and in cancer chemotherapy [3]. Recently, we have reviewed the published evidence for an antiemetic action of stimulation of P6 [4], and it is becoming clear that all methods of stimulation are not equally effective.

An invasive approach (acupuncture with manual rotation or electrical stimulation of the needle) has a much more consistent effect than non-invasive methods (transcutaneous electrical stimulation or acupressure). This is evident particularly when there is a strong emetic stimulus such as with meptazinol [5] or nalbuphine premedication [6], or highly emetic chemotherapy [7]. Strabismus operations also fall into this class. There is one report showing a reduction in postoperative sickness when acupuncture was combined with neuroleptanaesthesia in eye surgery [8]. In contrast, indirect stimulation such as transcutaneous electrical stimulation and acupressure, is shorter acting and less effective than acupuncture [3, 6]. Surprisingly, we have not been able to find any scientific evidence for the efficacy of acupressure in travel sickness [4].

In common with many others, we have included both emesis and nausea as an "emetic response" and this may not be appropriate with acupressure. Barsoum, Perry and Fraser [9] found a significant reduction of postoperative nausea (but not vomiting) after the use of acupressure, and a recent study of chemotherapy sickness has shown a reduction of nausea with acupressure [10]. While acupressure alone produces little benefit in reducing sickness from cisplatin-like drugs [3], transcutaneous electrical stimulation has a synergistic action with ondansetron in treating residual nausea [11].

We are now accumulating evidence on the efficacy and possible mode of action of P6 antiemesis. This effect may be blocked by local anaesthesia [12], it has to be given before the emetic stimulus [13], and it now appears that different methods of stimulation produce differing effects [1, 4].

REFERENCES


Sir,—Thank you for the opportunity to respond to the letter by Professor Dundee and Dr McMillan. Earlier investigations of P6 acupressure [1–3] are not directly comparable with our study [4]; there are differences in study design, population, emetic stimulus, measured responses and statistical analysis. All the previous studies investigated adults, and none defined an antiemetic effect that was considered clinically significant (our study was designed to detect a 50% difference in the incidence of vomiting between two groups), or discussed the calculation of sample size. Nonetheless, our findings were different from these earlier studies: we were unable to demonstrate an antiemetic effect using P6 acupressure.

We would agree that the available evidence suggests that invasive acupuncture is more effective and has a greater duration of action compared with non-invasive methods. However, for P6 stimulation to be effective it must be applied before the emetic stimulus [5]. Clearly, acupuncture would not be tolerated by the majority of awake children. Although we chose to use acupressure before anaesthesia and surgery, an alternative may have been to administer acupuncture immediately after induction of anaesthesia.

Finally, Professor Dundee suggests that acupressure may be effective in reducing the incidence of nausea, but less effective in reducing the incidence of vomiting. We recorded the incidence of postoperative nausea and vomiting during recovery in hospital; only vomiting was recorded at home by the parents. In fact, only one child in the study felt nauseated without vomiting in hospital and that child later vomited at home; the results for nausea or vomiting were therefore almost identical.

I. LEWIS
Southampton
S. PRYN
Oxford
P. REYNOLDS
Ann Arbor
U. PANDIT
N. WILTON

REFERENCES


NO HEPARINIZATION WITH THE CELL SAVER

Sir,—Dr Columb's letter [1] may mislead those unfamiliar with cell salvage as an autotransfusion technique. The "Cell Saver" is a machine made by Haemonetics which we have used extensively over 8 years [2]. Blood coagulation profiles are monitored routinely and no evidence of heparin overspill has been seen.

The problems Dr Columb describes are with the "Kardiotmor" system. They emphasize the importance of machine design and maintenance. Bedside (in-theatre) monitoring of activated partial thromboplastin time and prothrombin time is now available (512 Coagulation Monitor, Ciba Corning), and where cell salvage machines are used with large amounts of heparin, with risk of