

Effect of acupoint sticking at Shenque (CV 8) for preventing spleen-stomach disharmony caused by venous analgesia pump

中药贴敷神阙预防静脉镇痛泵所致脾胃不和

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Abstract

Objective: To observe the clinical effect of acupoint sticking of Chinese medicine at Shenque (CV 8) for preventing spleen-stomach disharmony caused by venous analgesia pump.

Methods: A total of 120 post-surgery patients using venous analgesia pump and also conforming to the inclusion criteria were randomized into 2 groups by the random number table. There were 58 patients in the control group who received conventional post-surgery nursing care, and there were 62 patients in the treatment group who received acupoint sticking at Shenque (CV 8) on the basis of conventional nursing care. After treatment, the incidences of postoperative nausea and vomiting, and abdominal bloating were measured.

Results: The total incidence of nausea, vomiting and abdominal bloating in the treatment group was 11.3%, versus 39.7% in the control group, and the difference of the incidence between the two groups showed a statistical significance ($P < 0.05$). In comparison of the severity of spleen-stomach disharmony which happened during 72 h after surgery, cases in the treatment group showed lower severity than those in the control group ($P < 0.05$).

Conclusion: Acupoint sticking at Shenque (CV 8) can effectively prevent spleen-stomach disharmony caused by venous analgesia pump, which will alleviate sufferings of the patients.

Keywords: Point, Shenque (CV 8); Acupoint Sticking Therapy; Analgesics; Pain, Postoperative; Spleen-stomach Disharmony; Postoperative Nausea and Vomiting; Drug-related Side Effects and Adverse Reactions

【摘要】目的：观察中药贴敷神阙穴预防静脉镇痛泵所致脾胃不和的临床疗效。**方法：**将符合纳入标准的120例留置静脉镇痛泵的手术患者按随机数字法随机分为2组，对照组58例给予术后常规护理，观察组62例在对照组常规护理基础上加用中药贴敷神阙穴治疗。观察两组患者术后恶心呕吐及腹胀的发生率。**结果：**观察组术后恶心呕吐及腹胀的不良反应发生率为11.3%，对照组为39.7%，两组差异有统计学意义($P < 0.05$)。观察组术后72 h内的脾胃不和严重程度低于对照组($P < 0.05$)。**结论：**中药贴敷神阙穴能有效预防静脉镇痛泵所致的脾胃不和，减轻患者痛苦。

【关键词】穴，神阙；穴位贴敷法；镇痛剂；疼痛，手术后；脾胃不和；术后恶心呕吐；药物相关的副作用和不良反应

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Pain is listed as the fifth primary vital sign following body temperature, blood pressure, pulse and breathing rate^[1]. Analgesia is the key point in post-surgery nursing care. With the development of medical science, venous analgesia pump (VAP) can effectively alleviate pain and reduce complications in peri-operative period. Such method is conducive to health rehabilitation and has been widely used in clinical practice^[2]. However, the incidence of adverse event following VAP is as high as 65%, which mainly manifests as symptoms of spleen-stomach disharmony including nausea, vomiting,

abdominal bloating^[3-4]. We used acupoint sticking of Chinese medicine at Shenque (CV 8) to prevent spleen-stomach disharmony caused by VAP. The report is now given as follows.

1 Clinical Materials

1.1 Diagnostic criteria

Conforming to the diagnostic criteria of nausea, vomiting and abdominal bloating in the *Internal Medicine of Traditional Chinese Medicine*^[5].

1.2 Inclusion criteria

Post-surgery patients using VAP in our hospital; aged between 18 and 65 years; informed consent and voluntary participation.

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1.3 Exclusion criteria

Not conforming to the inclusion criteria above; accompanied with other diseases involving nerve or endocrine system; with a history of pelvic operation or lower urinary tract trauma; with mental disorders.

