

## CASE REPORT

# Pelvic pain and the use of acupuncture

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### Abstract

A 44-year-old mother of one who worked as a legal secretary was referred to a women's health physiotherapist via a consultant gynaecologist for treatment of long-standing pelvic pain and rehabilitation of her pelvic floor. Assessment revealed a multifactorial presentation. Dysmenorrhoea (i.e. painful menstrual cramps of uterine origin), urinary frequency, constipation, and a painful dragging sensation in the pelvis and lower back that was associated with uterine descent and poor core stability were revealed as the primary complaints. Six sessions of physiotherapy/acupuncture were attended, and a Visual Analogue Scale reduction from 8 to 3 has been elicited to date. Treatment is ongoing since only one menstruation has passed since treatment began and cyclical treatment is envisaged.

*Keywords:* acupuncture, cystocele, dysmenorrhoea, pelvic pain, pelvic floor muscles.

### Introduction

A 44-year-old mother of one who worked as a legal secretary was referred to a women's health physiotherapist for treatment of long-standing pelvic pain and rehabilitation of her pelvic floor. The subject's gynaecologist, who considered her discomfort to be mainly caused by primary dysmenorrhoea and poor pelvic floor muscle (PFM) strength, had prescribed non-steroidal anti-inflammatory drugs (NSAIDs) and referred her for specialist physiotherapy. Primary dysmenorrhoea, as opposed to secondary dysmenorrhoea, has no proven pathological cause. Primary dysmenorrhoea affects up to 50% of menstruating women (Dawood 2006) and is caused by imbalances of endometrial secretions, which increase uterine contractility and reduce uterine blood flow.

This reduction in blood is known in traditional Chinese medicine (TCM) as a deficiency or 'stagnation' of qi (energy). Free-flowing qi and blood within the body (along the meridians, or energy channels) constitute the TCM definition of health. The insertion of acupuncture needles into specific points along different

meridians is thought to balance this energy via natural homeostasis, either reinforcing or depleting a person's natural qi level as required in order to treat a particular condition.

Randomized controlled trials have generally found little evidence to support the clinical effectiveness of acupuncture, mainly because of the difficulty of producing a plausible placebo (Kaptchuk 2002). However, convincing magnetic resonance imaging evidence exists pertaining to the effect of acupuncture on the brain during needle insertion for pain control (MacPherson *et al.* 2008), suggesting that Western research methodology may be failing our profession and our patients with its unfounded scepticism. Indeed, acupuncture 'defies the straight jacket of reductionistic science' (Ernst 2001).

Conroy (2001) denounced the failure to recognize both the social and psychological needs of patients by focusing solely on their impairments as disrespectful 'objectification' of patients. Our reasoning skills help us develop a holistic or 'biopsychosocial' picture, as named by Engel (1977, cited by Polgar & Thomas 2000), by addressing all aspects of the patient's 'well-being' – psychological, physical, and social, via comprehensive subjective (qualitative) and objective (quantitative) examinations, as follows.

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An acupuncture plan was devised once the predominant signs and symptoms and the pain mechanisms involved became apparent (Bradnam 2003) and the subsequent interventions were aimed at producing a 'layering' effect, as discussed by Bradnam (2003), in order to address the different mechanisms involved within the central nervous system.

## Case report

### *Subjective history*

The subject had experienced difficulties during the delivery of her child 6 years previously. The 3.63-kg baby was delivered with forceps, which resulted in extensive perineal tearing and stitching. The subject had moved house just over a year ago, a process that had involving some heavy lifting, and she had experienced progressively worsening pelvic and low back pain since then. She described a constant dragging sensation/ache that worsened at menstruation, and also noted increased pain on lifting, prolonged standing for more than one hour and towards the end of the day. The subject's hobby was gardening and this also aggravated her symptoms.

She described her embarrassment at work colleagues noticing her urinary frequency, and reported that her sleep was disturbed by at least two visits to the toilet every night. The resulting fatigue made the subject feel irritable and she had become slightly socially withdrawn. She also suffered from constipation, which entailed considerable straining and caused painful haemorrhoids.

The subject had twice taken sick leave from work in the previous year because of her pelvic and back pains. She was able to stop her flow of urine, but was not routinely practising her PFM exercises. A score of 8 out of 10 was given as her Visual Analogue Scale (VAS) pain rating.

### *Objective history*

The subject displayed normal ranges of movement at the thoracic vertebrae, lumbar spine, hips and sacroiliac joints. Neurological and nerve root tension tests were also negative. Examination revealed some abdominal discomfort on palpation. Tenderness was also noted in the quadratus lumborum and piriformis muscles. Digital examination of the PFM revealed scarring, atrophy and grade 3 strength. A mild cystocele (1°) was also apparent.

### *Reasons for using acupuncture*

Because of the prior failure of interferential therapy and the subject's desire to try another form of pain relief, acupuncture was discussed and mutually agreed via collaborative reasoning.

