Clinical Observation on Intervention of Primary Dysmenorrhea with "Nvfu Point" Based on "X-Shaped Balance Theory"

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Abstract: To explore the clinical efficacy of primary dysmenorrhea with "Nvfu point" based on "X-shaped balance theory"; method: 70 patients with primary dysmenorrhea in this study were randomly divided into control and observation groups, with 35 in each group.The observation group was treated with Nvfu point and corresponding points, and the control group was treated with oral ibuprofen.Results: A total of 64 patients completed the trial in this study, including 31 in the control group and 33 in the observation group, which significantly improved in VAS score and prostaglandin expression levels compared with the control group, and were statistically significant($P<0.05$).Conclusion: acupoint pressing with human body X-shaped balance method treats primary dysmenorrhea and is worth popularizing.

1. Introduction

Dysmenorrhea[1-2]refers to women's common gynecological diseases with abdominal distension pain and lumbosacral pain before and after menstruation or during menstruation. Among them, those without pelvic organic lesions belong to primary dysmenorrhea, which is the research carrier of this study. A large number of studies have been conducted on the epidemiology of primary dysmenorrhea at home and abroad. According to recent five years[3-6], the occurrence of PD is not limited by academic background, regional, ethnic groups, and has a high incidence, generally above 60%. Modern medical treatment of primary dysmenorrhea mainly emphasizes pain relief and sedation. Oral drugs as the main means. Although western medicine is rapidly effective, the curative effect is hardly durable and has many side effects.TCM treats primary dysmenorrhea with internal treatment such as traditional Chinese medicine decoction, proprietary Chinese medicine,and external method such as moxibustion, acupuncture, acupuncture, acupoint, acupoint buried line, scraping, acupuncture injection, application, etc. Both internal treatment and external treatment play a good treatment effect, but the bitter throat of Chinese medicine, acupuncture, acupoint injection, buried line pain fear, also hindered some patients to accept TCM treatment.Therefore, it is of great significance to explore a simple analgesic method that patients can operate themselves and have exact curative effect to improve women's health and quality of life and reduce the harm of dysmenorrhea to women.In this study, girls with primary dysmenorrhea discussed the effectiveness and safety of the intervention based on the "X-shaped balance theory", which is reported as follows:
Text

2. Subject Investigated

Seventy patients with primary dysmenorrhea treated with compression in a hospital from January 2019 to September 2020 were selected.(1) Inclusion criteria are: ① Diagnosis of primary

dysmenorrhea; ② 15 ~ 30 years old; ③ The course of disease ranged from 6 months to 10 years; ④ Menstrual cycle (28 ± 7 days); ⑤ Voluntary participation and signing of informed consent.(2) The exclusion criteria are: ① Patients who do not meet the inclusion criteria; ② Secondary dysmenorrhea caused by genital organic diseases such as pelvic inflammation, endometriosis, cervical stenosis, uterine tumor as confirmed by examination; ③ Serious primary diseases including cardiovascular, liver, renal and hematopoietic system.(3) Elimination, shedding, termination standards and treatment: standard: ①Subjects who missed the study due to unclear diagnosis;② Poor treatment compliance; ③Replace other treatment plans, such as hormone painkillers affecting the efficacy observer of the study; ④ And cannot continue to accept the treatment due to serious adverse reactions or other emergencies.Treatment: ① The subject should contact the subject as soon as possible to record the latest treatment and fill in the CRF (Case report for, CRF) form; ② Subjects who intend to quit treatment due to serious adverse reactions or unsatisfactory efficacy should conduct symptomatic treatment according to the actual situation.

3. Grouping and Therapeutic Methods

3.1 Grouping

According to the randomized number table method, 70 patients were randomly divided into treatment and control groups, with 35 cases per group.

3.2 Therapeutic Methods

(1) Control group: Take ibuprofen slow release capsules during dysmenorrhea,twice a day, one capsule at a time (produced by Sino-American Tianjin Shike Pharmaceutical Co., Ltd.; Chinese medicine standard number H10900089; 300mg/capsule) for 2 ~ 5 days until the symptoms are relieved.Have stomach discomfort can be supplemented by vitamin B6 symptomatic treatment.Treatment for three consecutive menstrual cycles, during which other therapeutic traditional Chinese medicine and modern medicine drugs should not be taken.

(2) Observation group: the subjects sat by the treatment bed, took off the shoes and socks and step on the bedside seat. The therapist pressed the muscles slightly convex about 1 inch below the front of the lateral ankles of both feet with their thumbs, and looked for the sensitive point of tenderness, that's Nvfu point, to press the acupoints with acid, numbness, swelling and pain. It's better to press the acupoints at the same time with both hands, and the pressing time was 8 minutes, and the pressing degree was based on the tolerance of the subjects; Subjects took the seated position, and put the palm of thier hands down on the table. The therapist pressed the front and lower part of the ulna head on the back of his hands about 1 inch with his thumb, and searched for sensitive points of tenderness that was, pressed the acupoints at the corresponding points. It's better to press the acupoints with acid, numbness, swelling and pain. The pressing time is 8 minutes, and the degree of pressing is based on the tolerance of the subject. When dysmenorrhea occurs, press treatment is started once a day for 3 menstrual cycles.

