

(CASE REPORT)



Effectiveness of acupressure therapy in reducing first trimester hyperemesis Gravidum: Case Study

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Abstract

Nausea and vomiting during pregnancy is a common condition affecting up to 70% of pregnant women. Emergency treatment of Hyperemesis gravidarum will focus on correction of dehydration and/or electrolyte disturbances and control of nausea and vomiting to allow for adequate oral intake. Application of acupressure on the P6 (Nei Guan) meridian point is known to treat vomiting and other stomach problems in traditional Chinese medicine practice

Objective: To determine the Effectiveness of Accupressure Therapy in Reducing Hyperemesis Gravidum Trimester I.

Methods: The method used in this study used a case study with pre and post intervention with the Pregnancy-Unique Quantification of Emesis questionnaire (PUQE-24). The patient was given accupressure therapy for 15 minutes every day for 3 days.

Results: there was a change in the hyperemesis gravidarum score felt by the patient from a score of 10 (moderate level of nausea and vomiting) to 6 (mild level of nausea and vomiting) after being given accupressure therapy.

Conclusion: Accupressure therapy with appropriate methods and procedures can be an alternative to reduce Hyperemesis Gravidum in First Trimester Women.

Keywords: Accupressure; Case Report; First Trimester; Hyperemesis Gravidarum; Pregnancy

1. Introduction

Nausea and vomiting during pregnancy is a common condition affecting up to 70% of pregnant women [1]. Nausea and vomiting during pregnancy is common and usually begins at 6-8 weeks of gestation and generally resolves at 16-20 weeks. These include the most common abnormalities of pregnancy that range from mild to moderate in symptoms; Severe nausea and vomiting is the second most common indication for hospitalization in pregnancy, and is considered pathological hyperemesis gravidarum (HG) [2]. Hyperemesis gravidarum (HG) is generally considered the most serious effect of nausea and vomiting of pregnancy, and is reported in 0.3 to 10.8% of pregnant women [3]. HG occurs during the first trimester of pregnancy, usually starting at 4 or 5 weeks. In addition, HG can be associated with many complications, including Wernicke's encephalopathy (brain damage caused by vitamin B1 deficiency), acute liver and kidney failure, esophageal rupture, pneumothorax, preeclampsia, placental abruption, and delayed fetal neurodevelopment. Other adverse outcomes include preterm birth, small for gestational age, electrolyte disturbances which can lead to cardiac dysrhythmias, neuromuscular and renal complications, thyrotoxicosis, and maternal death [4].

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Emergency treatment of Hyperemesis gravidarum will focus on correction of dehydration and/or electrolyte disturbances and control of nausea and vomiting to allow for adequate oral intake [5]. To avoid recurrence, a holistic treatment plan needs to be devised to address presenting symptoms, adequate nutrition, maximal hydration, maternal mental well-being and maternity care [6]. The short-term goal is to reduce the woman's concern and start treatment to achieve the level of symptom control possible so that adequate oral intake leads to normalcy, which usually occurs by 16 weeks of gestation. Constant nausea or vomiting during pregnancy is depressing and reduces a woman's quality of life. This impairs his ability to function normally, impacting his relationships with his family [7].

Many pharmacological treatments are available for NVP, including parenteral antiemetic drugs, electrolyte replenishment, and nutritional support. Interventions are decided upon and adjusted according to the frequency and severity of symptoms but concerns about the effect on fetal outcome lead many health care providers and pregnant women to want to avoid or minimize the use of drugs in favor of non-pharmacological therapies [8]. One of the most commonly applied non-pharmacological approaches in this regard is acupressure which is one of the modalities of Traditional Chinese Medicine (TCM) [9]. According to TCM, the vital energy in the human body gives strength to the body. Pressure stimulation of the Neiguan acupoint (PC6) is a very ancient method in Chinese acupuncture, which has been used effectively to control nausea. The PC6 acupoint is located three finger widths below the wrist on the inner forearm between the two tendons [10].

