

# The Effectiveness of Korean Hand Acupressure on Postoperative Nausea and Vomiting after Gynecological Surgery

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## ABSTRACT

*This study was conducted to investigate the effectiveness of Korean hand acupressure in the prevention of post operative nausea and vomiting in women scheduled for minor gynecologic surgery. They were divided into two groups. group (A) (60 patients), acupressure was performed 30 min before the induction of anesthesia by using a special acupressure bands, which were fixed onto the korean point K-K9 and remained there for at least 24 h. the second group (B) (60 patients) functioned as control group. In the group (A) the incidence of nausea and vomiting was significantly less also the needs for antiemetic was less than in group (B). It was concluded that Korean hand acupressure of K-K9 is an effective method for reducing postoperative nausea and vomiting in women after minor gynecologic surgery.*

**Key words:** Acupressure, Nausea, Vomiting, Gynecological Surgery.

## INTRODUCTION

Postoperative vomiting (POV) is a common problem in anesthesia. Several pharmacological and non pharmacological studies have been performed in search of a means to prevent POV<sup>1,10</sup>.

POV is not only an unpleasant symptom for patients, but can also delay hospital discharge and increase use of resources<sup>3,17</sup>.

The over all incidence of POV is approximately 30%, increasing up to 79% in high risk patients<sup>2,13</sup>.

Recommended strategies for minimizing the incidence of POV include identification of high risk patients, avoidance of emetogenic stimuli<sup>4</sup>.

Well investigated non-pharmacological methods for reducing the incidence of POV are acupuncture and acupressure. Both

acupuncture and acupressure of the Chinese acupuncture point (Pericard) 6 (P6) have been reported to represent an effective non-pharmacological, antiemetic therapy<sup>7,12</sup>.

In contrast to Chinese acupuncture, Korean hand acupuncture is a new method, first developed and described by the Korean physician Dr Yoo. While this method is widely used in Korea, western medicine has hardly taken any notice of it and little research is being performed in this field<sup>5</sup>.

The Korean hand acupuncture point K-K9 corresponds but is not identical to the Chinese acupuncture point P6, whose antiemetic effect has been ascertained in numerous studies. Therefore, we assumed that K-K9 produces a similar antiemetic effect as P6<sup>6,19</sup>.

After surgery, POV is one of the most frequent complications. In contrast to pharmacological antiemetic substances, no

adverse side effects have been reported for acupressure<sup>8,10,16</sup>.

Several pharmacological and non pharmacological studies have been performed with the aim of preventing POV. Several studies have shown acupressure of P6 (neigun) point to be an effective non pharmacological antiemetic therapy<sup>4,11,15</sup>.

A very limited number of studies on the efficacy of Korean hand acupressure are available. Korean hand acupressure K-K9 is located on the middle phalanx of the fourth finger on both hands<sup>13,14</sup>.

So, the aim of this study is to investigate the antiemetic effect of prophylactic acupressure on the Korean hand point K-K9 in women undergoing gynecological surgery.

## SUBJECTS

120 patients were selected from in patient clinic of gynecology of Kas El-Aini University Hospital they were scheduled for minor gynecological surgery (Dilatation and Curettage). They were suffering from dysfunctional uterine bleeding. All patients were operated upon by the same team, and duration of surgery was ranged from 15-25 min. after complete induction of anesthesia.

They were randomly assigned to one of two groups, group (A) and group (B).

In group (A) 60 patients, acupressure was performed on both hands on the Korean hand point which is located on the middle phalanx of the fourth finger. Acupressure was administered to K-K9 on both hands by using a special acupressure bands, 30 min before the induction of anesthesia and was maintained for at least 24h. In group (B) 60 patients, the acupressure bands were fixed on the ulnar side of the fifth fingers, namely on points not defined as Korean hand acupressure. Patients with gastric or intestinal diseases causing nausea and vomiting were excluded from this study. After surgery metoclopramide 10 mg/iv was administered as a rescue antiemetic when requested.

0 = No Symptoms      1 = Nausea.

