

“Acupressure as adjuvant treatment for the inpatient management of nausea and vomiting in early pregnancy”

Abstract:

Aim

To evaluate the efficacy of acupressure at the Neiguan point (Pericardium [P]6) as adjuvant treatment during inpatient management of severe nausea and vomiting in pregnancy.

Methods

Low risk, spontaneously conceived singleton pregnancies were randomly assigned to a treatment group, who received an acupressure band placed at the Neiguan point (P6) or a placebo group who received an otherwise identical non-stimulating wristband. Participants wore the band for 12 h daily for the first three days of admission. The primary outcome measure was the severity of symptoms of nausea, vomiting and retching, recorded according to Pregnancy-Unique Quantification of Emesis and Nausea score.

Results

There was a statistically significant improvement in Pregnancy-Unique Quantification of Emesis and Nausea scores from day 1 until day 3 of admission in the treatment group compared with the placebo. Patients who received Neiguan point acupressure also showed a significant improvement in their ketonuria scores. The treatment group required a shorter hospital stay compared with the placebo. The only reported side effect of the acupressure band was redness on the wrist.

Conclusions

The use of the acupressure band at the Neiguan point (P6) for 12 h daily for three days for inpatients with hyperemesis gravidarum significantly reduced the symptoms of nausea, vomiting and retching and ketonuria and led to a reduction in hospital stay. We recommend the use of the acupressure band at the Neiguan point (P6) as an adjunct/supplementary therapy to co-exist with the standard care of management for hyperemesis gravidarum, particularly in low-risk pregnant women.

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Introduction:

Hyperemesis gravidarum (HG) is the most severe known form of nausea and vomiting in pregnancy (NVP). Clinically, it is characterized by persistent nausea, vomiting, ketosis and approximately 5% of pre-pregnancy weight loss. Fifty to 70% of pregnant women experience NVP, usually between the fifth and 12th weeks of gestation.¹ HG incidence is maximal around 10–12 weeks and disappears by the 16th week in approximately 90% of women...

Treatment for NVP has traditionally been in the form of supportive measures. Management starts with dietary modification, and medications such as antinauseants, antiemetics and promotility agents are employed in more symptomatic women. Many pregnant women are reluctant to take these medications for too long for fear of possible teratogenic effects on the fetus.⁴ As such, we seek an alternative or complementary therapy for our patients.

Acupuncture (from the Latin *acus*, meaning needle [see acuity] +

puncture [n.]) is an alternative therapy that involves the insertion of needles to specific anatomical points of the body for treatment. *Acupressure*, unlike acupuncture, requires no needle insertion; it works via delivery of pressure to the same anatomical point an acupuncture needle would be applied. With similar therapeutic principles as acupuncture, acupressure is more appealing as a safe and non-invasive alternative. Previous studies by Koren *et al.* and Heazell *et al.* both reported that acupressure is safe, effective and free of side effects.^{1, 5} Kenyon (1988) highlighted the Neiguan point (Pericardium [P]6) as an effective acupressure point for the treatment of nausea and vomiting.⁶ As shown in Figure [1](#), the Neiguan point (P6) is located three fingerbreadths proximal to the wrist on the inner forearm, in between the two tendons. It has been postulated that acupressure of the Neiguan point helps to reduce HG by controlling intestinal function and dynamic circulation by stimulating the meridian pathways in the body.⁷ ...

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Acupressure intervention is easy to accomplish, self-controlled, non-invasive and cost effective, making it suitable in family-centered care.⁹ Other studies have shown the potential usefulness of Neiguan point acupressure, not only for improving NVP in HG, but also for nausea and vomiting in postoperative patients and those undergoing chemotherapy.^{10-12...}

Methods:

Patients were randomized using block randomization into treatment or placebo groups. The co-investigator applied the band according to the allocated group. Both groups wore the wristband for a total of 12 h per day, from the time of admission up to the third day. The investigator and the patients were kept blind as to which respective group they belonged to. Patients in the treatment group wore a band with a small bead beneath it that exerted pressure onto the Neiguan point. The placebo group wore identical wristbands with no acupressure bead, applied to the same area for the same duration of time per day, for three days. As it was unethical to withhold the standard

treatment for severe HG, both groups were administered intravenous fluid and regular intravenous metoclopramide and thiamine supplements during inpatient admission... After 12 h of wearing the band, individuals in each group were asked a standard set of questions to assess the response of symptoms at the end of each day. Data were collected and recorded in a standard data collection form... Patient's symptoms were evaluated using the Pregnancy-Unique Quantification of Emesis and Nausea (PUQE) scoring system, developed by clinician researchers at the Canadian Motherisk Program studying nausea and vomiting in pregnancy... All patients had a ketonuria test every morning before breakfast. Midstream urine was collected and dispatched for laboratory testing. Patient satisfaction, compliance or any side effects, such as redness, itchiness or pain were documented clearly in the data collection form...

Results:

Women in the treatment arm showed a significant reduction in nausea and vomiting, as well as lower PUQE

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scores on a daily basis compared with the placebo... Patients who received acupressure as adjunct treatment had a significantly shorter hospital stay (2.83 days \pm 0.62) than those who did not receive acupressure (3.88 days \pm 0.87; $P < 0.001$). The treatment group also displayed significantly better ketonuria outcomes and shorter hospital stay...

Discussion:

Nevertheless, in the background of supportive care, longer acupressure application is associated with longer lasting symptomatic relief.¹³ Shorter application of eight h daily did not show significant efficacy.⁵...

We therefore hypothesized and proved in this study that daily 12 h application is required to achieve a similar improvement as with 24 h application, albeit more convenient. Twelve h inpatient application also ensured the band was applied correctly, improved compliance and reduced bias, which might have been present in previous studies.¹³ Our study showed significant improvement in the symptoms of nausea, vomiting and to a certain

extent, retching, from day 1 continuing to day 3. These improvements were reflected in the PUQE scores...

Ketonuria occurs when the metabolism is starving of glucose. As the symptoms improve from rehydration, ketonuria improves once women resume oral intake. As a result of these improvements in symptoms and ketonuria, the mean duration of hospital stay was shorter in the study group. The placebo wristband was less effective than the acupressure wristband applied to the Neiguan P6 point in all outcomes measured...Forty-three out of 60 women (71.7%) in the treatment group were satisfied with wearing the acupressure band, as opposed to 51 out of 60 women (85%) in the placebo group...

Conclusion:

The use of acupressure bands should be considered an adjunct or supplementary therapy to co-exist with the standard care of management for HG, particularly in low-risk pregnant women. Larger studies including a broader cohort of



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pregnant women and focusing on acupressure band use as an aid will be beneficial to assess unresolved issues in NVP.