

## Prolongation of the antiemetic action of P6 acupuncture by acupressure in patients having cancer chemotherapy

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### Summary

Previous work from our department has shown that P6 acupuncture is an effective adjuvant to conventional antiemetic therapy for patients having cytotoxic drugs. However, its efficacy is limited to about 8 h. The current studies show that the application of an elasticized wrist band with a stud placed over the acupuncture point, and pressed regularly every 2 h, will prolong the antiemetic action for 24 h. This proved more effective in hospitalized patients (20/20) than in outpatients (15/20), presumably due to the encouragement given to regularly press the stud.

Nausea and vomiting remain problems with cancer chemotherapy<sup>1-4</sup> despite the use of antiemetics<sup>5</sup>. Following encouraging results with P6 acupuncture (ACP) in postoperative sickness<sup>6</sup> this has been shown to be effective in cancer chemotherapy in 105 patients who, despite the use of conventional antiemetics<sup>7</sup> had been sick following the previous treatment. Electrical stimulation (10 Hz DC) of P6 point for 5 min before administration of the cytotoxic drugs was effective in preventing sickness in 66% and only 6% got no benefit. The ACP was given with the antiemetics which the patients had been receiving.

Although there were no side effects with the ACP, the benefit only lasted 6-8 h. This was not important in hospitalized patients where the treatment could be repeated, but was a problem with outpatients. It has been shown that pressure on the P6 point (acupressure) has an antiemetic action<sup>8,9</sup>. A commercially available elasticized band with a plastic stud (Sea Band) is an effective method of applying pressure to P6 point.

We report the findings of a study in which the band was applied over P6 point immediately after ACP and the patient told to press this for 5 min every 2 h.

### Methods

#### P6 acupuncture

The anatomy of the Neiguan or Neikuan point, which lies on the pericardial meridian, is described in detail in standard text books<sup>10-12</sup> and the technique of P6 ACP used in this study is described by Lynas and colleagues<sup>13</sup> and by Dundee<sup>14</sup>. The stimulus was 10 Hz DC applied to the needle for 5 min. Acupressure was by the commercially available Sea Bands.

#### Patients

These were as in the previous study - those who, despite standard antiemetics, had troublesome sickness after a previous course of chemotherapy.

Table 1. Four point scale for assessing benefit from P6 acupuncture

Benefit	Finding
Good	A No sickness
Moderate	B Slight nausea or single bout of vomiting
Slight	C Some benefit, but still residual sickness
Nil	D Continuing sickness

Table 2. Location of tumours in the patients studied

Inpatients	(n=20)	Outpatients	(n=20)
Testes	9	Breast	13
Lymphoma	2	Lymphoma	5
Breast	2	Teratoma	1
Sarcoma	2	Oropharynx	1
Others	5		

Table 3. Number of treatments

	Inpatients		Outpatients
	Highly emetic drugs	Other drugs	Other drugs
Patients	12	8	20
Courses of treatment	27	16	43
Acupuncture treatments	48	31	43

### Assessment

Taking the opinion of the patient and the observer together with that of the nursing staff in inpatients, the effect of each treatment was graded as shown in Table 1. This is similar to the scale used by other workers<sup>2</sup>.

With inpatients this assessment included the effects during the first 6-8 h after ACP (ie until the evening of treatment) and thereafter until 24 h (ie next morning). Where the findings at the two times differed, the lowest grade was taken at the overall assessment.

Since outpatients were only seen at their next visit to the clinic, which could be 1-3 weeks after the ACP, the assessment of benefit was based entirely on their opinion.

Table 4. Degree of benefit achieved in 20 inpatients treated with P6 acupuncture followed by pressure on P6 point using Sea Bands

	Highly emetic drugs	Other drugs	Total
<b>Individual treatments</b>			
Good	35	22	57
Moderate	11	5	16
Slight	1	2	3
Nil	1	2	3
<b>Courses</b>			
Good	16	10	26
Moderate	8	6	14
Slight	1	1	2
Nil		1	1
<b>Patient overall benefit</b>			
Good	10	6	16
Moderate	2	2	4

Table 5. Grade of benefit at 8 and 24 h after acupuncture

8 h	24 h	Number of patients
A	A	54
B	B	21
A	B	2
A	C	1
A	D	1

Table 6. Degree of benefit achieved in 20 outpatients treated with P6 acupuncture followed by pressure on P6 point using Sea Bands