1.4 Statistical method

All data were analyzed using the SPSS version 18.0 software. Measurement data were expressed as mean \pm standard deviation ($\bar{x} \pm s$), paired sample *t*-test was used for intra-group comparison, and independent sample *t*-test was used for between-group comparison. Non-ranked data were compared using Chi-square test,

and ranked data were compared using rank-sum test. A *P* value less than 0.05 indicated a statistical significance.

1.5 General data

A total of 120 post-surgery patients with VAP in our hospital were included between October 2016 and March 2017. The age ranged from 28 to 65 years, and the average age was 57.2 years. All patients were randomized into a treatment group of 62 cases and a control group of 58 cases by a random number table. The difference of the general data in two groups showed no statistical significance (all *P*>0.05), indicating that the two groups were comparable (Table 1).

Table 1. Comparison of general data between the two groups

Group	<i>n</i>	Gender (case)		Average age ($\bar{x} \pm s$, year)	Educational level (case)			Marriage (case)		
		Male	Female		Below primary school	Middle school or vocational school	College or above	Unmarried	Married	Divorced or widowed
Treatment	62	33	29	57.5 \pm 12.3	22	25	15	3	52	7
Control	58	30	28	56.1 \pm 13.1	21	20	17	4	48	6

2 Treatment Methods

Patients in both groups received the treatment of self-controlled VAP in our hospital. The pharmaceutical formulation consisted of 100-150 μ g sufentanil, 3 mg butophanol and 40 mg granisetron. Medicines above were dissolved into 100 mL 0.9% sodium chloride injection. The medicine was released by a dose of 1.5 mL every time with a 15-minute interval, which was 2.0 mL/h. The whole VAP treatment lasted for 48 h.

2.1 Control group

Patients in the control group received conventional post-surgery nursing care which included instructions on position, catering and movement.

2.2 Treatment group

Patients in the treatment group received acupoint sticking treatment on the basis of conventional nursing care.

Acupoint: Shenque (CV 8).

Components: Medicinal herbs including *Chen Xiang* (*Lignum Aquilariae Resinatum*), *Rou Gui* (*Cortex Cinnamomi*), *Hou Pu* (*Cortex Magnoliae Officinalis*) and *Wu Yao* (*Radix Linderae*) at the ratio of 1:1:1:1.5 were ground into powder and preserved in a sealed pot.

Method: Took medicinal powder of 5 g and mediated it with paraffin oil to make a paste. Then warped the paste with gauze and put it on a medical paste of 6 cm \times 7 cm. After locating the acupoint, Rou-kneaded the acupoint with thumb for 5 min until local skin turned red. Then put the medicinal paste on the acupoint. Replaced it with another paste every 24 h for a total of 3 times.

3 Therapeutic Efficacy Evaluation

3.1 Observation items

Recorded the incidence and severity of symptoms of nausea, vomiting and abdominal bloating during 72 h after surgery in both groups. The criteria for the degree of post-surgery nausea, vomiting and abdominal bloating was shown as follows^[5].

3.1.1 Nausea degree

0: No nausea.

I: Nausea, no influence on feeding and normal living activities.

II: Nausea, with influence on feeding and normal living activities.

III: Nausea which requires bed rest.

3.1.2 Vomiting degree

0: No vomiting.

I: Mild vomiting (1-2 times/d).

II: Moderate vomiting (3-5 times/d).

III: Severe vomiting (>5 times/d).

3.1.3 Abdominal bloating degree^[6]

0: No abdominal bloating, no stomach or abdominal discomfort.

I: Mild abdominal bloating, feeling of fullness in stomach.

II: Moderate abdominal bloating, feeling of fullness in stomach and abdomen.

III: Severe abdominal bloating lasting over 36 h, accompanied by nausea and unbearable abdominal bloating. Obvious dilation of the abdomen, and hyper-resonant percussion.

