ACUPUNCTURE AND POSTOPERATIVE VOMITING IN CHILDREN

Sir,—For acupuncture analgesia to be developed from stimulation of an acupuncture point, an intact nervous system is required. It has been shown [1–3] that injection of local anaesthetic to the muscle beneath the acupuncture point abolishes and prevents the development of acupuncture analgesia. This abolition of acupuncture analgesia is related to the blocking of De Qi sensation. It is also accepted generally that acupuncture analgesia is of slow onset and long duration and there is therefore an induction period required for stimulation [4].

The paper by Yentis and Bissonnette [5] would therefore confirm both the need for an intact nervous system, as all their patients were anaesthetized before the acupuncture point was stimulated, and the need for an induction period.

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Sir,—The paper by Yentis and Bissonnette [1] concerning P6 acupuncture in children undergoing tonsillectomy raises several interesting points.

Dundee and colleagues [2] and Fry [3] have demonstrated that P6 stimulation (acupuncture needleling, electroacupuncture or non-invasive acupressure) is an effective postoperative antiemetic in adults. Yentis and Bissonnette [1] suggest that children often respond well to acupuncture and are included in the group termed “strong reactors”. However, their findings would suggest otherwise and are in agreement with the only other comparable study in children using P6 acupressure, in which a non-invasive stimulus was used 1 h before surgery [4] in order to overcome the objection of Dundee [5] that, for acupuncture (and presumably acupressure) to be effective, it must be applied before the emetic stimulus. Yentis and Bissonnette [1] indicated correctly that acupuncture was likely to be unacceptable to both children and parents before anaesthesia. Their children received 5 min of manual needling at the left P6 wrist point immediately after intubation of the trachea, but before the start of surgery. It may be argued that several emetic stimuli occurred before acupuncture was applied, including thiopentone, nitrous oxide and pharyngeal stimulation.

Only one study [6] has found P6 stimulation (acupuncture needling) to be ineffective in adults for treatment of postoperative emesis. This failure also may have been a result of the timing of acupuncture [5], as discussed above, or a result of the small number of subjects. Of all the quoted studies concerning P6 stimulation, only Yentis and Bissonnette [1] and Lewis [4] defined the “clinical antiemetic effect” (reduction in the incidence of vomiting from control to test groups) which the study was designed to detect, using power analysis [7] to link sample size, antiemetic effect and significance level. However, Dundee [2] indirectly compared P6 stimulation with antiemetic drugs, and found it to be as effective as metoclopramide 10 mg and cyclizine 50 mg, but less effective than droperidol 2.5 mg.

Finally, there is a high incidence of postoperative vomiting after discharge from hospital in children. Wilton and Burn [8] found that 56% of children receiving perioperative papaveretum vomited after discharge, within the first 24 h. The authors suggested that early ambulation and travel may have contributed to the incidence of emetic symptoms. Yentis and Bissonnette [1] recorded only the overall incidence of vomiting in the first 19.6 h (on average); it would have been interesting to record the incidence of vomiting at home. Lewis and colleagues [4] found a greater rate of vomiting at home than during the period within hospital among children undergoing outpatient strabismus correction; this finding was similar for both control and acupressure groups.

Current evidence suggests that P6 stimulation is ineffective as an antiemetic in children. Even if a small antiemetic effect can be demonstrated by large controlled studies, invasive acupuncture is unlikely to become popular because of the problems of acceptability and timing. Acupressure is clearly more acceptable in awake children; however, it appears to have a shorter duration of action compared with invasive methods in adults [2]. Children are unlikely to tolerate continuous, accurately applied, P6 acupressure over long periods as a treatment for late postoperative vomiting.

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Sir,—Thank you for the opportunity to reply to these letters. Whilst the mechanism of acupuncture antiemesis is unknown, it would appear that acupuncture requires an intact nervous system, as suggested by Dr Nash, as it has been shown to reduce vomiting when administered before [1] and after [2], but not during [3], anaesthesia. In addition, Ghaly and Dundee reported that local anaesthetic infiltration of the P6 point prevented the antiemetic effect of stimulation [4].

With regards to an induction period, I have used P6 acupuncture in a few cases of acute travel sickness and gastroenteritis, and have found relief consistently to occur within a few minutes of stimulation, although it is often short-lived. This is similar to the rapid onset of relief that often follows acupuncture for other conditions.

As Lewis and Wilton state in their letter, invasive P6 acupuncture is unlikely to become popular in paediatric anaesthesia. Dundee’s suggestion that the acupuncture must precede the emetic stimulus in order to be effective [1] is not supported by the study of Ho and colleagues, in which postoperative acupuncture significantly reduced vomiting after gynaecological surgery [2]. It is thus possible that anaesthesia suppresses the antiemetic effect of acupuncture (and that is more important than its timing), requiring administration to awake patients.