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Observation of the Therapeutic Effect of Acupuncture Intervention on Gastrointestinal Dysfunction After Laparoscopic Surgery for Gynecological Tumors

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Abstract: Objective: To explore the efficacy of acupuncture intervention in postoperative gastrointestinal dysfunction in gynecologic tumor patients. **Methods:** One hundred cases of tumor patients treated in the Department of Gynecology of our hospital from March 2022 to April 2023 were selected as the research subjects. The patients were divided into two groups, with 50 cases in each group, using digital random grouping method: the control group received routine postoperative intervention, while the experimental group received acupuncture intervention after surgery. The occurrence of gastrointestinal dysfunction and treatment outcomes were compared between the two groups. **Results:** The incidence of gastrointestinal dysfunction in the experimental group was lower than that in the control group, and the treatment efficacy was higher than that in the control group, with statistically significant differences ($P < 0.05$). **Conclusion:** For patients undergoing gynecologic tumor laparoscopic surgery, acupuncture intervention can promote postoperative recovery, reduce the incidence of gastrointestinal dysfunction, and improve treatment outcomes. Therefore, this method is worth further promotion and application.

Keywords: Acupuncture Intervention; Gynecologic Tumor; Laparoscopy; Gastrointestinal Dysfunction

Tumors represent a significant challenge in contemporary medicine, with surgical resection being the primary treatment modality, yet postoperative care and treatment are also crucial for prognosis[1]. In recent years, the number of gynecologic tumor patients has been increasing, especially those with uterine and ovarian tumors. Currently, tumor resection surgery can be performed laparoscopically, which addresses the issues of large incisions and slow postoperative recovery associated with traditional surgery. However, laparoscopic tumor resection can impact the patient's gastrointestinal tract, leading to adverse reactions such as indigestion, gastrointestinal bleeding, and pain, making postoperative treatment and care critical[2]. With the development of traditional Chinese medicine and increasing awareness of the limitations of Western medicine, the combination of traditional Chinese medicine and Western medicine for disease treatment has attracted attention. Acupuncture is an important method in this regard. Some studies have suggested that acupuncture intervention in the postoperative recovery of tumor resection surgery can reduce the incidence of gastrointestinal adverse reactions and improve patient prognosis. Therefore, in

order to further understand the efficacy of acupuncture intervention, research has been conducted.

1. Data and Methods

1.1 General Information

One hundred cases of tumor patients admitted to our hospital's gynecology department from March 2022 to April 2023 were selected as the research subjects. Using digital random grouping, the patients were divided into two groups, with 50 cases in each group: the control group and the experimental group. Inclusion criteria: (1) gynecologic tumor patients; (2) patients undergoing laparoscopic surgery; (3) age ⩾ 30 years old; (4) signed informed consent. Exclusion criteria: (1) cognitive, mental, and communication disorders; (2) severe infection; (3) liver or kidney dysfunction; (4) patients with skin diseases. There was no statistically significant difference in the general information of the patients ($P > 0.05$).

1.2 Methods

Control group: Conventional intervention. Hot compress: Using prepared hot compress packs made from Evodia rutaecarpa, 500g per pack, placed on the upper abdomen of the patient before bedtime every day, kept warm for more than 30 minutes, removed when the temperature decreases or when the patient's pain subsides, once daily, continuous hot compress for 1 week.

Experimental group: Conventional + acupuncture intervention. Conventional intervention was the same as in the control group. Acupuncture intervention as follows: Select bilateral Hegu and Neiguan acupoints and other upper limb acupoints, as well as Zusanli and Yanglingquan acupoints and other lower limb acupoints, supplemented by Zhongwan and Qihai acupoints for acupuncture[3]. Use a pulse acupuncture instrument, conduct a tolerance test before acupuncture, gradually increase from low frequency to high frequency until the patient's tolerance limit is reached. Stimulate the upper and lower limbs and auxiliary points during acupuncture, continue for more than 30 minutes, and perform continuous acupuncture for 1 week.

1.3 Observation Indicators

Gastrointestinal dysfunction: Record the occurrence of symptoms such as abdominal distension, abdominal pain, nausea, vomiting, indigestion, and other symptoms in patients. Each occurrence is recorded as one case. The incidence rate = number of adverse cases / sample size × 100%.

