

Effect of Moxibustion Combined with Acupoint Application in the Promotion of Return of Bowel Function after Caesarean Section

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Abstract:

With the changes in national marriage and childbirth policies, the number of elderly mothers has increased, and the Caesarean Section rate has also increased. Postoperative mothers are prone to complications such as abdominal distension. Due to the physical condition of parturient and the need for postpartum breastfeeding, Western medicine has certain limitations. With the widespread application of traditional Chinese medicine concepts and treatment methods, finding a simple and effective method to prevent postpartum abdominal distension in traditional Chinese medicine treatment has important clinical significance. This study used a randomized controlled trial. The subjects were randomly divided into the control group and the experimental group. The routine group received routine nursing interventions, including dietary and activity guidance. The treatment group used moxibustion combined with acupoint application on the grounds of routine nursing to facilitate the recovery of defecation function after Caesarean Section. The treatment plan of the experimental group took shorter time to promote the first flatus and defecation than the control group, and in terms of mean comparison, the first flatus and defecation time of the experimental group was less than that of the control group. In terms of promoting gastrointestinal peristalsis and excretory function, the treatment plan of the experimental group was superior to the control group.

Keywords:

Caesarean Section, Moxibustion Combined with Acupoint Application, Return of Bowel Function

1. Introduction

In China, with the changes in the national marriage and childbearing policy, the number of older mothers is increasing, and the Caesarean Section rate has also increased. Post-Caesarean Section mothers are prone to complications such as abdominal distension. There has been much research on abdominal distension after

Caesarean Section. In recent years, many different intervention methods have been combined and are significantly better than any single method. In order to reduce the occurrence of abdominal distension, prenatal health education is provided to mothers after Caesarean Section [5], and postoperative dietary care is provided to encourage early postoperative eating and chewing gum [9]; exercise care is provided to instruct mothers to get out of bed early and perform turn- over training through knee flexion and twisting exercises to promote the recovery of gastrointestinal function [7]; drug care including oral excretion drugs, intravenous potassium supplementation, or enteral administration [3]; traditional Chinese medicine care, including Huoxiang Zhengqi water hot compress, auricular point pressing combined with acupoint application [2], acupoint massage and moxibustion combined care [4], traditional Chinese medicine acupoint application and acupressure combined with TDP lamp irradiation [8]; combination causes of abdominal bloating require targeted care [6].

2. Methods

This study used a randomized controlled trial, in which participants were randomly assigned to either the experimental group or the control group. During the study, 31 participants in the control group received routine postoperative care, including dietary care and activity guidance. The 31 participants in the experimental group received routine postoperative care and moxibustion combined with acupoint application therapy.

3. Results

There was no statistically significant difference ($P>0.05$) between the experimental group and the control group in terms of age, BMI, gestational age, surgical time, postoperative pulse, postoperative body temperature, postoperative systolic and diastolic blood pressure. There were significant differences ($P<0.05$) between the experimental group and the control group in terms of the first bowel sound time, first flatus time, and first defecation time. There were significant differences ($P<0.05$) between the experimental group and the control group in terms of abdominal distension score, abdominal pain score, and gastrointestinal symptom score. Demographic and postoperative variables, excluding surgical time, were not correlated with the results of both groups ($P>0.05$), so they did not have an impact on the results. Surgical time is a factor that affects the prognosis of both groups. The longer the surgical time, the worse the result.

3.1. Equations

Calculate based on the estimated sample size formula for reference:

$$n = \frac{2 \times (U_{\alpha} + U_{\beta})^2 \times P(1 - P)}{(P_1 - P_2)^2}, P = \frac{(P_1 \times n_1 + P_2 \times n_2)}{(n_1 + n_2)}$$

Among them, U_{α} is the U-value of the first type error probability, $\alpha=0.05$, $U_{\alpha}=1.960$, U_{β} is the U-value for the second type of error probability, $\beta=0.2$, $U_{\beta}=0.842$, P_1 is the effective rate of the experimental group, P_2 is the effective rate of the control group, P is the combined effective rate, where n_1 is the number of cases in the experimental group, n_2 is the number of cases in the control group. According to previous research literature, $P_1=100\%$, $n_1=40$, $P_2=75\%$, $n_2=40$ (Fan & Chen, 2021), the minimum sample size for each group was determined to be 26 cases, In addition,

there may be a maximum dropout rate of 20%, so a total of 62 subjects are required, with 31 subjects in the control group and the experimental group respectively.

