

Acupuncture for Lower Back and Pelvic Pain in Late Pregnancy: A Retrospective Report on 167 Consecutive Cases

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ABSTRACT

Adverse and analgesic effects of acupuncture during the second and third trimesters of pregnancy were studied retrospectively in an observational study including 167 consecutive patients with lower back pain, pelvic pain, or both. In each patient acupuncture was given on at least two different occasions by three manual stimulations of two or more acupuncture or tender points, mainly LR-3 and LI-4 together with local tender points, at 15-min intervals. Possible adverse and analgesic effects were assessed by the midwife responsible for the acupuncture given in each patient. There were no abortions and no influence on the delivery course of the infants, but transient premature labor was observed during the fourth stimulation carried out in the 15th gestational week in one woman. Other possible adverse effects, like transient dizziness or tiredness, were reported in 35 patients (21%). Analgesia, as assessed by midwives involved, was good or excellent in 72% of patients. Acupuncture seems to be safe and effective for pain relief in lower back pain, pelvic pain, or both during the second and third trimesters of pregnancy. Nevertheless, prospective randomized studies are needed to confirm these findings.

Lower back or pelvic pain is reported by almost half of pregnant women [1,2]. It is often left insufficiently treated, possibly because of fear among pregnant women of using analgesic drugs, although individually designed training programs have been reported to reduce the extent of sick leave [2]. Acupuncture given either by manual stimulation or by low- or high-frequency electrostimulation provides effective relief in lower back pain [3,4] and in a recent American consensus conference by the National Institutes of Health was considered as a useful alternative to, or complement of, traditional analgesic methods for lower back pain [5]. The present retrospective study was designed to evaluate adverse effects and possible analgesic effects of manual acupuncture for lower back pain, pelvic pain, or both in late pregnancy.

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Patients and Methods

This retrospective study was undertaken at 12 maternity wards in Sweden. One hundred sixty-seven pregnant patients without a history of infertility or spontaneous abortion presenting consecutively at the maternity wards with lower back pain, pelvic pain or both were included. Each patient was given acupuncture at least twice by 1 of 17 specially trained midwives after individual approval by the responsible obstetrician. No patient with a history of infertility or more than one spontaneous abortion was included in the study. For different reasons, three deliveries could not be followed up, and these patients were excluded. After each delivery the midwife, consulting the case book, filled out a questionnaire including information on initial distribution of pain, gestational week at first treatment, duration and number of treatments, total effect on pain intensity (on a 5-point scale), adverse effects, gestational week on delivery (in some cases just "full term"), and course of delivery, including neonatal status of the infant as assessed by the responsible obstetrician.

The acupuncture points in Figure 1, together with local tender points, as in Figure 2, were chosen to produce analgesia for lower back pain (e.g., BL-57, BL-60, and SI-3), more general analgesia (e.g., LR-3, SP-9, ST-36, GB-34, and LI-4), or both. The points were stimulated manually to achieve Dechi* three times at 15-min intervals with the needles left in position between stimulations. All needles were removed after the third stimulation.

Results

Most patients (68%) had both lower back and pelvic pain, 29% had pain in the back only, and 3% had pain exclusively in the pelvic (gluteal or coccygeal) region. Between four and eight acupuncture and local tender points were stimulated in 89% of patients. Those points used most frequently, in 46–72% of the patients, were LR-3 (Taichong) and LI-4 (Hegu), together with local points in the lower back and girdle regions (Figure 2). No other acupuncture point, that is, SP-9 (Yinlingquan), GV-20 (Baihui), BL-57 (Chengshan), BL-60 (Kunlun), ST-36 (Zusanli), SI-3 (Houxi), and GB-34 (Yanglingquan), was used in more than one third of the patients. The total analgesic effect of acupuncture was estimated by the midwives to have been good or very good in 72% of the patients (Figure 3). Acupuncture had been given on more than three occasions in 47% of patients with moderate, good, or excellent effect and in 17% of those with no or dubious effect.

There were no major adverse effects (Table 1) except for one patient with premature labor, which spontaneously disappeared completely within 24 hr. This patient had been given acupuncture on five occasions from week 13 before the episode of premature labor during the sixth stimulation in week 15. She had no further stimulation and was delivered uneventfully in week 42. Painful uterine contractions, nausea, thirst, discomfort from needles, sweating, accentuated pain, and sadness were reported by single patients (Table 1) and passed within minutes or a few hours. One woman with a verified sudden transient fall in blood pressure during stimulation had been given acupuncture twice with reported good effect in weeks 29–30 and had a normal delivery in week 40.

