ACUPUNCTURE AS AN ANTI-EMETIC IN MINOR GYNAECOLOGICAL SURGERY

Sqn Ldr RM SHARMA*, Lt Col AK BHARGAVA+

ABSTRACT

A study was undertaken to evaluate the effectiveness of acupuncture as an anti-emetic in patients undergoing minor gynaecological surgery. 100 patients were studied divided into study group (Group I) and control group (Group II) of 50 patients each. In group I patients, acupuncture needle was inserted at acupuncture point P6, 10 minutes before induction of anaesthesia. In group II, no acupuncture was used. Anaesthetic technique was similar in both the groups. Five patients (10%) in group I and twenty (40%) in group II had one or more emetic episodes. These results show that acupuncture can be one of the modalities for the prevention of nausea and vomiting in postoperative period and its use as an anti-emetic should be explored further.

MJAFI 1994; 50 : 279-281

KEY WORDS : Minor gynaecological surgery; Acupuncture point P6 (Neiguan); Postoperative vomiting.

Introduction

Despite improvements in anaesthetic techniques, post-operative vomiting still remains a problem, particularly when an opioid is given before or during anaesthesia. Post-operative nausea and vomiting delay recovery and cause post anaesthetic morbidity. Patients undergoing minor gynaecological procedures are at greater risk for developing post-operative nausea and/or vomiting [1]. Available anti-emetic agents have undesirable side effects all of which may compound patient morbidity.

Most studies of acupuncture are about its analgesic effects. The objective of this study was to determine whether manual stimulation of the P6 acupuncture point (Neiguan) is effective, compared with control group in the prevention of post-operative nausea and vomiting in patients undergoing minor gynaecological surgery.

Material and Methods

One hundred patients of age range 17 to 45 years in ASA physical status class I - II were

studied after obtaining informed consent.

Patients in first trimester of pregnancy undergoing MTP and those of dysfunctional uterine bleeding undergoing D & C were randomly allocated to study group (Group I) and control group (Group II) of 50 patients each. Anaesthetic technique was similar in both groups. Premedication consisted of intramuscular morphine and atropine. In group I patients, acupuncture point P6 was identified as the 6th point on the pericardial 'meridian', which lies two 'cun' (Chinese body inches) proximal to the distal wrist crease, between the tendons of palmaris longus and flexor carpi radialis muscles of the right forearm, one cm below the skin. The tip of the acupuncture needle was placed near the median nerve. A cun is equivalent to the distance between the creases of the proximal and distal interphalangeal joints of the flexed index finger. A 1.2 cm 30 G sterile acupuncture needle was inserted 10 minutes before induction of anaesthesia and stimulated manually. The occurrence of heaviness, numbness or tightness (*tech-chi*) verified the correct

* Graded Specialist, Dept of Anaesthesiology, CH AF, Bangalore - 560 007. + Reader, Dept of Anaesthesiology, Armed Forces Medical College, Pune - 411 040.

positioning of the needle [2].

Anaesthesia was induced with sleep dose of thiopentone maintained with nitrous oxide in oxygen and trilene in a spontaneously breathing patient with face mask. No opioids were administered intraoperatively. In patients undergoing termination of pregnancy, methylergometrine 0.2 mg was given intravenously following evacuation. The needle was removed 15 minutes after completion of surgery. In group II patients, no acupuncture was used. The number of emetic episodes (vomiting and retching) was recorded intraoperatively and for 60 minutes following surgery. Patients having frequent emetic episodes were given metoclopramide 5 mg intravenously. No enquiry was made about the presence or absence of nausea. Monitoring included blood pressure, pulse rate and respiratory rate intraoperatively and post-operatively every 10 minutes for 60 minutes. Two groups were compared statistically by chi-square test and taken as significant when $p < 0.05$.

Results

There was no significant difference between two groups in respect of age, weight, duration of anaesthesia and surgical procedures (Table 1).

TABLE 1
Demographic data

	Group I	Group II
Mean age (years)	23.4	24.2
Mean weight (kg)	50.2	48.7
Duration of anaesthesia (min)	12.4	13.5
Surgical procedures (number of patients)		
MTP	30	29
D & C	20	21

Five patients (10%) in group I and twenty (40%) in group II had one or more emetic episodes. This difference between two groups was statistically highly significant ($p < 0.01$). There was no significant difference in vital parameters between the groups.

There were no side effects attributable to acupuncture. The quality of anaesthesia and recovery was similar in all patients, most patients were fully awake within 3 to 10 minutes at the end of anaesthesia.

Discussion

Nausea and vomiting can increase recovery time and patient morbidity. If vomiting persists in post-operative period it increases with ambulation. This is highly undesirable in outpatient setting. Nausea is a subjective sensation thus we omitted nausea as a variable in this study.

Various factors (i.e. age, sex, weight of patient, surgical procedure and anaesthetic agent) affect the incidence of post-operative emesis. During pregnancy, high incidence of nausea and vomiting are due to the effects of progesterone on gastrointestinal tract. The anaesthetic agents used in this study like morphine, nitrous oxide and trilene are also known to induce nausea and vomiting. Methylergometrine when given intravenously can further increase chances of vomiting.

In this study the incidence of emetic episodes in the study group was 10% compared to 40% in the control group. Two patients in group I and three patients in group II who vomited were obese (weight > 65 kg). Obese patients are more prone to vomit [3], and correct point location is difficult due to obliteration of anatomical landmarks. There was no adverse reaction to P6 stimulation.

The anti-emetic mechanism of action of acupuncture is probably explained by the release into the CSF of the endogenous beta endorphin which potentiates the endogenous anti-emetic tone. However, other mechanisms may also be involved. Naloxone antagonizes the antiemetic effects of acupuncture [4]. Kumar *et al* while studying the effects of intraoperative electroacupuncture on post-operative pain, noticed the lower incidence of nausea and vomiting in patients with electroacupuncture [5]. To be effective anti-emetic, it should be applied before emetic stimulus [6].

In women undergoing minor gynaecological surgery, manual P6 acupuncture point stimulation is effective in the prevention of post-operative emesis if performed in an awake patients [7]. It is safe, non-toxic and inexpensive for the prevention of nausea and vomiting.

REFERENCES

1. Patasky AO, Kitz DS, Andrews RW, Lecky JM. Nausea and vomiting following ambulatory surgery. Are all procedures created equal? (abstract) *Anesth Analg* 1988; 67 (Suppl) S1 16.
2. Dundee JW, Chestnut WN, Chaly RG, Lynar AGA. Traditional Chinese acupuncture : A potentially useful anti-emetic. *BMJ* 1986; 293 : 583-4.
3. White PF, Shafer A. Nausea and vomiting : Causes and prophylaxis. *Seminars in Anaesthesiology* 1988; 6 : 300-8.
4. Costello DJ, Borison HL. Naloxone antagonizes narcotic self blockade of emesis in the cat. *J Pharmacol Exp Thera* 1977; 203 : 222-30.
5. Kumar A, Bhattacharya A, Sharma PK, Bajaj BK. Effect of intraoperative electroacupuncture on post-operative pain. *Journal of Anaesthesiology and Clinical Pharmacology* 1993; 9 : 5-10.
6. Lewis IH, Pryn SJ, Reynold PI, Pandit UA, Wilton NCT. Effect of P6 acupuncture on post-operative vomiting in children undergoing strabismus correction. *Br J Anaesth* 1991; 67 : 73-8.
7. Ho RT, Jowan B, Fung ST. Electroacupuncture and post-operative emesis. *Anaesthesia* 1989; 45 : 327-9.