3.2 Results

3.2.1 Comparison of the incidence of spleen-stomach disharmony during 72 h after surgery

After treatment, the incidence of spleen-stomach disharmony during 72 h after surgery in the treatment group was substantially lower than that in the control group, and between-group comparison showed a statistical significance ($P<0.05$), (Table 2).

3.2.2 Comparison of the severity of spleen-stomach disharmony during 72 h after surgery

After treatment, the severity of spleen-stomach disharmony during 72 h after surgery in the treatment group was substantially lower than that in the control group, and between-group comparison showed a statistical significance ($P<0.05$), (Table 3).

Table 2. Comparison of the incidence of spleen-stomach disharmony during 72 h after surgery between the two groups (case)

Group	n	Nausea and vomiting		Abdominal bloating		Total	
		Case	Incidence (%)	Case	Incidence (%)	Case	Incidence (%)
Treatment	62	6	9.7	1	1.6	7	11.3
Control	58	16	27.6	7	12.1	23	39.7
χ^2 value			6.419		26.720		12.859
P-value			0.011		0.000		0.000

Table 3. Comparison of the severity of spleen-stomach disharmony during 72 h after surgery between the two groups (case)

Group	n	Nausea			Vomiting			Abdominal bloating		
		I	II	III	I	II	III	I	II	III
Treatment	7	3	1	0	1	1	0	1	0	0
Control	23	3	5	2	4	2	0	4	3	0
Z-value			7.540			9.376			18.332	
P-value			0.003			0.000			0.000	

4 Discussion

Pain is a common post-surgery problem, and the usage of analgesic will cause adverse reactions such as nausea and vomiting.

The main ingredient in the formula of self-controlled VAP in our hospital is sufentanil, an opioid analgesic which is the main cause of nausea and vomiting. The possible mechanism may be the action of opioid substances on opioid receptor^[7-8]. Abdominal bloating is caused by the inhibition of peristalsis due to analgesics^[9-10].

Shenque (CV 8) is an important acupoint on the Conception Vessel (CV), which runs along thorax and abdomen region where digestive organs such as stomach and intestines lay underneath. CV starts from uterus together with the Governor Vessel and the Thoroughfare Vessel. Meridian qi of the three vessels are linked with each other and interconnected with viscus and bowel, and exteriorly connected with limbs and orifices^[11-13]. Umbilical skin is thin and easy for medicine to permeate. Therefore, medicine can be absorbed quickly through it. Chinese medicinal sticking on umbilicus can circulate CV and thus active constituents can reach disease location quickly. Such

method has the function of dredging meridians, harmonizing Zang-fu organs, clearing heat and relaxing bowels^[14-16]. The therapeutic effect may relate to the specific structure of the umbilicus, and the effects of Chinese medicine. For example, *Rou Gui* (*Cortex Cinnamomi*) can tonify qi and warm yang; *Chen Xiang* (*Lignum Aquilariae Resinatum*) can warm the middle and direct qi downward; *Hou Pu* (*Cortex Magnoliae Officinalis*) can direct qi downward and dry dampness; *Wu Yao* (*Radix Linderae*) can regulate qi and clear depression. Many ingredients in this formula can dredge meridians with aroma which is suitable for umbilicus therapy. Sticking this medical pastry onto Shenque (CV 8) can warm yang and tonify qi, clear heat and resolve dampness, dissipate and remove stagnation, regulate qi and unblock bowels, promote gastrointestinal motility and anus exhausting, decrease the incidence of nausea and vomiting, and abdominal bloating, and effectively prevent spleen-stomach disharmony caused by VAP.

In this study, Chinese medicinal sticking at Shenque (CV 8) can effectively prevent spleen-stomach disharmony like nausea and vomiting in post-surgery patients using VAP and alleviate pain. This method is convenient and noninvasive, and thus is worth clinical popularization.

Conflict of Interest

The authors declared that there was no potential conflict of interest in this article.

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Statement of Informed Consent

Informed consent was obtained from the patients in this study.

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