Acupuncture at the pericardium 6 (P6) point reduces postoperative nausea in children after tonsillectomy with and without adenoidectomy

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Background

Tonsillectomy with or without adenoidectomy is one of the most common operations in the pediatric population, with an estimated 200,000 performed each year. Postoperative nausea and vomiting (PONV) presents a challenging and significant postoperative complication for many children. Without antiemetic prophylaxis, 70-90% of children experience at least one episode of postoperative vomiting. Many recent studies of the use of acupuncture for the prevention of PONV in adults have shown a significant benefit. However, in children there is little information on the efficacy of acupuncture for the prevention of PONV, especially when combined with usual antiemetic therapy (ondansetron and dexamethasone). Is intraoperative acupuncture at the pericardium 6 (P6) point plus intravenous (IV) antiemetic therapy more effective than IV antiemetics alone in preventing PONV in pediatric patients following tonsillectomy with or without adenoidectomy?

Methods

- Randomized double-blinded trial of P6 acupuncture in children (age 3 through age 9 years old, ASA 1-3 physical status) that underwent tonsillectomy with or without adenoidectomy.
- Patients were randomized to receive either acupuncture immediately after anesthesia induction plus antiemetic therapy (A + AE) or antiemetic therapy only (AE).
- Anesthesia techniques were standardized and the usual antiemetic therapy (ondansetron 0.15mg/kg and dexamethasone 0.25mg/kg up to 10mg) were given to both groups.
- P6 needles were placed after anesthesia induction and removed prior to arrival in PACU (Fig 1).
- Older children were queried about nausea in the post-anesthesia care unit (PACU) during phase one and phase two recovery. Vomiting was assessed in the recovery period by documenting observed vomiting and retching events.

Results/Discussion

- 161 children satisfied the inclusion criteria. Randomized into 2 groups:
  - Acupuncture plus antiemetic therapy (A + AE, N=86)
  - Antiemetic therapy only (AE, N=75)

- There were similar patient demographics between the two groups. There was a statistically significant difference in the time spent in the Day Stay (Phase II) recovery period (Table 3).
- In Phase I recovery, there was a significant reduction in the incidence of nausea, with only 2% of the acupuncture plus antiemetic therapy (A + AE) group having nausea compared with 26.7% in the antiemetic therapy only (AE) group (P <0.001, relative risk = 11.5, 95% CI: 2.8 – 47.4).
- This reduction in nausea persisted into Phase II recovery, with nausea occurring 5.8% in the acupuncture plus antiemetic therapy (A + AE) group compared to 30.7% in the antiemetic therapy only (AE) group (P<0.001, relative risk = 5.3, 95%CI: 2.1 – 13.2). (Table 1)
- There was no statistically significant difference in nausea between the two groups in the 24-hour period after surgery (Table 1).

References