In light of the common co-presentation and interplay of prolapse, constipation, urinary frequency and pelvic pain with the possible beginning of oestrogen depletion, acupuncture can offer an ideal opportunity to simultaneously address these issues and alleviate the pain of dysmenorrhoea. Different acupuncture points offer the therapist opportunities to enhance both the patient's emotional and physical well-being. Traditional Chinese medicine identifies three different types of qi: meridian, organ and emotional.

Several trials have concluded that acupuncture offers significant pain relief for dysmenorrhoea (e.g. Steinberger 1981; Maric 1984; Thomas *et al.* 1995; Iorno *et al.* 2007). Vast methodological differences (e.g. regarding placebo, points, numbers and treatment frequency) make it almost impossible to make generalized assumptions about the efficacy of acupuncture for dysmenorrhoea. For example, Habek *et al.* (2003) found a 93.3% success rate using some acupuncture points of auricular origin. Tsenov (1996) compared primary and secondary dysmenorrhoea, finding that acupuncture relieved the former more successfully than the latter. Helms (1987) reported a 41% reduction in analgesic medication in subjects given 'real' acupuncture as opposed to no significant change in 'placebo' (random points) groups. Lewers *et al.* (1989) found a 50% reduction in pain when treating subjects with high-frequency, acupuncture-like transcutaneous electrical nerve stimulation as opposed to a non-significant change for the placebo group who took a dummy pill instead.

A Cochrane systematic review found one methodologically sound randomized controlled trial. This had a relatively small sample size, but showed a significant reduction in the pain associated with dysmenorrhoea (Proctor *et al.* 2002). More research is clearly required.

### *Treatment protocol*

The risks and benefits of acupuncture were discussed at the first consultation, and the subject was provided with an information leaflet on acupuncture. On her return, acupuncture was agreed, contraindications checked and written consent provided. Local acupuncture

and infection control policy and procedures were adhered to, and since this was her first experience of acupuncture, the needles were administered with the subject in the supine position in case she became faint. The needles were applied for 30 min.

Conservative treatment included core stability exercise education, notably the PFM and transversus abdominis. Needling of the trigger points would be proposed once the core muscles had developed enough to reduce any potential pain that could be caused by these.

The subject was given advice regarding self-stimulation of the Governor Vessel (GV) 20 (mood enhancer) and Spleen (SP) 6 (cardinal for gynaecology) points so that she could maintain the effects and benefits of treatment between appointments.

The following meridians were selected: Bladder (BL) for its benefits in reducing chronic pain by boosting qi; Gall Bladder (GB) for its ability to nourish blood; SP for its opening-up effect on the Liver (LV) meridian (used for its gynaecological nourishing effects, notably by the He-sea point, LV8, and to ease constipation); Kidney (KI) (linked closely with the BL meridian for its effects on the bladder and reproductive systems); and Conception Vessel (CV) to stimulate local blood flow changes.

#### *Physiological reasoning for acupuncture selection*

Acupuncture is considered to block the pain of dysmenorrhoea via complex interactions with mediators such as endorphins and serotonin (Proctor *et al.* 2002). Acupuncture was employed to assist pain relief, eliminate qi stagnation and improve local blood flow (Table 1). Combining local, segmental and distal needling ensures local pain gate effects plus descending pain inhibition with cortisol release.

The pelvic area was eventually needled locally to improve the local blood flow and to invigorate qi. This local needle insertion causes a local release of histamine and endorphins and facilitates local pain gate effects (Melzack & Wall 1965).

Needles inserted more distally were administered to address any imbalances present. These insertions stimulate descending pain inhibition, as well as the production of  $\beta$ -endorphins and cortisol (anti-inflammatory).

Spinal needles were inserted via the BL meridian since BL23 is the source point of qi. This form of stimulation releases endorphins

and serotonin, and facilitates descending pain inhibition.

The weakness of the fascial and ligamentous support to the bladder and possibly the uterus also causes the organ descent, and this stretch creates ligamentous pain (Polden & Mantle 1990). Needling T10–L1 innervates the uterus, and thus, needling of this dermatome also provides another entry point to assist in 'layering' (Bradnam 2003) for pain relief in the central nervous system. This segmental needling creates further release of endorphins.

Doggweiler-Wiygul & Wiygul (2002) suggested that referred pain from motor activity in active myofascial trigger points in the pelvic floor and pelvic organs can be the sole cause of chronic pelvic pain. Therefore, further pain relief was planned by later offering trigger point needling of the quadratus lumborum and piriformis muscles once core stability was improved.

#### *Outcome measurement and results*

Since the beginning of treatment, the subject had only been able to recall one night that she had slept through undisturbed, but her urinary frequency had reduced from 10 to six voids per day. She explained that she was now feeling more positive about her condition, and more in control of both her bladder and pain.

The subject menstruated for 4 days between 1 and 8 April 2008; she described heavy blood loss and feeling 'weak' at her review on the 8 April 2008. Despite feeling jaded, she reported a reduction in the normal pain level that she experienced during menstruation and was very happy with the effects of treatment thus far.