Three women were delivered before full term. The first woman was given acupuncture on four oc-

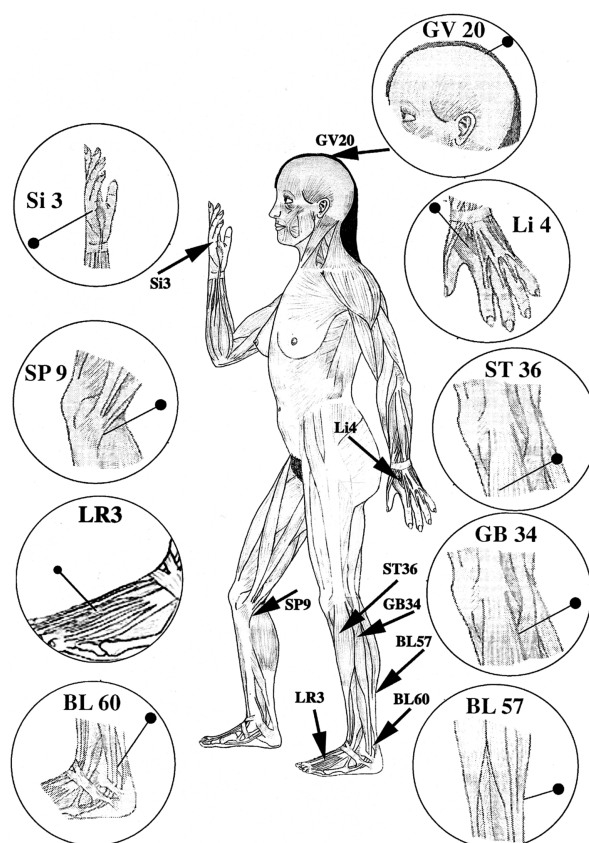


Figure 1 Acupuncture points stimulated during the second and third trimesters of pregnancy. From the top of the skull counterclockwise: GV-20 (Baihui), SI-3 (Houxi), SP-9 (Yinlingquan), LR-3 (Taichong), BL-60 (Kunlun), BL-57 (Chengshan), GB-34 (Yanglingquan), ST-36 (Zusanli), and LI-4 (Hegu).

casions between weeks 29 and 32 with good effect and was delivered in week 36 with the child assessed as small for date. The second woman was stimulated twice in weeks 25 and 26 with no effect and was delivered in week 35 with no problems. The third woman was stimulated seven times between weeks 30 and 36 with excellent effect and delivered in week 37. Her child was found to have a cardiac murmur, which later disappeared spontaneously. The health of each other child was assessed as normal by the obstetrician in charge.

Discussion

Although acupuncture during pregnancy is mentioned in some textbooks [6,7], caution is at the same time advised [7]. Fear of inducing labor still prevents many acupuncturists from giving pregnant women acupuncture, although electroacupuncture

*Dechi is a Chinese word meaning "arrival of energy" and is reported by patients as a characteristic feeling at the point of the needle of distinct pain, heat, numbness, or soreness.

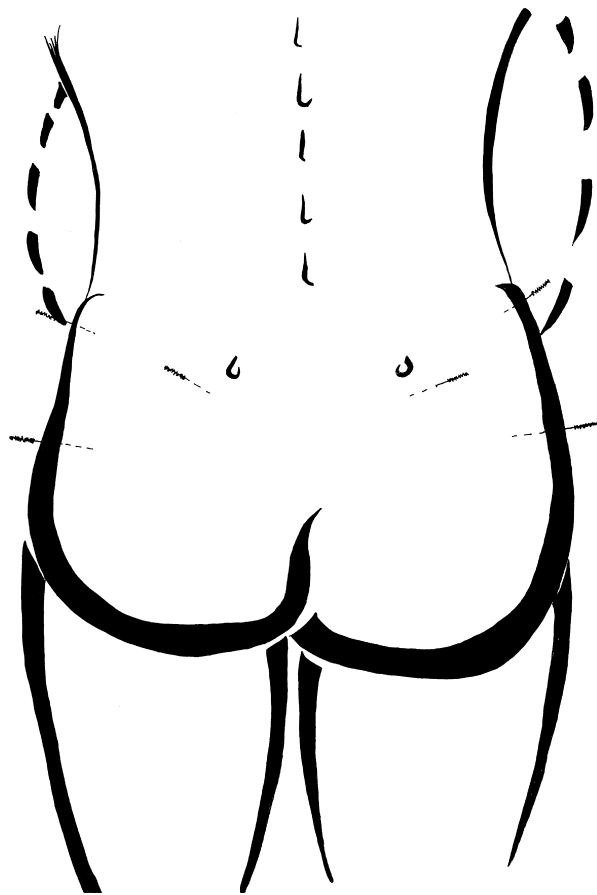


Figure 2 Local tender points stimulated during the second and third trimesters of pregnancy.

has been reported to have failed in inducing labor, and even to have abolished premature labor, during the second or third trimesters of pregnancy [8]. Electroacupuncture and manual acupuncture have

both been found to produce analgesia in lower back pain at rest and during various activities 6 weeks after the start of stimulation, and in the same study low-frequency electroacupuncture was even shown to provide persisting pain relief after 6 months [3]. Despite possible long-term advantages of electroacupuncture over manual acupuncture [3], manual stimulation was preferred to high- or low-frequency electrostimulation in the present study to interfere minimally with pregnancy [9], also bearing in mind that lower back pain in pregnancy is often entirely nociceptive and associated with a short patient history of pain.