2 = Vomiting.          3 = Severe Vomiting

The need for rescue antiemetics was also recorded.

Assessment was done at 6, 8 and 24 hours after surgery.

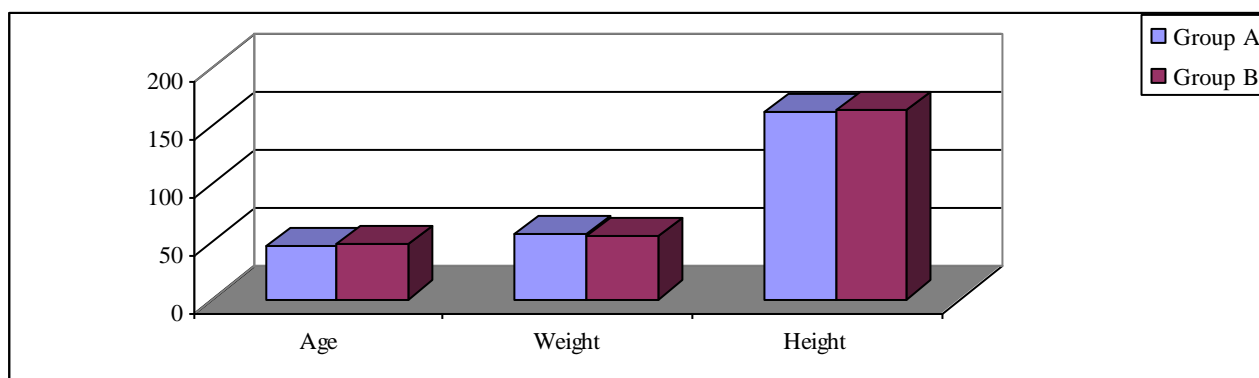
Informed consent form were signed by each subject before starting the treatment.

## RESULTS

There was no statistical difference among the two groups with respect to age, weight, height (Table 1 and Fig. 1).

**Table (1): Mean Values of age, weight, height and duration of anaesthesia in both groups.**

Variables	Group (A)	Group (B)
Age (Yr)	45.8 ± 9.6	47.9 ± 11.8
Weight (Kg)	55.8 ± 6.5	53.9 ± 5.4
Height (Cm)	161.7 ± 9.1	162.8 ± 8.5



**Fig.(1): Mean Values of age, weight and height in both groups.**

**Table (2): Incidence of nausea and vomiting and needs for antiemetics at 6, 8 and 24 hours after surgery.**

		6h			8h			24h		
		N	V	R	N	V	R	N	V	R
Group (A)	No	19	15	9	15	11	7	13	9	6
	%	31.6	25	15	30.0	22.0	14.0	21.6	1.6	10.0
Group (B)	No	50	42	21	42	34	17	37	28	16
	%	83.3	70	35	70	56.7	28.3	61.7	46.7	26.7
P. Value		0.001	0.001	0.001	0.001	0.005	0.001	0.005	0.005	0.001