4. Observation Metrics

(1) Visual Analogue Scale of Pain (VAS)[7]

Using a 10 cm long swimming scale with a sliding cursor. One side is marked with 11 graduations, and the two ends are "0" and "10" respectively. 0 indicates painless, and 10 indicates the most unbearable pain. During clinical test, the patient is faced with the non graduated side, and the patient is asked to place the cursor on the part that can best represent the degree of pain at that time, The doctor scores the patient according to the marked position.

(2)Changes in the expression levels of $PGF_{2\alpha}$ and PGE_2 in venous blood

VAS score was evaluated at day 0 of the experiment and the end of menstruation after the third treatment. Blood samples of venous PGF2α and PGE2 were collected within 48 hours of the first

menstrual cramp and within 48 hours of the next menstrual cramp after three menstrual cycles. Each score shall be evaluated by the physician in charge of patients who arranged the treatment plan. In order to eliminate interference factors, every patient should be treated and evaluated by the same doctor before and after treatment.

5. Statistical Analysis of Data

SPSS23.0 statistical software was used to statistically process the data. The measurement data are expressed by mean $\pm$ standard deviation ($x \pm s$). Two groups of paired sample t-test are used for the comparison of intra group data, and two groups of independent sample t-test are used for the comparison of inter group data. The two-sided test is used for the hypothesis test, and the test statistics and their corresponding p-values are given,with $P < 0.05$ as the statistical significance.

6. Research Results

In this study, 70 patients with primary dysmenorrhea who met the inclusion criteria were randomly divided into the control group and the observation group, with 35 cases in each group. Finally, 64 patients completed the experiment (31 cases in the control group and 33 cases in the observation group). Among them, 4 patients in the control group withdrew from the experiment, 1 case was worried about the side effects of ibuprofen, 1 case was treated with other drugs halfway, 1 case was suspended from school, and 1 case was unable to contact; Two cases in the observation group withdrew from the experiment, one case felt that the treatment was ineffective and one case received other drugs halfway.

6.1 Comparison of Baseline Period Data between the Two Groups

According to Table 1 and Table 2,there were 31 cases in the control group and 33 cases in the observation group. There's no significant difference in age, height, weight, course of disease, VAS score, $PGF_{2\alpha}$ and PGE_2 before treatment between the two groups ($P>0.05$), indicating that the two groups are comparable.

Table 1 Comparison of General Conditions in the Baseline Period

group	Example number (n)	age (y)	stature (cm)	weight (kg)	course of disease (y)
control group	31	20.71±1.90	157.06±5.01	48.16±9.39	5.61±1.68
observation group	33	20.76±1.28	158.09±5.30	47.06±5.38	5.42±2.51
t		-0.155	-0.795	0.580	0.355
P		0.877	0.429	0.564	0.724

Table 2 Comparison of Vas Score, Pgf$_{2A}$ and Pge$_2$ Before Treatment

group	Example number (n)	VAS	$PGF_{2\alpha}$	PGE_2
control group	31	6.06±1.73	4.411±3.309	191.951±84.550
observation group	33	6.36±1.57	5.333±3.724	154.342±139.117
t		-0.723	-1.044	1.297
P		0.472	0.301	0.200

6.2 Comparison of Vas Scores between Two Groups after Treatment

According to Table 3, the VAS scores of the control group and the treatment group are statistically significant before and after treatment ($P < 0.05$), indicating that both groups can reduce the pain degree of dysmenorrhea. The VAS scores of the control group and the treatment group

were statistically significant (P < 0.05), indicating that the curative effect of the observation group was better than that of the control group.

Table 3 Comparison of Vas Scores between the Two Groups Before and after Treatment

	Example number (n)	Pre-treatment	Post-treatment
control group	31	6.06±1.73	4.94±1.63
observation group	33	6.36±1.57	4.09±1.68

Note: The VAS score of the control group was compared before and after treatment, t = 3.124, P = 0.004; VAS score in the observation group before and after treatment, t = 9.193, P < 0.01; The VAS scores of the two groups were compared after treatment, t = 2.036, P = 0.046.

6.3 Comparison of Prostaglandin Levels between the Two Groups after Treatment

According to Table 4, the expression level of $PGF_{2\alpha}$ in the control group before and after treatment is not statistically significant (p > 0.05), but that of PGE_2 is statistically significant (p < 0.05). The expression levels of $PGF_{2\alpha}$ and PGE_2 in observation group before and after treatment were statistically significant (P < 0.05). The expression levels of $PGF_{2\alpha}$ and PGE_2 in control group and observation group after treatment were statistically significant (P < 0.05).

