Cochrane Review Summary for Cancer Nursing: Acupuncture-Point Stimulation for Chemotherapy-Induced Nausea or Vomiting

Background
Chemotherapy-induced nausea and vomiting can significantly lower a patient’s quality of life. Despite recent advances in antiemetic drugs, management of these symptoms remains challenging. Therefore, oncology teams including nurses and physicians are required to have a good understanding of the effectiveness of available adjunctive therapies to alleviate these symptoms. This systematic review examined evidence on the use of various types of acupuncture-point stimulation for chemotherapy-induced nausea or vomiting, including manual and electro acupuncture, acupressure, and noninvasive electro stimulation. Manual acupuncture involves insertion and manual rotation of needles, whereas electro acupuncture uses electrical stimuli via inserted needles. Noninvasive electro stimulation methods provide electro stimuli on the surface of skin without using needles, and acupressure provides pressure on the point by fingers or other devices, which can be easily self-administered by patients.

Objective
What is the effectiveness of acupuncture-point stimulation on acute (an event occurring within the first 24 hours) and delayed (an event occurring after the first 24 hours, up to 5 to 8 days after chemotherapy) chemotherapy-induced nausea and vomiting in adult cancer patients?

Intervention/Methods
The evidence included in this summary is from a Cochrane systematic review containing 11 randomized controlled trials of moderate to high methodological quality. All studies used an adequate randomization method and researchers were blinded in data collection in 7 studies. Sample size varied from 10 to 747 (N = 1247). Any patients with cancer were included in the review, and no exclusion criteria were set based on age, stage or type of cancer, or antiemetic regimens. Patients identified in the included studies were largely adults, with breast cancer, testicular cancer, hematological cancer, gynecological cancer, and others, at various stages.

Types of interventions included stimulation of acupuncture points with or without the use of antiemetics, by any method such as manual or electro acupuncture, acupressure, and noninvasive electro stimulation and acupressure. No description was found regarding the providers who carried out interventions, except for acupressure that was self-administered by patients. Stimulation of P6 (pericardium 6) was largely used, whereas the ST 36 point was used in 2 studies. The interventions used were the following:

- Manual acupuncture provided for 30 minutes both before a first chemotherapy and the following day (n = 1).
- Electro acupuncture (n = 3) using various intervention regimens (detailed information on regimens missing in the review). One study used electro acupuncture (strength of stimuli not reported) until de qui elicet for 5 to 6 times over 3 days, whereas another study provided 2 to 10 Hz stimuli for 20 minutes, 2 hours before chemotherapy, for 5 days. The remaining study involved 5 to 6 treatments for 3 days (frequency of intervention and length of each treatment were not reported).
- Three studies involved acupressure—2 used SeaBand (acupressure band) for 24 hours postchemotherapy for 5 days. The remaining study used the patient’s self-administered acupressure device (no further information was given) for up to 3 minutes on P6 and ST36 in the morning. Patients were allowed to continue as they needed.

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• Of 5 studies examining noninvasive electro stimulation, 2 studies used ReliefBand for 5 days, 1 used it for 7 days beginning from discharge from the hospital, and 1 used it before chemotherapy and for as long as was helpful. The remaining study used transcutaneous electrical stimulation (type of device unknown) before chemotherapy for 5 minutes for 5 days and 5 minutes every 2 hours if patients were awake.

Seven studies used a sham control. Comparison groups received antiemetics only or antiemetics with sham point stimulation. In addition, consultation was made to determine the adequacy of interventions reported in primary studies, but no interventions were deemed inappropriate.

Outcomes of interest were incidence of acute and delayed nausea and vomiting and severity of nausea or vomiting using self-reported numeric rating scales. Lengths of follow-up after interventions were not reported in the review. The data from all included modalities (n = 11) were combined to determine the overall effect on each outcome (acute nausea [n = 7], acute vomiting [n = 9], delayed nausea [n = 5], and delayed vomiting [n = 3]). Subgroup analysis was conducted for each type of point stimulation method.

Results
The data from all 11 studies were statistically pooled for each outcome and each type of acupuncture-point stimulation. In addition to the stimulation, pharmacological antiemetics were provided based on the recommendations from the American Society of Clinical Oncology (eg, use of 5-HT3 plus corticosteroid before chemotherapy, and corticosteroid plus either metoclopramide or a 5-HT3 antagonist for delayed nausea of patients receiving cisplatin) in all studies except for the electro acupuncture studies. No interaction effects were reported in a sensitivity analysis on the use of antiemetics.

• Data from a meta-analysis of 9 studies showed that, overall, acupuncture-point stimulation had statistically significant effects in reducing acute vomiting (relative risk [RR], 0.82; 95% confidence interval [CI], 0.69–0.99; P = .04).
• A meta-analysis of 4 studies showed that stimulation with needles had statistically significant effects in reducing the proportion of acute vomiting (RR, 0.74; 95% CI, 0.58–0.94; P = .01).
• Electro acupuncture was shown to significantly reduce the proportion of acute vomiting (RR, 0.76; 95% CI, 0.60–0.97; P = .02) in a meta-analysis of 3 studies, whereas manual acupuncture did not have a significant effect.
• Another meta-analysis of 2 studies showed that acupressure had a statistically significant effect in reducing mean acute nausea severity (SMD, −0.19; 95% CI, −0.37 to −0.01; P = .04), whereas no significant effect in reducing acute vomiting or delayed symptoms was demonstrated.
• No statistically significant beneficial effects were shown in the use of noninvasive electro stimulation on acute vomiting (n = 4), acute nausea (n = 5), and delayed nausea and vomiting (n = 3).
• No statistically significant effects were reported for delayed nausea (n = 6) or delayed vomiting (n = 4).

Conclusions
This review demonstrated some beneficial effects of acupuncture-point stimulation on chemotherapy-induced acute nausea and vomiting in adult cancer patients with the antiemetic regimen recommended by the American Society of Clinical Oncology. Stimulation with needles and electro acupuncture were shown to reduce acute vomiting. Acupressure was shown to reduce acute nausea. Use of self-administered acupressure may be suggested to patients. Further studies are needed to determine the clinical effectiveness of a combination of electro acupuncture with the current antiemetic regimen and studies on patients with refractory symptoms.

Implications for Practice
• Stimulation with needles and electro acupuncture are effective in reducing acute vomiting.
• Self-administered acupressure may be introduced to reduce acute nausea.

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Reference