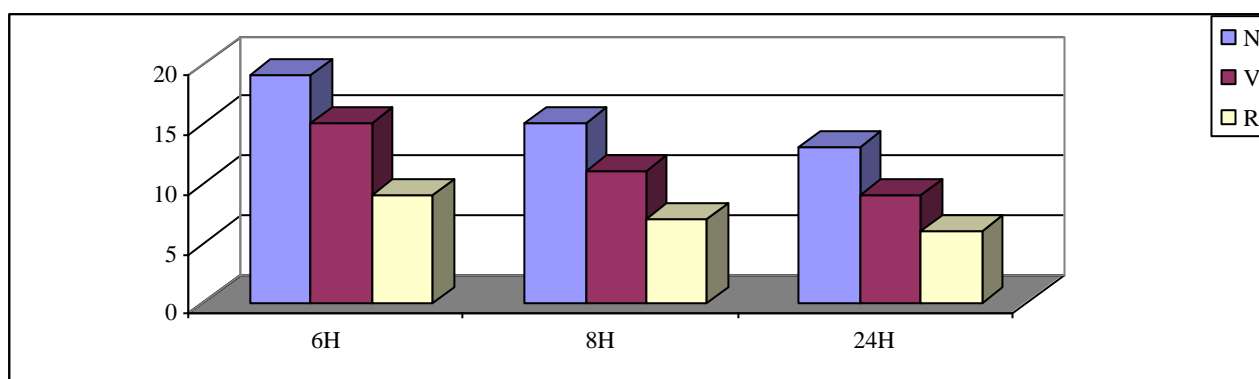
N: Nausea

V: Vomiting

No: Number of Patient

R: Rescue antiemetic

?:Percentage

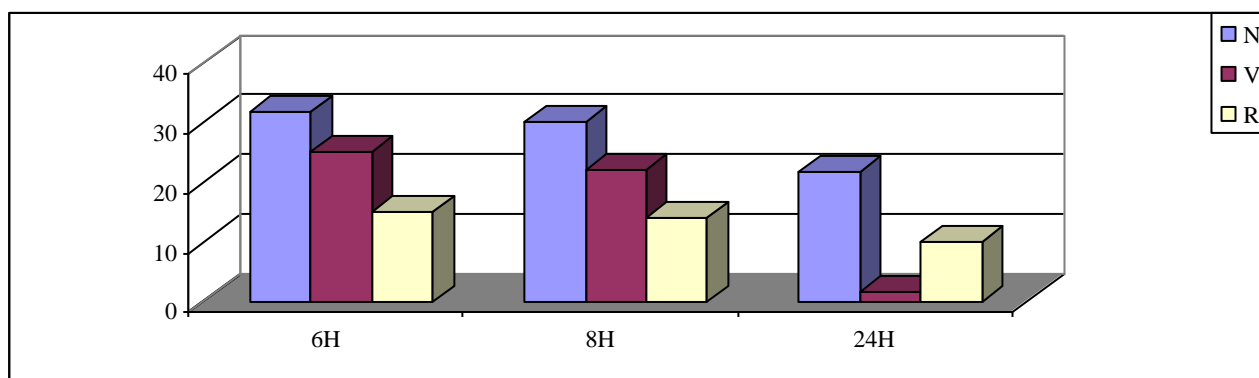


**Fig. (2): Incidence of nausea and vomiting and needs for antiemetics at 6, 8 and 24 Hours after surgery in Group (A).**

N: Nausea

V= Vomiting

R= Rescue antiemetics

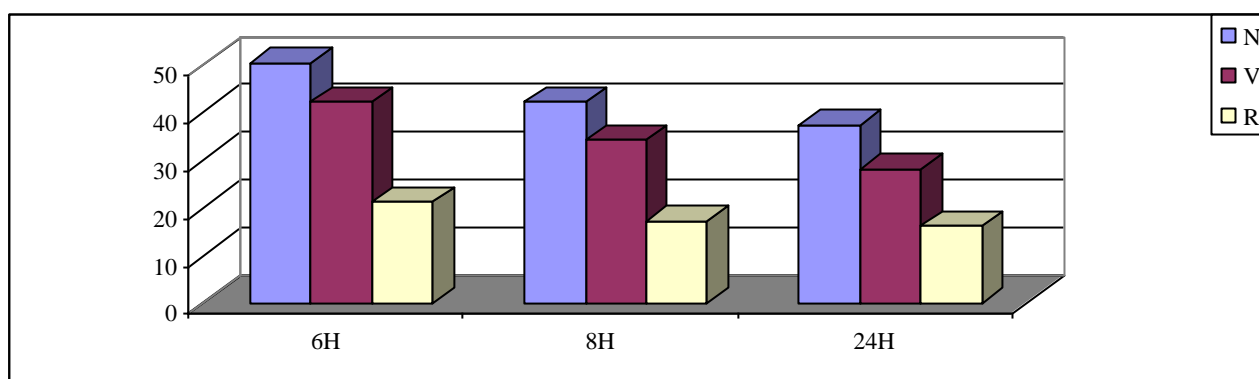


**Fig. (3): Percentage of occurrence of nausea, Vomiting and needs for antiemetics at 6, 8 and 24 hours after Surgery in Group (A).**