Table 4 Comparison of Pgf_{2A} and Pge_2 Levels between the Two Groups Before and after Treatment

	$PGF_{2\alpha}$			PGE_2	
	control group	observation group		control group	observation group
Pre-treatment	4.411±3.309	5.333±3.724		191.951±84.550	154.342±139.117
post-treatment	6.078±5.468	2.713±1.521		163.684±94.124	242.517±190.058

Note: Comparison of $PGF_{2\alpha}$ levels before and after treatment in the control group, t=-1.869, p=0.071, comparison of PGE_2 levels before and after treatment, t=2.888, p=0.007; comparison of $PGF_{2\alpha}$ levels in the observation group before and after treatment, t=3.729, p=0.001, PGE_2 comparison before and after treatment, t=-4.453, P<0.01; comparison between the two groups after treatment, t=-2.081, p=0.042.

Discussion and Conclusion

The X-shaped balance theory believes that the human body has a relatively balanced health line[8]. As long as you can maintain the relative balance of this line, it is a relatively healthy person.When women are weak in Qi and blood and lack of healthy qi, they feel the evil of wind, cold and dampness, resulting in Qi stagnation, blood stasis, cold coagulation and dampness stagnation, blocked cell palace, and poor menstrual discharge due to poor operation of Qi and blood, resulting in dysmenorrhea, that is, when the pelvic Qi and blood imbalance changes from quantitative to qualitative, a "low point" appears at one end of the relative balance health line of the human body (which is the lesion point and the root of the disease, that is, the pelvic Qi and blood are not running smoothly), and dysmenorrhea occurs.Therefore, during the treatment, accurately find out the low sink point (find out the source of the disease, that is, the pelvic Qi and blood operation is not smooth), and then according to the position of the low sink point (pelvic cavity), to find the corresponding " high rise point[9]" at the other end(that is, fixed point), in the "high rise point" related treatment, through the brain lever fulcrum, promote the high rise point sink, low sink point rise, so as to restore the relative balance of the human body, so as to achieve the purpose of treating dysmenorrhea and restore health.See Figure 1 for the details:
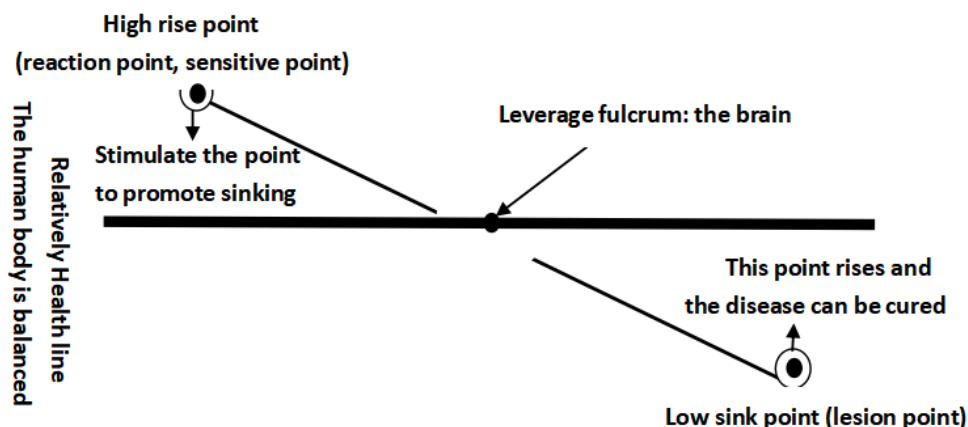
Fig.1 Human Body X-Shaped Balance Diagram

According to the X-shaped balance theory of human body, "Trunk disease can be treated in limbs[9]", this study selected Nufu points and their corresponding points on hands to treat primary dysmenorrhea. The results showed that the VAS scores of the control group and the treatment group decreased significantly before and after treatment, with statistical significance ($P < 0.05$), indicating that both groups have analgesic effect in treating dysmenorrhea.After treatment, the VAS scores in the treatment group were lower than those in the control group ($P < 0.05$), indicating that the analgesic effect in the treatment group was better than that in the control group. There was no significant difference in $PGF_{2\alpha}$ before and after treatment in the control group, PGE_2 was statistically significant.Those in the treatment group were all statistically significant. Because $PGF_{2\alpha}$ is directly proportional to the pain degree of dysmenorrhea, PGE_2 is inversely proportional to the pain degree of dysmenorrhea [10], while $PGF_{2\alpha}$ does not decrease but rises, while PGE_2 does not rise but falls after treatment in the control group, indicating that ibuprofen sustained-release capsule can neither reduce $PGF_{2\alpha}$ content nor increase PGE_2 content, that is, ibuprofen cannot relieve dysmenorrhea, and the differences between the two groups after treatment are statistically significant. In addition, the overall average value of $PGF_{2\alpha}$ in the observation group was significantly lower than that in the control group, and the overall average value of PGE_2 was significantly higher than that in the control group, which not only indicated that the high-rise point pressing method could intervene prostaglandins and effectively relieve pain, but also had cumulative therapeutic effect and sustained curative effect.This study shows that the human X-shaped balance method to treat primary dysmenorrhea has the advantages of simple operation, safe and effective, and low cost, which is worth further promoting and application.

7. Acknowledgment

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