For safety reasons acupuncture was provided during the second and third trimesters of pregnancy only in the present study. Stimulation of a large number of acupuncture and local tender points during pregnancy seems to be safe with respect to obstetric adverse effects. First, stimulation of the acupuncture points LI-4 and LR-3 together with local tender points below the umbilical level was carried out in almost all patients, although their use for acupuncture during pregnancy has been strongly abandoned by others [7]. Second, all adverse effects reported here were non-obstetric except the episode of reversible uterine contractions found in one patient.

The analgesic effects of acupuncture during late pregnancy reported here, however, should be interpreted cautiously because the study is retrospective and has no control group. Moreover, in each patient acupuncture was given and pain assessed by the same person, and evaluation criteria for analgesic effect were not clearly defined from the start.

These results suggest that acupuncture, as used in the present study, is safe and might be effective in

Proportion of patients (%)

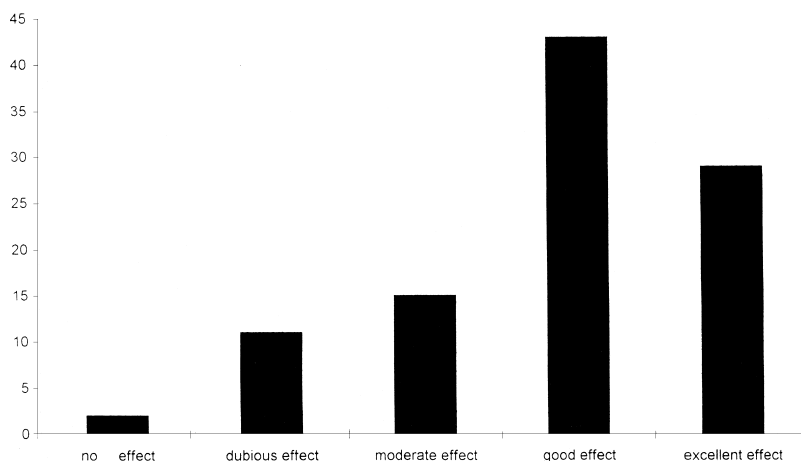


Figure 3 Effects of acupuncture in lower back and/or pelvic pain during late pregnancy as assessed retrospectively by the midwives involved.

Table 1 Adverse effects of acupuncture

Symptoms	No	%
Dizziness	9	5
Tiredness	7	4
Local subcutaneous bleeding	3	2
Localized pain	5	3
Localized anesthesia	2	1
Various	8	5
Total	29	17

lower back and pelvic pain during the third trimester of pregnancy. Nevertheless, controlled prospective and blinded studies are required to confirm these findings and to facilitate future selection of pregnant patients with pain suitable for acupuncture [9].

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References

- 1 Berg G, Hammer M, Möller-Nielsen J, Thornblad J. Low back pain during pregnancy. *Obstet Gynaecol* 1988;71:71–5.
- 2 Ostgaard HC, Andersson GBJ, Karlsson K. Prevalence of back pain in pregnancy. *Spine* 1991;16:549–52.
- 3 Tomas M, Lundberg T. Importance of modes of acupuncture in the treatment of chronic nociceptive low back pain. *Acta Anaesthesiol Scand* 1994;38:63–9.
- 4 Darvey TA, Marks MR, Wiesel SW. A prospective, randomized, double-blind evaluation of tender-point injection therapy for low-back pain. *Spine* 1989;14:962–4.
- 5 National Institutes of Health (NIH) consensus development panel on acupuncture. *JAMA* 1998;280:1518–24.
- 6 Mann F. Textbook of acupuncture. London: William Heinemann Medical Books; 1987:575.
- 7 Low R. Acupuncture in gynaecology and obstetrics. An essential guide for practitioners and students. London: Thorsons; 1990:79.
- 8 Tsuei JJ, Lai Y-F, Sharma SD. The influence of acupuncture stimulation during pregnancy. *Obstet Gynaecol* 1977;50:479–88.
- 9 Wedenberg K, Moen B, Norling Å. A prospective randomised study comparing acupuncture with physiotherapy for low-back and pelvic pain in pregnancy. *Acta Obstet Gynaecol Scand* 2000;79:331–5.