The application of acupressure on the P6 (Nei Guan) meridian points is known to treat vomiting and other stomach problems in traditional Chinese medicine practices. Mohd Nafiah et al., (2022). first revealed that acupuncture or acupressure on the P6 meridian point is as effective as standard antiemetics in treating nausea and vomiting [11]. P6 (Nei Guan) is the sixth meridian point in Hand Jueyin's pericardial canal, located on the anterior surface of the forearm about 2 inches proximal to the distal wrist crease between the tendons of the flexor carpi radialis and palmaris longus muscles. It has been suggested that pressure on the PC6 acupoint can control nausea and vomiting. vomiting with control of bowel function [10]. Additionally, other researchers believe that acupressure works through inhibition of cerebrospinal fluid function by neurostimulation, which reduces the rate of nausea and vomiting. So far, pressure stimulation of the PC6 acupoint has been used to control chemotherapy-induced vomiting, and several studies have shown that this intervention is also effective for nausea and vomiting of pregnancy. Therapeutic options have remained largely unchanged over the last decades [11].

2. Methods

The method used in this study uses a case study with pre and post intervention. The sample in this case study was a woman who was admitted with complaints of nausea and vomiting during pregnancy. The instruments used were bedtime music that the patient likes, and the Pregnancy-Unique Quantification of Emesis (PUQE-24) questionnaire to determine the patient's level of hyperemesis gravidarum. Patients will be given acupressure therapy for 15 minutes every day for 3 days.

3. Case Report

A 27 year old woman with complaints of feeling nauseous and vomiting 6 times. The results of the examination showed that the client had hyperemesis gravidarum. The client's The first day of last menstruation is known on 24/10/2022 and estimated day of birth on 31/7/2023. the client complained of diarrhea 4 times with the consistency of liquid stools, nausea and vomiting 7 times this morning. The client also says that his head feels dizzy when he wakes up, dizziness feels intermittent on a scale of 4. The client also says that since the complaints of nausea and vomiting arise, the client has no appetite, if he eats the client always vomits. The client also said that he did not know how to reduce nausea and vomiting other than taking medicine.

3.1. Clinical findings

The results of the physical examination were obtained

- Patient Vital Signs: BP: 110/80mmHg, N: 84x/minute, RR: 20x/minute, S: 36.5oC,
- The client looks Weak
- less elastic skin turgor
- the lip mucosa looks dry
- The observation results obtained were that the client looked pale, CRT < 2 seconds.
- Hb: 12.9gr/dl, Ht: 36.6%, Glucose Level: 104mg/ml

- Weight: 54kg, Height: 155cm, BMI: 22.4

3.2. Therapy given

- Ringer Lactate : 20tpm
- Ondansetron : 4 mg/8hours
- Ranitidine : 25 mg/12 hours
- Diaform : 3x1
- Ondansetron : 4 mg/8 hours

3.3. Laboratory Result

Table 1 Lab examination results

INSPECTION	RESULTS	REFERRAL VALUE	UNIT	NOTE
HEMATOLOGY				
Hemoglobin	12.9	12.3-15.3	g/dl	Normal
Hematocrit	36.6	35-47	%	Normal
Leukocytes	9.11	4.4-11.3	thousand/ul	Normal
Platelets	329	154-386	thousand/ul	Normal
Erythrocyte	5.40	4.1-5.1	Million/ul	Increase
INDEX				
MCV	6.78	82.0-92.0	fl	Decrease
MCH	23.9	28-33	pg	Decrease
MCHC	35.2	32.0-37.0	%	Normal
COUNT TYPE				
Neutrophil %	55.8	50-70	%	Normal
Lymphocyte %	34.8	20-40	%	Normal
Monocyte %	7.2	3-9	%	Normal
Eosinophil %	2.1	0.5-5.0	%	Normal
basophils%	0.1	0.0-1.0	%	Normal
NLR	1.60	<3.13	%	Normal
ALC	3.17	>1.5	%	Normal
PLCR	28.8			Normal
RDW-CV	13.0	11-16	%	Normal
RDW-SD	32.1		fl	Normal
MPV	10.4	6.5-12.0	fl	Normal
PDW	12.0	9-17		Normal
Blood group	B			
CHEMISTRY				
BLOOD SUGAR				
Current Blood Glucose	104	70-150	mg/100ml	Normal
IMUNO-SEROLOGY	Negative	Negative		Negative

HIV	Non-Reactive	Non-Reactive		Non-Reactive
HbSAg	Negative	Negative		Negative
Sars Cov2 Antigen Rapid Test	Negative	Negative		Negative

4. Results

Patients were given acupressure therapy for 3 days with a duration of 15 minutes each session. The results of the intervention were measured using a questionnaire to see changes in the level of nausea experienced by patients (Table 2).

