion, rotation, right lateral flexion and extension of the lumbar spine were pain free, as was a combination of lateral flexion, rotation and extension to the right. Heel and toe walking were normal. Slump and bowstring tests were negative. It was noted that the left hip appeared higher than the right on standing, and she maintained a lateral shift of the upper body to the right to prevent excess pain from standing straight upright (see figures 1 and 2). This posture could be corrected without pain by a slight flexion at the knees, rotation of the pelvis and flattening of the lumbar lordosis. Palpation revealed tenderness in gluteus medius and discomfort on firm pressure over the spinous processes of L3 to 5, but not L1 or 2.

My impression was that her primary source of pain on this occasion was the left L5/S1 zygapophyseal joint (facet joint), and that she had secondary myofascial pain. This impression was reinforced when elements of her pain were reproduced on periosteal needling in the area of the L5/S1 facet joint and deep gluteal needling in gluteus medius or minimus.

Treatment and Results 2
The treatment plan agreed with ASJ on this occasion involved consideration of several different treatment approaches. Dry needling would be used in an attempt to control the secondary myofascial pain, and potentially as a symptomatic treatment for the facet joint pain. Her apparent leg length inequality would be investigated and consideration given to use of appropriate orthoses or modification of the sole of one shoe. If the facet joint pain or functional restriction did not resolve, consideration would be given to blind peri-facet injection or facet injection under imaging. A pain clinic referral was initiated in case the latter option became necessary.

Acupuncture treatment proceeded with periosteal needling around the L5/S1 facet joint on the left and direct needling of various secondary myofascial trigger points in the left hip girdle musculature. Electroacupuncture was tried, but it did not seem as effective as manual needling. The treatment appeared to reduce her pain substantially, and she attended every week or fortnight. At the seventh session she reported that she was pregnant. When her dates were confirmed, it was clear that the first six sessions had all been performed in early pregnancy. After a lengthy discussion of the theoretical risks of acupuncture in pregnancy, and in view of the fact that it seemed to be the only intervention that had given her substantial pain relief up until then, it was agreed that treatment would continue. In total, 18 sessions of acupuncture were provided during the pregnancy. During this period she suffered two significant relapses. The first was after trying a rather strenuous back strengthening exercise, which was referred to as 'the plank'. The second was following a course of five sessions of chiropractic spinal manipulation. She attended an NHS pain clinic, but in view of her pregnancy a facet joint injection under imaging was not possible, and she was advised to return after the delivery.

Figure 3 is a composite pain diagram including the main pain distributions noted during the course of treatment.

At 25 weeks she was given some crutches to try, and these allowed her to flex her lumbar spine slightly whilst resting some of her upper body weight on them. This posture relieved her facet joint pain, and after a further two acupuncture sessions she felt comfortable enough to complete the pregnancy without further treatment.

ASJ achieved a normal vertex delivery at term.
assisted by ventouse and with epidural analgesia. During, or within 24 hours of the delivery the restriction of her left L5/S1 facet joint resolved, and she could stand up straight again (see figure 2). Four months later she re-attended the LTC and received two sessions of acupuncture to trigger points in the back and hip girdles.

Throughout the course of treatment of ASJ's various back pains she had tried conventional medication, physiotherapy, osteopathy, chiropractic, a new bed, a new car, self-administered hydrotherapy (on holiday), and secondary care assessments in a rheumatology clinic and a pain clinic.

**Adverse Events**

There were two minor adverse events related to acupuncture needling. The first was tattooing of the skin at the needle puncture sites in the back where a particular make of standard disposable stainless steel needle was used. This was noticed after about five sessions, and was due to metallic or oily residue on the needle shafts of the needles used. Figure 4 shows the marks on ASJ's back. The entire batch of needles was discarded.

The second adverse event was the inadvertent needling of a spinal nerve root of L5 on the left. A 75mm needle was being used to perform periosteal needling around the left L5/S1 facet joint. The needle passed just lateral to the superior articular process of S1. At a depth of about 65mm from the skin surface the patient described a shooting sensation with intense paraesthesia down the lateral side of the left leg to the foot. This sensation resolved on withdrawing the needle, and there were no sequelae. A full explanation was given to the patient, who was unconcerned by the event.

**Discussion**

This is an interesting case for a variety of reasons. The musculoskeletal assessment and the technical difficulties of periosteal needling around a facet joint are briefly discussed below; however, the main reason for highlighting this case was the ethical dilemma faced by the author when, during the course of treatment, ASJ revealed that she was pregnant.

Facet joint pain and dysfunction is described as a perpetuating factor for myofascial pain, and leg length inequality as a predisposing factor in the development of such problems seems logical from a biomechanical perspective. Simons et al cover leg length inequality with reference to myofascial pain in detail.6, 7

Periosteal needling, first described by Mann,8 is popular among medical acupuncturists, but the author has not found it particularly useful in treating pain from facet joint arthrosis in the lumbar spine. Needling down to the level of the facet joints may, however, give useful information during an assessment of spinal pain. The needle could be seen as an extension of the examiner's finger, exerting a high pressure stimulus in different tissue layers of the back. In this case, ASJ's pain could be reproduced in part by deep needling on the left side of L5/S1. It is possible that the source of pain was a deep muscle layer, but the functional restriction would not have been consistent with tightness in the ipsilateral musculature at any level.

My practice was to needle straight down onto the posterior spinal column about one finger breadth lateral to the midline at the lower border of the L5 spinous process. I expected the needle tip to touch the inferior articular process of L5 at a depth of about 50-55mm, or the superior

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F **Figure 4** This image shows the three tattoo marks caused by metallic or oily residue on the shaft of the needles used. The entire batch of needles had to be discarded.
articular process of S1 at a depth of 45-50mm. I would then place a further two needles at different orientations, judging depth by the first needle placement. On one occasion the first needle was sited too far lateral to the midline, it missed the posterior column entirely, and inadvertently direct stimulation was applied to the L5 spinal nerve. A needle placed closer to the midline (probably onto the superior articular process of S1) reached periosteum at a depth of about 15mm less. It could be argued that this adverse event was preventable by more careful attention to the depth of needling.

After several sessions of acupuncture at the second presentation, the approach that appeared to be effective in managing ASJ’s pain was a combination of periosteal needling around the left L5/S1 facet joint and needling tender or trigger points in quadratus lumborum and gluteus medius. When the pregnancy was confirmed, it became clear that she had already undergone six sessions of this style of needling during the early weeks of the pregnancy. After a full discussion of the theoretical (material) risks of acupuncture in pregnancy, ASJ was keen to continue treatment, since, from her perspective, acupuncture had been the most effective therapy for her pain. The author was then left with an ethical dilemma. Was it ethically defensible to withhold treatment on purely medicolegal grounds (i.e. the concern about being blamed for a coincidental adverse event in the pregnancy), when the patient, who was aware of the material risks, had made the decision to continue treatment? The risk benefit assessment seemed clearly in favour of continuing treatment on this occasion.

To the author’s knowledge there are no case reports of pregnancy related adverse events attributed to acupuncture in the medical literature (Pubmed search, April 2003), and there are no known cases of litigation in the UK. Acupuncture should certainly not be considered a contraindication in pregnancy; however, this author suspects that it will take more than the odd case report to encourage medical practitioners, who serve an increasingly litigious population, to make such treatment widely available.

Reference List
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