Acupuncture: an Alternative Treatment for Post Dural-Puncture Headaches Following Obstetric Epidural or Spinal

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Summary
Six obstetric patients were treated with acupuncture for post dural-puncture headaches. Five had had epidurals for pain relief in labour and one a spinal for an elective lower segment caesarean section; all had developed a post dural-puncture headache, although in the epidural group not all had an obvious CSF leak. After explaining the options available for treatment of post dural-puncture headache, verbal consent was obtained to perform acupuncture. Minimal needling was done using 0.25 by 30mm sterile disposable needles. The points were chosen from: LR.3, bilateral cervical articular pillar (CAP) as described by Felix Mann, and GB.12, 14, 20 and 21. The CAP points and LR.3 were needled in all patients; other points were chosen according to the site of headache and the location of tender points. Four patients had complete relief of symptoms from the onset of treatment. They were given a second treatment one or two days later and then discharged home. Two patients had only a transient relief lasting about four hours. They were not given a second acupuncture treatment, but were blood-patched with a successful outcome.

Key words
Acupuncture, Blood patches, Low CSF pressure headache, Obstetric epidural, Spinal analgesia.

Introduction
Epidurals and spinals are widely used in obstetrics for pain relief and surgery. Epidurals are performed using thicker, 16 to 18 gauge, Touhy needles with the introduction of a catheter into the potential epidural space. Both the needle and the catheter can accidentally puncture the dura. Spinals are done with much slimmer needles (24 to 27g) and the dural puncture is intentional. Leakage of cerebrospinal fluid (CSF) is small, and the incidence of headache is less with spinals than with epidurals.
With leakage of CSF from the puncture site, there is a drop in CSF pressure. This removes the cushioning effect the CSF has on the sensitive intra-cranial structures. The main symptom is headache which is worse when assuming the erect posture: its distribution is usually occipital but may sometimes be frontal. Other symptoms are: neck stiffness, nausea and vomiting, and photophobia. These symptoms are distressing to the patient and could very rarely have long term effects; however they can occur without an obvious CSF leak (1).

Method
During the year 1996 six patients developed post dural-puncture headache (PDPH) at the Queen Elizabeth II Hospital in Welwyn Garden City. Five had had epidurals for pain relief in labour and one a spinal for elective lower-section Caesarean section. Three patients in the epidural group did not have frank CSF leak (1). The incidence was 0.9%. Epidurals had been performed using an eighteen gauge Touhy needle and the spinal with a twenty four gauge Sprotte needle. It has been our practice to manage PDPH conservatively with bed rest, good hydration and simple analgesics. If there is a failure to respond to this form of treatment within two days, an autologous blood patch is offered (2,3), which carries a first time success rate of 95%.

Acupuncture was offered as an alternative to conventional treatment to all the six patients suffering PDPH during 1996, and was readily accepted, as all the patients showed a reluctance to have a blood patch because of the necessity for a second epidural. It was explained that a blood patch would be the choice of treatment if acupuncture failed.

The acupuncture points were selected from the following: Liver 3, bilateral cervical articular pillar (CAP) as described by Felix Mann (4), and bilateral Gall bladder 12, 14, 20 and 21. LR.3 and bilateral CAP points were used in every case, while the gall bladder points were chosen according to the location of tender points (5) and the site of the headache. Disposable stainless steel acupuncture needles (0.25 by 30mm) were used. Minimal needling was done and the whole procedure took less than two minutes.

Results
All six patients showed an immediate response to acupuncture. All felt very relaxed to the extent of two falling asleep for a brief period. Four patients remained symptom free at the second visit one or...
two days later. They were given a second treatment at this time and discharged home, apart from the patient who had had the caesarean section, who remained for surgical recovery. The discharged patients were advised to report if their headaches returned, but in fact they remained symptom free. The patients who had had only transient relief were blood-patched on the second day.

Case histories

1. Mrs AJ, a 30 year old healthy primigravida, requested an epidural for pain relief in labour. The epidural catheter was dislodged a few hours after placement, and was re-sited. The epidural gave good analgesia and there was no documentation of a dural puncture, however she developed a typical low CSF pressure headache soon after delivery. She was blood-patched immediately, which was rather unusual as we tend to treat conservatively for the first two days. The blood patch, for some inexplicable reason, made her symptoms worse. She had very severe photophobia, nausea, vomiting and neck stiffness, with frontal and occipital headache. Needling was at bilateral CAP points, LR.3, and GB.12,14 and 20. She had immediate relief of her symptoms and was discharged home the next day after a second treatment.