Table 2 Results of pre and post interventions

Questionnaire	Pre-test		Posttest	
	Duration	Score	Duration	Score
In 1 day, how many hours of nausea do you feel? (nausea)	4-6 hours	4	2-3 hours	3
In 1 day, how many times did you vomit? (vomiting)	5-6 times	4	1-2 times	2
In 1 day, how many times did you vomit dry? (retching)	1-2 times	2	There isn't any	1
Total Score	10 (moderate level of nausea and vomiting)		6 (mild degree of nausea and vomiting)	

Based on the results of the questionnaire analysis, it was found that there was a change in the hyperemesis gravidarum score felt by the patient from a score of 10 (moderate level of nausea and vomiting) to 6 (mild level of nausea and vomiting) after being given acupressure therapy. Likewise, there was a change in the duration of nausea and vomiting felt by the patient after being given the intervention.

5. Discussion

Nausea and vomiting is one of the most common digestive disorders and one of the most important problems in pregnancy, because apart from causing physical complications, it also causes psychological complications in pregnant women [12]. Acupressure is a branch of acupuncture that is widely used in the treatment of nausea and vomiting in traditional Chinese medicine [2]. The results of this study revealed a decrease in the frequency of nausea and vomiting experienced by pregnant women after being given acupressure. These results are in line with research Adlan et al., (2017); and Kirca & Gul, (2020) which showed significant results in the study group after 7 days of treatment in reducing the frequency of nausea, vomiting and vomiting episodes in women with hyperemesis gravidarum. The results of research conducted by Tan et al., (2023) also showed that pressure at points K-K9 was more effective in reducing nausea in women, but the effect of the two areas on reducing vomiting and radiation was the same and pressure on both points resulted in a significant reduction in vomiting and vomiting. The K-K9 point is much easier to find than the P6 point because K-K9 is a point located on the second clause of the ring finger, making it possible to apply pressure with the fingers of the other hand [15].

The possible mechanism for influencing nausea and vomiting is by releasing beta-endorphin in the cerebrospinal fluid which acts on receptors and increases gastric movement. Use of acupressure on ear, heart, stomach, and central nervous system points along with anti-nausea-vomiting drugs can lead to a decrease in acute nausea-vomiting [16]. Study Sridharan & Sivaramakrishnan, (2018) showing that as many as six articles have examined the effect of P6 acupressure on nausea and vomiting, studies have shown that the concentration of β -endorphin increased in the cerebrospinal fluid after acupressure which has an antiemetic effect. In addition, P6 stimulation reduces nausea and vomiting by increasing blood flow and stabilizing the cerebral cortex and also increasing regular gastrointestinal myoelectric activity [17].

Conventional drugs used to treat these complaints include diphenhydramine, vitamin B6, metoclopramide, and so on [9]. Among them, diphenhydramine has an antihistamine H1 receptor effect and has a strong inhibitory effect on the central nervous system. Research result Sridharan & Sivaramakrishnan, (2018) who learn more about a particular drug, perform a drug subgroup analysis. The results showed that acupressure was superior to injections of vitamin B6 +

metoclopramide, venous metoclopramide, and Ringer's sodium lactate. Meanwhile acupuncture treatment is more effective than B vitamins and glucose + vitamin B6 + sodium bicarbonate + Phenobarbital [17] [16].

Several other clinical studies have also demonstrated the effects of acupressure on the upper digestive tract [18]. Applying pressure to the pericardial point or nigrun point, which is three fingers higher than the wrist on the palm between the two flexor tendons, can reduce complaints of nausea and vomiting [11]. The results of other studies have shown that acupressure has the same effectiveness as vitamin B6 in reducing nausea and vomiting in pregnancy [14]. Based on these results, acupuncture and acupressure are more effective in treating nausea and vomiting than conventional medicine because they have a high level of safety, are easy to perform, can be controlled independently, are non-invasive, and are cost-effective, making them suitable for family-centered care [10].

6. Conclusion

Acupressure therapy with the right methods and procedures can be an alternative to reduce Hyperemesis Gravidum in First Trimester Women.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors hereby declare that there is no conflict of interest among them or with any person/organization.

Statement of informed consent

Prospective Participants were invited and oriented on the purpose of this study, namely to examine the effectiveness of acupressure therapy in reducing hyperemesis gravidum trimester I. Informed consent was obtained before the study and the participants were allowed to withdraw at any time.

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