The substantial drop in the subject's VAS pain rating from 8/10 to 3/10 correlates with a study by Maric (1984), who demonstrated a significant reduction in pain after just one menstruation. However, the technique of the above author was different: Maric (2004) provided acupuncture for three consecutive days prior to menstruation over three cycles. Furthermore, it took a year for 93% of the 32 subjects to achieve total pain relief.

Relying on patients' own comments regarding their pain reduction is fraught with problems. By its nature, pain is wholly subjective, and thus, open to many factors that may bias it and the score elicited by subjective enquiry. Whilst the VAS attempts to objectify this score, pain is merely a subjective report in the end.

**Table 1.** Acupuncture point selection rationale: (LV) Liver; (KI) Kidney; (SP) Spleen; (GV) Governor Vessel; (BL) Bladder; (GB) Gall Bladder; (CV) Conception Vessel; (VAS) Visual Analogue Scale; and (N/A) not applicable

Date	Acupuncture point	Desired effect	Desired mechanism	Needle size	De qi	VAS score	Adverse effects
25 March 2008	LV2, LV8, KI6, SP6, SP9, GV20	Pain relief and to ease anxiety, assist sleep, balance pelvic blood flow, boost oestrogen, and elevate mood	Descending inhibition	Below knee or elbow: 25 × 0.25 mm; above knee or elbow: 40 × 0.3 mm	Yes	8	Drowsy
28 March 2008	As above+BL25	Pain relief and reduction of abdominal distension	As above	As above	Yes	8	N/A
1 April 2008	As above	Pain relief	As above	As above	Yes	6	N/A
8 April 2008	BL23+GB34	Pain relief, and nourishment of blood post-menstruation and to boost qi (at source point)	Dorsal horn and descending inhibition	As above	Yes	5	N/A
15 April 2008	SP6, SP9, KI6+CV6	Pain relief, and to improve qi and blood supply to pelvis	As above and local pain gate effects	As above	Yes	3	N/A

## Conclusion and limitations

Dysmenorrhoea is a visceral type of pain and, therefore, nociceptive. Its cyclic nature enables therapists to pre-empt its associated discomfort. The release of relaxin exacerbates the support failure of the suspensory ligaments, and thus, the discomfort related to the prolapse also worsens at this time; therefore, pain reduction after a single menstruation must be viewed with caution. A longitudinal study would offer more insight. Indeed, as Sim & Arnell (1993) warned: "To enable inferences to be made on the basis of measurements, evidence of measurement validity must be provided."

An outcome measurement to concurrently measure not just a quantitative change, but also a qualitative one (e.g. quality of life) would be ideally suited to this situation, but as Jette (1993) feared, the ideal tool to measure quality of life remains elusive to physiotherapy clinical practice.

The results of the present case report cannot be generalized, despite the subject being a representative of this patient population. The patient's description of her pain is also open to enormous bias. Obviously, her pain reduction and subsequent mood changes cannot be solely attributed to the effects of acupuncture since a course of NSAIDs had also been commenced, alongside a specific PFM exercise prescription.

## Discussion

After her first appointment, the subject was taught self-management of the GV20 point in an attempt to facilitate a brighter mood and so improve her perceived locus of control. Concurrent emotional and physical treatments were employed in order to treat the patient as holistically as possible. The 'reasoning bridge' described by Edwards *et al.* (2005) helped to marry the subjective and objective aspects of the presentation.

In recognition of the possibility that an age-related reduction in oestrogen levels was beginning to cause pelvic floor weakness, KI6 was used to treat the subject. Spleen 6 and SP9 were employed to address the dysmenorrhoea in particular, SP9 being a He-sea point that assists blood flow regulation within the pelvis in tandem with the other He-sea point selected for the same purpose, LV8. The SP meridian was also used because it is known that it helps to open up the LV and KI meridians. Liver 2 was also used for its useful calming effect. The needles were placed bilaterally.

The subject felt quite drowsy after her first acupuncture session, but this may have been because of an inadequate intake of food prior to her treatment. Her level of discomfort remained unchanged at the second session. Furthermore, uncomfortable abdominal distension had also become apparent, and thus, BL25 was added to the treatment to address this.

At the subject's third appointment, her VAS score was reduced to 6/10 and she described a feeling of increased confidence. Therefore, the same acupuncture points were used in order to maintain the apparent beneficial effect.

On her fourth visit, the subject explained that she had had her period. Since then, she had felt slightly less pain (VAS=5/10), but felt mostly 'worn out and drained'. Because she described a heavy flow, GB34 was employed bilaterally to nourish her blood, and BL23, the source point of qi, was used to boost her energy levels.

At her most recent treatment session, the subject recorded a VAS score of 3/10, and explained that she felt healthier and more confident. She was very pleased with the reduction in her pain. Her urinary frequency had resolved to six voids (normal value), she had been able to sleep through the night once in the previous week, and she felt 'more active and able' and was thus happier. Spleen 6 and SP9 were used once again: SP6 as the cardinal point for gynaecological conditions, and SP9 to balance the blood flow and qi to the pelvis. Kidney 6 was employed to maintain oestrogen levels in order to assist her PFM rehabilitation, and CV6 was used to directly increase the local blood flow in the pelvis.

Treatment is ongoing.

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