

Effect of Acupressure on Nausea and Vomiting: An Evidence-Based Review

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Abstract

Nausea and vomiting are common symptoms associated with surgery and anesthesia, chemotherapy, pregnancy, and several medical conditions. Although pharmacological antiemetic therapy is an important component of management, complementary non-pharmacological approaches have attracted attention because they may be inexpensive, non-invasive, and relatively easy to administer. Acupressure, particularly stimulation of the P6 or PC6 point on the inner wrist, has been studied as a complementary approach for preventing and reducing nausea and vomiting. This evidence-based review examines the proposed mechanisms, commonly used approaches, and clinical evidence for acupressure across postoperative and chemotherapy-related nausea and vomiting. Systematic-review evidence suggests that P6 stimulation can reduce postoperative nausea, vomiting, and the need for rescue antiemetic medication compared with sham treatment, although the magnitude of benefit and its consistency vary by clinical setting. Evidence in chemotherapy-induced nausea and vomiting suggests reductions in acute and delayed nausea, while effects on vomiting are less consistent. Recent evidence also supports P6 and auricular acupressure as potentially useful complementary therapies for chemotherapy-induced symptoms, although standardization remains necessary. Acupressure should therefore be regarded as an adjunct to appropriate antiemetic care rather than a replacement for pharmacological treatment.

Keywords

Acupressure; Nausea; Vomiting; P6 Acupoint; PC6; Postoperative Nausea and Vomiting; Chemotherapy-Induced Nausea and Vomiting; Complementary Therapy

Introduction

Nausea and vomiting are common and distressing symptoms that can arise from anesthesia and surgery, chemotherapy, pregnancy, gastrointestinal disorders, medications, and other medical conditions. In postoperative settings, nausea and vomiting may delay recovery, reduce oral intake, increase discomfort, and contribute to unplanned healthcare needs. During chemotherapy, nausea and vomiting can interfere with nutrition, daily functioning, and willingness to continue treatment.

Antiemetic medicines remain central to evidence-based management, but they are not completely effective in every patient. This has encouraged investigation of complementary approaches such as acupressure. Acupressure involves applying manual pressure to selected points and can be used without needles. The P6 or PC6 point, located on the inner wrist, has received particular attention in nausea and vomiting research.

A Cochrane review of P6 stimulation included 40 trials and 4,858 participants and reported significant reductions in postoperative nausea, vomiting, and rescue antiemetic use compared with sham stimulation. The review found no reliable difference between P6 stimulation and antiemetic drugs for the main postoperative outcomes, suggesting that acupoint stimulation may function as a complementary option in selected contexts.

Chemotherapy-related evidence is more mixed. A systematic review and meta-analysis of 12 randomized trials involving 1,419 patients found reductions in acute and delayed nausea but no significant benefit for the incidence or frequency of vomiting. A 2024 systematic review of P6 and auricular acupressure concluded that the approaches may be effective complementary therapies for chemotherapy-induced nausea and vomiting, while calling for standardized protocols.

This review evaluates the evidence for acupressure in nausea and vomiting, focusing on mechanisms and techniques, postoperative symptoms, chemotherapy-induced symptoms, clinical limitations, safety, and future research.

1. Nausea and Vomiting as Clinical Symptoms

Nausea is an unpleasant subjective sensation that may precede vomiting, while vomiting is the forceful expulsion of gastric contents. The two symptoms may occur together or independently. Their causes and severity vary considerably across clinical situations.

The clinical importance of nausea and vomiting depends on frequency, severity, duration, underlying cause, hydration status, nutritional consequences, and impact on daily functioning. Effective management should therefore address both symptom relief and the underlying condition.

2. Concept and Principles of Acupressure

Acupressure is a non-invasive technique involving manual stimulation of specific points on the body. It is historically related to acupuncture but does not require needles. Pressure may be applied with the fingers or thumb, or through devices designed to maintain pressure at a selected point.

For nausea and vomiting, the P6 or PC6 point on the inner wrist has been the most extensively studied. Other body or auricular points may be included in some protocols. Differences in point selection, pressure duration, treatment timing, and frequency can influence study results.

3. Possible Mechanisms of Antiemetic Action

The exact mechanism through which acupressure may influence nausea and vomiting remains uncertain. Stimulation of the P6 region may affect sensory and autonomic pathways involved in gastrointestinal and emetic regulation. Relaxation and changes in autonomic activity may also contribute to symptom reduction.

The mechanism should not be assumed to be exclusively point-specific. Contextual effects, attention, patient expectations, and the physical sensation of pressure may contribute to observed outcomes. Further physiological studies are needed to clarify these pathways.

4. Evidence for Postoperative Nausea and Vomiting

Postoperative nausea and vomiting is one of the most extensively studied applications of P6 stimulation. A Cochrane review by Lee and Fan included 40 randomized trials with 4,858 participants. Compared with sham stimulation, P6 stimulation significantly reduced nausea, vomiting, and the need for rescue antiemetic medication.

The same review found no reliable difference between P6 stimulation and antiemetic drugs for nausea, vomiting, or rescue medication use. Side effects associated with P6 stimulation were generally minor. These findings support the potential use of acupressure as an adjunct to conventional PONV prevention and treatment.

However, results can differ by surgical context. A 2024 randomized double-blind trial in cesarean delivery under neuraxial anesthesia found no difference between P6 acupressure and sham acupressure in intraoperative nausea, vomiting, rescue antiemetic use, or postoperative nausea and vomiting when both groups received enhanced-recovery pharmacological care.