Treatment effect: Significant effect: The gastrointestinal function of the patient returns to normal after 1 week, and no adverse reaction events occur. Effective: The gastrointestinal symptoms of the patient improve to a great extent after 1 week, and the number of adverse reactions decreases significantly. Ineffective: Gastrointestinal disorders persist or even worsen.

1.4 Statistical Analysis

The research result data were processed using statistical software SPSS23.0. Measurement data and count data were represented by $\overline{x} \pm s$ and (n, %), respectively. T-test and chi-square test were used to test the differences. The criterion for significance testing was $P < 0.05$, indicating statistical significance.

2. Results

2.1 Comparison of Gastrointestinal Dysfunction

The overall incidence of symptoms such as abdominal distension, abdominal pain, nausea, vomiting, indigestion, and other symptoms in the experimental group was lower than that in the control group ($P < 0.05$). See **Table 1**.

Table 1 Comparison of gastrointestinal dysfunction[n, %]

Group	Example number	Abdominal pain	Nausea and Omitting	Cacochylia	Other	incidence（%）
Control Group	50	4	5	5	3	34.00
Experimental Group	50	2	1	1	2	12.00
x^2						6.832
P						0.033

2.2 Comparison of Treatment Efficacy

The overall treatment efficacy in the experimental group was higher than that in the control group ($P < 0.05$). Refer to **Table 2**.

Table 2 Comparison of treatment effects[n，%]

Group	Example Number	Excellence	Effectiveness	ineffectiveness	total effective rate（%）
Control Group	50	20	18	12	76.00
P					0.042
Experimental Group	50	27	20	3	94.00
x^2					6.353

3. Discussion

Gynecological tumors, mainly uterine fibroids and ovarian cysts, pose significant challenges in contemporary medicine. Upon diagnosis, further examination is necessary, and surgery for resection is typically considered[4]. Traditional surgical procedures involve incisions, which can cause damage to the patient's skin and tissues. Additionally, there is a risk of infection post-surgery, which, if not managed properly, could affect the patient's recovery. In recent years, laparoscopic surgery has been widely used in the resection of gynecological tumors, eliminating the need for incisions and significantly reducing surgical risks and patient discomfort. However, laparoscopic tumor resection can lead to gastrointestinal adverse reactions in patients, resulting in restricted normal gastrointestinal function, such as abdominal pain, nausea, vomiting, and indigestion. Therefore, it is crucial to implement scientific methods for postoperative rehabilitation to lay the foundation for patients' recovery and improve their prognosis. The integration of traditional Chinese medicine (TCM) interventions alongside conventional treatments has gained attention, with acupuncture, herbal medicine, and massage being widely applied. Among these, acupuncture has shown promising results in the intervention of gastrointestinal disorders. Acupuncture stimulates specific acupoints, promoting local tissue blood circulation, thereby improving tissue nutrition and immunity and reducing the risk of complications or adverse events. Stimulation of the Zusanli acupoint can improve gastric function, known as "gastric qi" in traditional Chinese medicine, promoting digestion. The Yanglingquan acupoint is associated with nausea and vomiting, and stimulation of this point can alleviate vomiting[5]. Stimulation of the Hegu acupoint can relieve abdominal distension and improve abdominal pain levels. By stimulating acupoints related to the gastrointestinal tract, acupuncture can improve gastrointestinal function by promoting the circulation of qi and blood, thereby preventing gastrointestinal disorders. Some studies suggest that acupuncture improves gastrointestinal function by regulating hormones, proteins, and neural functions, leading to changes in the body's circulation, thereby playing a role in treating or preventing diseases. The advantage of acupuncture lies in its minimal impact on the patient's body. Unlike medication interventions, where Chinese herbal medicine may burden the liver and Western medicine may burden the kidneys, acupuncture improves bodily functions by stimulating acupoints under the skin, without causing harm to the skin or leaving residues in the body. Moreover, during the treatment process, the duration of acupuncture can be appropriately extended or shortened based on the patient's condition, a goal that medication cannot achieve. The key to acupuncture lies in acupoint selection. For gastrointestinal disorders, acupoints related to gastrointestinal function are selected, and acupuncture can be selectively applied based on the patient's main symptoms, such as prolonging or shortening the duration of acupuncture at a particular acupoint, thereby improving the treatment's targeting. Additionally, postoperative immune and tolerability capacities of tumor patients are usually compromised, and acupuncture interventions do not exacerbate the patient's physical burden. Some studies suggest that stimulating acupoints with acupuncture can promote blood circulation, which, in turn, can absorb and remove residual substances at the surgical site, laying a good foundation for wound healing and alleviating patient pain[6].