**N: Nausea**

**V= Vomiting**

**R= Rescue antiemetics**

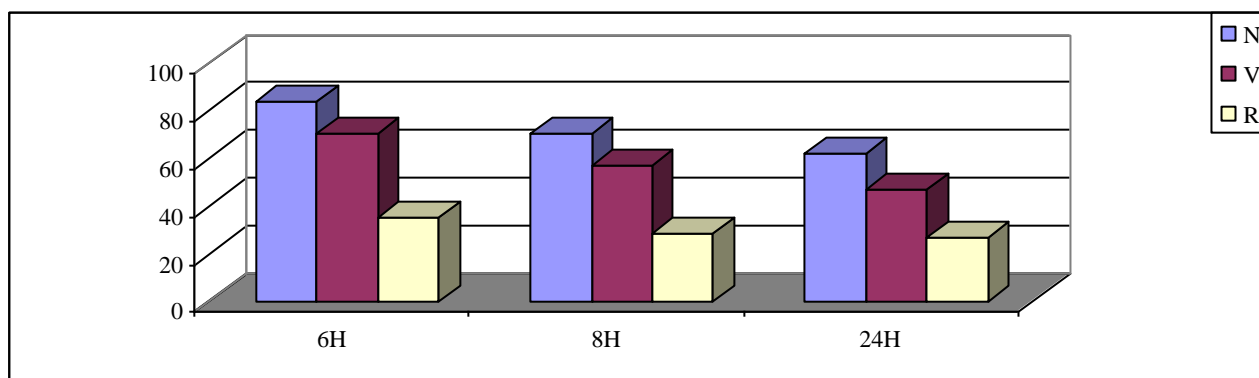


**Fig. (4): Incidence of nausea and vomiting and needs for antiemetics at 6, 8 and 24 Hours after surgery in Group (B).**

**N: Nausea**

**V= Vomiting**

**R= Rescue antiemetics**



**Fig. (5): Percentage of occurrence of nausea, Vomiting and needs for antiemetics at 6, 8 and 24 hours after Surgery in Group (B).**

**N: Nausea**

**V= Vomiting**

**R= Rescue antiemetics**

During the 6, 8 and 24 h after surgery, the incidence of nausea and vomiting was significantly reduced in group (A) compared with group (B) ( $P < 0.001$ ).

During the first 6 h postoperative, nausea occurred in 19 patients (31.6%) in group (A) while, in group (B) it occurred in 50 patients (83.3%) and vomiting occurred in 15 patient, (25%) while in group (B) it occurred in 42 patients (70%). Also the need for antiemetic occurred in 9 patient (15%) in group (A) while, in group (B) occurred in 21 patients (35%).

During the 8h postoperative nausea occurred in 15 patients (30.0%) in group (A) while, in group (B) it occurred in 42 patients (70%). Vomiting occurred in 11 patients (22.0%) in group (A) while, in group (B) it occurred in 34 patients (56.7%). The need for antiemetic occurred in 7 patients (14.0%) in group (A) while, in group (B) it occurred in 17 patients (28.3%).

At 24 h postoperative nausea occur in 13 patients (21.6%) in group (A) while, in group (B) it occurred in 37 patients (61.7%).

Vomiting occurred in 9 patients (1.6%) while, in group (B) it occurred in 28 patients (46.7%). The need for antiemetics occurred in 6 patients (10.0%) in group (A) while in group (B) it occurred in 16 patients (26.7%).

## DISCUSSION

Korean hand acupuncture is rarely applied in Western medicine. Only a very limited number of studies on the efficiency of Korean hand acupuncture are currently available and no data concerning its antiemetic effect have been published<sup>7</sup>.