5. Evidence for Chemotherapy-Induced Nausea and Vomiting

Chemotherapy-induced nausea and vomiting remains a major supportive-care concern. Acupressure has been studied as an additional non-pharmacological strategy alongside antiemetic medication.

Miao and colleagues conducted a systematic review and meta-analysis of 12 randomized controlled trials involving 1,419 patients. Acupressure reduced the severity of acute nausea and delayed nausea, but the analysis did not demonstrate a significant reduction in the incidence or frequency of vomiting. The authors concluded that better-designed trials were needed.

A 2024 systematic review covering 14 studies, including clinical trials and previous systematic reviews, concluded that P6 and auricular acupressure may be effective complementary approaches for chemotherapy-induced nausea and vomiting. The review emphasized the need for standardized protocols regarding independent or combined use with pharmacological therapy.

6. P6 Acupressure and Auricular Acupressure

P6 acupressure is usually applied to the inner wrist at the PC6 point, while auricular acupressure involves stimulation of selected points on the external ear. Both approaches have been investigated for nausea and vomiting, but their protocols and evidence bases differ.

The advantage of P6 acupressure is that the point is relatively easy to identify and can be stimulated manually or with a pressure device. Auricular acupressure may provide sustained stimulation when seeds, pellets, or other devices are used. Neither approach should automatically be considered superior because comparative evidence remains limited.

7. Clinical Applications and Complementary Use

Acupressure may be particularly useful when incorporated into a multimodal antiemetic strategy. In postoperative care, it can potentially be combined with pharmacological prophylaxis and rescue medication. In oncology, it may be used alongside guideline-based antiemetic therapy rather than replacing it.

The evidence suggests that the effect may depend on the clinical cause of nausea and vomiting. Postoperative evidence is relatively consistent for P6 stimulation, whereas chemotherapy-related evidence is more clearly supportive for nausea than for vomiting. Pregnancy-related evidence has historically been mixed, and individual clinical circumstances should be considered.

8. Safety and Practical Considerations

Acupressure is generally non-invasive and has a favorable safety profile in the studies reviewed. The Cochrane review of P6 stimulation reported only minor adverse effects.

Pressure should nevertheless be applied appropriately. The intervention should not interfere with intravenous lines, surgical wounds, monitoring equipment, or other clinical devices. Patients with unexplained persistent vomiting, severe dehydration, blood in vomit, severe abdominal pain, or other concerning symptoms require appropriate medical assessment rather than relying on complementary therapy.

9. Limitations of Current Evidence and Future Research

The evidence base has several limitations. Studies differ in acupoint selection, pressure technique, duration, timing, control conditions, concurrent antiemetic medication, and outcome measurement. In chemotherapy research, study quality has also varied, and the 2017 meta-analysis found that only three of its 12 included studies were considered high quality.

Future research should use larger randomized controlled trials, standardized acupressure protocols, credible sham controls, and clear reporting of concomitant antiemetic treatment. Studies should distinguish nausea severity, vomiting frequency, rescue

medication use, and quality-of-life outcomes. Longer follow-up and condition-specific analyses are also needed.

Conceptual Framework

The following conceptual framework summarizes a possible pathway through which acupressure may influence nausea and vomiting. The underlying clinical condition, timing of intervention, acupoint protocol, and concurrent antiemetic treatment may modify the observed effect.

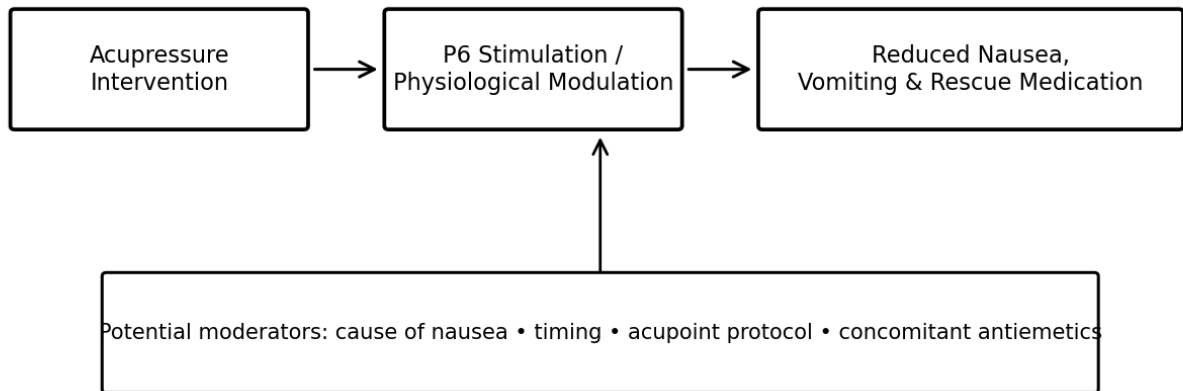


Figure 1. Conceptual framework for the potential effect of acupressure on nausea and vomiting.

Conclusion

The evidence indicates that acupressure, particularly P6 stimulation, can have a useful complementary role in managing nausea and vomiting in selected clinical settings. The strongest evidence is available for postoperative nausea and vomiting, where systematic-review data show reductions in nausea, vomiting, and rescue antiemetic requirements compared with sham stimulation.

For chemotherapy-induced symptoms, evidence suggests a more consistent effect on nausea than vomiting. Recent reviews support P6 and auricular acupressure as potentially useful complementary interventions but emphasize the need for standardized protocols and better-quality trials.

Acupressure should therefore be used as an adjunct to appropriate medical and pharmacological care rather than as a replacement for antiemetic therapy. Future research should focus on standardized techniques, clinically meaningful outcomes, and condition-specific protocols to clarify which patients are most likely to benefit.

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