2. Mrs CS, a 23 year old healthy primigravida, requested an epidural for pain relief in labour. She suffered an accidental dural puncture at L3/4 level with an 18g Touhy needle. An epidural catheter was sited at L2/3 level without any problem. She had excellent pain relief, but developed typical symptoms of PDPH soon after a normal vaginal delivery. Acupuncture was commenced immediately to bilateral CAP points, LR.3, and GB.14 and 20. She had only transient relief for about four hours, so she was blood-patched the next day obtaining good benefit.

3. Mrs KK, a 38 year old primigravida, had a spinal anaesthetic for the delivery of her in-vitro fertilised twins by elective lower-segment caesarean section. A 24g Sprotte needle was used. The intra-operative and the immediate post-operative period was uneventful, but she developed a low CSF pressure headache on the second post-operative day. She was managed conservatively for two days without improvement of her symptoms. Acupuncture was performed on the third day using bilateral CAP points, LR.3 and GB.14. She had immediate pain relief, and when she had a second treatment two days later there had been no recurrence of her headache.

4. Mrs JW, a 41 year old lady, requested an epidural for pain relief in labour. There was no documented evidence of dural puncture. She was a migraine sufferer, otherwise healthy. She complained of headache once during labour, which settled with an oral dose of paracetamol. She then had an emergency lower-segment caesarean section under general anaesthetic, since the epidural block was inadequate for surgery.

The intra-operative and the immediate post-operative period was uneventful, but she developed a typical PDPH on the second post-operative day. On detailed questioning she stated that this headache was entirely different from her normal migrainous headaches.

She was minimally needled to bilateral CAP, bilateral GB.14 and LR.3, and was immediately relieved of her symptoms. After treatment on two consecutive days, she was completely symptom free on the third day of treatment and remained so until she was discharged from hospital.

5. Mrs LD, a 20 year old primigravida, had an epidural for analgesia during labour. There was no documented evidence of a dural puncture either with the Touhy needle or the catheter. She developed a headache during labour which settled without treatment.

Soon after a forceps delivery she developed typical a PDPH that did not improve with simple analgesics. Acupuncture was commenced on the third day post-delivery. Minimal needling was done at bilateral CAP, bilateral GB.20 and LR.3. She experienced a great relief of her symptoms. On the second visit, the next day, she was completely symptom free except for a very mild ache in her neck. On the third day she was very well and was discharged home.

6. Mrs JH, a 28 year old primigravida, requested an epidural for pain relief during labour. There was difficulty in locating the epidural space, but this was successful at the second attempt. There was no documentation of a dural puncture. She was delivered by lower-segment Caesarean section under a general anaesthetic, since though the epidural analgesia was adequate for labour it was not a sufficiently uniform block to perform surgery.

On the second post-operative day she developed typical symptoms of PDPH. Acupuncture treatment was commenced on the third post-operative day. She was minimally needled at bilateral CAP, bilateral GB.20 and 21, and LR.3 on two consecutive days. She had good needling sensation (de qi), and felt very relaxed and sleepy but her pain relief lasted for only about six hours after each treatment. Acupuncture was therefore discontinued and she was given a blood patch which resolved her symptoms.

Discussion

Acupuncture has been reported as effective in the treatment of various forms of headache (6-10), so post-dural-puncture headache might be expected to respond. The neck stiffness and the band-like tightening that the patient experiences is due to the nuchal, occipital and frontalis muscles going into spasm. The tender points elicited in these muscles are sited on the gall bladder meridian, so gall
bladder points are used. Needling the CAP also involves tender points in the neck muscles. Liver 3 is used as a general analgesic (endorphin releasing) point.

Of the six cases under discussion, four had no documented evidence of dural puncture, one had had a spinal, and only one had had a recorded dural puncture with a Twohy needle. All developed typical post dural-puncture headache, and all initially responded well to acupuncture. However, short term headache relief only was reported by the one patient with documented Twohy needle dural-puncture and by one of the four with no documented puncture. On this anecdotal evidence it might be suggested that acupuncture is likely to be more effective for headache following smaller rather than larger holes in the dura.

Blood patching is an invasive technique, requiring skilled assistance. Special arrangements may have to be made if it is performed separately from the original procedure, since it is not normally done on the ward. Introduction of infection and a second dural puncture are both a possibility. The epidural set is relatively expensive and the procedure is time consuming.

Acupuncture, on the other hand, is a minimally invasive procedure that can be performed on the ward by one person with the whole procedure taking only a few minutes. The cost is very small and the patients are usually left relaxed and satisfied.

Conclusion
Acupuncture appears to be a simple, effective way of treating post dural-puncture headache. It could reasonably be tried as a first line of treatment before attempting a blood patch.

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