	Courses	Individual patients
Good	32	15
Moderate	5	2
Slight	2	1
Nil	4	2

#### Technique

After a suitable explanation, each patient had P6 ACP in their dominant forearm, the needle being stimulated electrically (10 Hz DC for 5 min, using a Meridian square wave pulsator) with the neutral lead held in the other hand. The intensity of stimulation was increased until the patient felt a tingling (Qi, Chi) in the arm or hand. In a few patients Mini tens was used as an alternative to the Meridian. The Sea Band was applied immediately after acupuncture and patients instructed to press the stud for 5 min every 2 h. Both procedures were carried out before administration of the chemotherapy.

#### Results

Table 2 lists the site of malignancy in the patients studied, while Table 3 gives the number of treatments. In the latter table those patients having high emetic chemotherapy<sup>4,15</sup> are divided from the others: no outpatient had highly emetic drugs.

On the basis already described the responses in inpatients over a 24 h period are listed in Table 4. There was no significant difference in the benefit

Table 7. Comparison of the beneficial antiemetic effects of acupuncture in outpatients and inpatients

	Inpatients	Outpatients	Total
Good	16	15	35
Moderate	4	2	2
Slight or nil	0	3	3

received by those receiving highly emetic chemotherapy (97% benefit) and the others (90% benefit). No hospitalized patient failed to benefit from acupuncture.

Table 5 shows the incidence of benefit at the end of 8 h and at 24 h: in 95% patients the antiemetic action was maintained for 24 h.

The beneficial effects achieved in outpatients (Table 6) were not as good as in inpatients, but were nevertheless worthwhile.

#### Discussion

The objective of this study was to see if acupressure would prolong the antiemetic effect of P6 acupuncture in patients having cancer chemotherapy. Clearly this was achieved satisfactorily in hospitalized patients, even in those having such highly emetic drugs as cisplatin. Here the patients were encouraged in the use of acupressure by the nursing or medical staff, and the absence of this source of prompting might explain the differences which are shown clearly in Table 7. Perhaps we were not sufficiently clear in our instructions to outpatients, as on questioning many of these appeared only to resort to acupressure when they felt sick. Instructions to those accompanying them might be of value here.

It is our practice to give the ACP immediately before injection of the chemotherapy. In a few patients (not reported here) where this was not possible we found the therapeutic effect to be less than the prophylactic effect. It was not justified to investigate this with a proper organized study, but this view was held by all the nursing staff, who would delay starting an infusion until the ACP was carried out. Williams and colleagues<sup>16</sup> recommend starting conventional antiemetics 24 h before chemotherapy, thus supporting our findings that antiemetic therapy is more effective when given prophylactically rather than waiting for sickness to occur.

We must emphasize that, in these 40 patients, ACP was given in addition to the antiemetic drugs which patients received with previous courses of treatment. Inquiries from various centres following the previous publication from Belfast<sup>7</sup> on this topic, suggested that they had found ACP to be ineffective, but on questioning it appeared that the standard antiemetics had been stopped. Acupuncture and acupressure are only adjuvants to standard treatment.

We offer no explanation for the prolongation of the antiemetic effect of electro ACP by acupressure. The latter alone has a marked, but short-acting effect<sup>9</sup>, and it was for this reason that we advised patients to press the stud every 2 h. As yet we have not studied the value of the frequent use of P6 acupressure alone, and this may provide a clue. One cannot dismiss a psychological effect of acupressure, since this gives the patient a positive role in their own treatment, and

as mentioned previously some of the 'failures' admit that this could have been their own fault as they did not adhere to the instructions. Whatever the reason, it appears that the commercially available Sea Bands or their larger equivalent (non elasticised but with a velcro fastener) may prove valuable in cancer chemotherapy antiemesis.

Therapies with a long antiemetic action are particularly desirable with drugs such as cisplatin, where the onset of sickness may be delayed for up to 48 h and where this can persist for a further 2-3 days.

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#### Postscript

Since this report was completed we have studied transcutaneous electrical stimulation of P6 point. (These findings will be reported separately.)

In 171 out of 177 treatments the beneficial effect of the initial stimulation was prolonged for 24 h by the use of a Sea Band, pressed for 5 min every 2 h.