The Korean acupuncture point K-K9 is comparable to the well-investigated Chinese acupuncture point P6. Whereas K-K6 is located on the fourth finger, the point P6 is

located at the wrist between the tendons of palmaris longus and flexor carpi radial is, 2 Cun proximal from the distal palmar crease. One Cun is equivalent to the width of the patient's thumb across the interphalangeal joint<sup>4</sup>.

Needle acupuncture of P6 effectively reduces postoperative nausea and vomiting. However, needle acupuncture of P6 is unpleasant and therefore not useful in routine clinical practice. The correct timing of acupuncture and acupressure is of great importance. It has been shown that the correct timing of acupuncture further improves the effectiveness of P6 and reduces postoperative vomiting. Stimulation of P6 performed before the induction of anaesthesia produced antiemetic effects<sup>7</sup>.

In contrast to acupuncture, acupressure is painless, easy to perform and well tolerated, as observed in our study. Hence, it seems to be a useful method for preventing POV<sup>1</sup>.

The present study revealed a significant decrease in nausea and vomiting also the need for antiemetics is reduced in group (A) compared to group (B).

The result agree with those of Alien et. al. (2001) who stated that the use of acupressure of P6 to prevent postoperative nausea and vomiting has produced inconsistent results. Most investigations in patients have reported an effective reduction of POV.

Also, the result agree with those of Lee and Done (1999), used elastic wrist bands with a plastic stud on the inner aspect of the bands for continuous acupressure of K-K9 and found no difference in the incidence of POV after surgery compared with a placebo group.

Additionally Dundee and Yang (1998) reported that the antiemetic effect of K-K9 stimulation by acupressure correlates with that of pharmacological antimetics administered in various studies to reduce POV after surgery.

Drugs such as ondansetron, and metoclopramide is often associated with side effects such as drowsiness, extrapyramidal symptoms and headache. Unlike these pharmacological antiemetics, acupressure of K-K9 has been found to have no side effects to date.

The results are also supported by that of Gieron, et al. (1993), they studied the effect of k-k9 acupressure, they found that acupressure significantly lower the frequency of nausea and vomiting post operative compared with placebo treatment. More than a 60% positive effect was found with unilateral and bilateral acupressure, compared with an approximately 30% positive effect of placebo acupressure.

On the other hand, Korttila (1992), reported that the effect of acupressure of K-K9 versus a control group with no intervention, he found no difference across groups in improving nausea and vomiting.

Also, Lee and Done (1999), noted no reduction in vomiting score after acupressure.

In conclusion, acupressure of the Korean hand acupuncture point K-K9 is a cheap and effective method for reducing the incidence of POV surgery. Korean hand acupuncture has been scarcely investigated so far, but its effectiveness has been clearly demonstrated in this study.

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### المخلص العربي

#### تأثير الضغط الوخزي علي تقليل حدوث القيء والغثيان بعد عمليات أمراض النساء

أجريت هذه الدراسة لمعرفة تأثير الضغط الوخزي علي تقليل حدوث الغثيان والقيء بعد العمليات الجراحية . وقد أجريت هذه الدراسة علي مائة وعشرون سيدة متطوعة يقمن بإجراء عمليات جراحية وتم تقسيمهن إلى مجموعتين : مجموعة ( أ ) وتضم 60 سيدة عولجت باستخدام الضغط الوخزي ومجموعة (ب) عولجت بالعلاج الإيحائي وتم تسجيل مرات القيء والغثيان والاحتياج إلى أدوية منع التقيء علي مدار 24 ساعة بعد الجراحة . وأوضحت النتائج أن هناك انخفاض ذو دلالة معنوية عالية في عدد الأشخاص الذي تعرضوا للغثيان والحاجة لأدوية منع القيء في المجموعة (أ) عن المجموعة (ب) . ويمكن أن نستخلص أن العلاج الوخزي له تأثير فعال في تقليل حدوث الغثيان والقيء بعد العمليات الجراحية . الكلمات الدالة : الضغط الوخزي – القيء – الغثيان – عمليات أمراض النساء .