This experiment demonstrates that acupuncture intervention has a significant effect on reducing the incidence of gastrointestinal disorders after laparoscopic surgery for gynecological tumors. The statistical results show that the number of cases of gastrointestinal adverse reactions in the experimental group was 6, with an occurrence rate of 12.00%,

compared to the control group, where the number of adverse reactions decreased by 11 cases[7], and the occurrence rate decreased by 25 percentage points. This also indicates that although the use of hot compress can improve gastrointestinal function and increase the patient's tolerance, its improvement effect is still not as significant as acupuncture. On the first day after acupuncture, the number and severity of pain in the experimental group were lower than those in the control group. With the increase in the number of acupuncture sessions, the physical recovery of patients in the experimental group became increasingly ideal, while the recovery progress of the control group was relatively slow. In terms of treatment effectiveness, there was no significant difference in the number of cases with marked or effective outcomes between the two groups. The overall difference was reflected in the number of ineffective cases, with only 3 cases in the experimental group, which is only 1/4 of that in the control group. Additionally, acupuncture can also promote patient gas discharge, thereby alleviating and eliminating abdominal distension. After surgery, the patient's neurological activity is restricted, leading to the retention of gas in the gastrointestinal tract, which causes bloating[8]. Acupuncture can promote blood circulation and has a significant effect on eliminating the effects of anesthesia. Actively conducting acupuncture for patients after surgery can improve their ability to pass gas, inevitably alleviating symptoms of bloating and pain.

Although laparoscopic tumor resection avoids the need for traditional surgery, gastrointestinal adverse reactions cannot be completely avoided. Without proper postoperative intervention, the probability of gastrointestinal disorders in patients increases, leading to potential malnutrition and weakened immune function, which can worsen patient prognosis[9]. Acupuncture provides medical personnel with a reference for improving patient prognosis. By selecting appropriate acupoints and stimulating relevant points, gastrointestinal function can be restored in a shorter time, ensuring adequate nutrition intake and enhanced immunity in patients. In the control group, the main function of using hot compress is to alleviate pain, but its effectiveness in improving gastrointestinal function is relatively limited. Even with the use of traditional Chinese medicine compresses , the rate and penetration of drug absorption from the skin to the tissue and blood are limited, and ideal results cannot be achieved in a short period. Combining acupuncture with hot compress can leverage the advantages of both methods, resulting in more significant effects with less effort. It is worth noting that during acupuncture, attention should be paid to changes in patient symptoms, and patients should be asked about their feelings and sensations. If a patient experiences skin pain during acupuncture, the intensity should be reduced. If a patient experiences dizziness or other symptoms, acupuncture should be stopped until the symptoms improve before deciding whether to continue. Each acupuncture session requires an assessment of the patient's condition, especially inquiring about gastrointestinal sensations before the next session. If improvement is observed, acupuncture time or frequency can be appropriately reduced; conversely, if symptoms persist or worsen, acupuncture time and frequency can be increased. For patients with diarrhea, the cause should be identified to avoid gastrointestinal infections. Additionally, during hot compress, if a patient experiences skin itching, the compress should be stopped promptly, or the amount of herbal compress should be adjusted accordingly[10]. In summary, intervening in the prognosis of patients through acupuncture not only helps them maintain good physiological capabilities but also avoids the risks associated with gastrointestinal disorders, such as malnutrition or infection. This approach facilitates better patient recovery and lays the foundation for subsequent tumor treatments.

In conclusion, for patients undergoing laparoscopic surgery for gynecological tumors, acupuncture intervention can promote postoperative recovery, reduce the incidence of gastrointestinal dysfunction, improve treatment outcomes, and is worthy of further promotion and application.

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