3.2. Figures and Tables

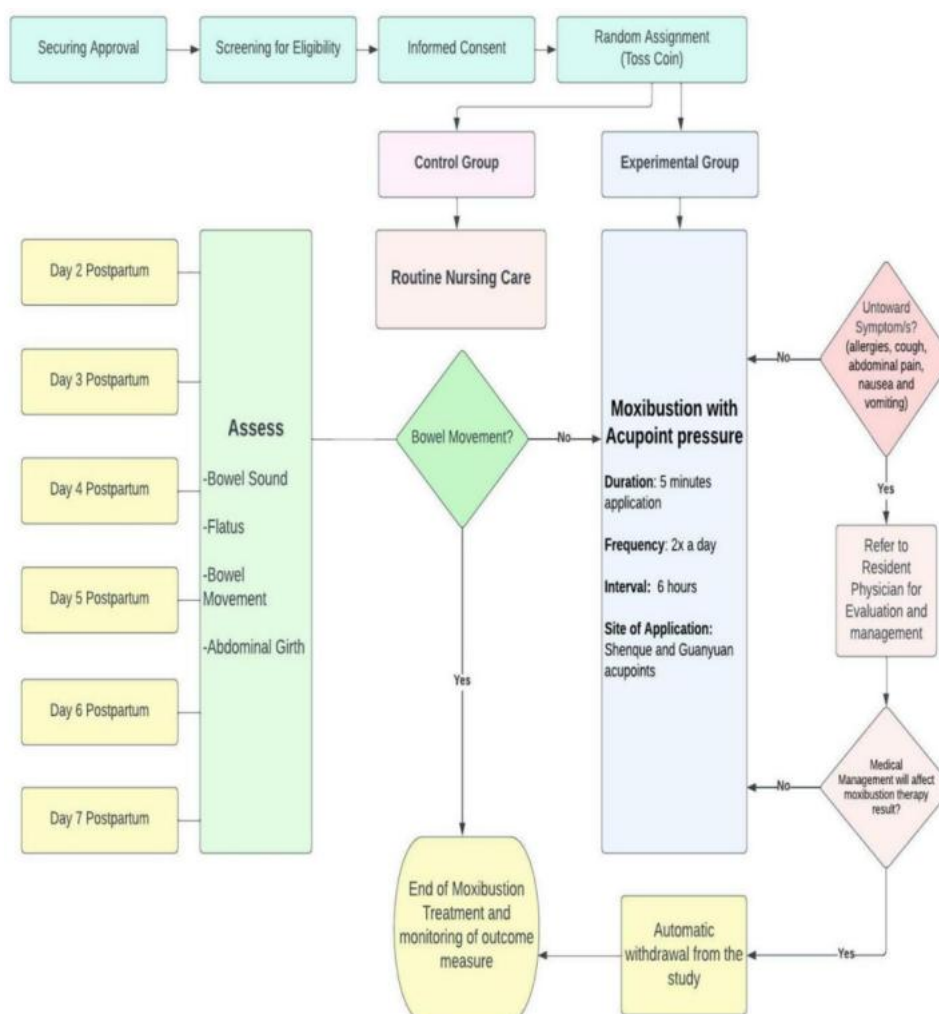


Figure 1. Experimental Protocol.

3.2.1. Intervention

Study participants under the control group received routine postoperative care.

At the same time, the study participants in the experimental group received the Moxibustion with Acupoint application twice a day at 6-hour intervals starting day 2-7 postoperative. Moxibustion combined with acupoint application was an external form of therapy that involved burning mugwort leaves by applying it on selected acupoints such as Guanyuan and Shenque acupoints. This was performed while the patient was supine, exposing the lower abdomen. The local points were routinely disinfected with 75% alcohol. Moxa stick suspension moxibustion made of moxa velvet was applied. Each point was moxibustion for 15 minutes, twice daily, with an interval of 6 hours. The degree was that the patient's local skin was ruddy and did not blister. During the treatment, the nurse kept watch to avoid burning the skin.

For acupoint application, first prepare the drugs for acupoint application, mainly select some traditional Chinese medicines such as warming the meridians, promoting blood circulation and removing blood stasis, cooperating with honey musk, and then

make them into plasters and apply them on some specific acupoints, to treat some chronic diseases, enhance immunity and treat some pain. However, during the treatment of acupoint application, if there is slight redness and itching on the skin, it was a normal reaction and did not need to be treated. If there was severe pain, itching, and burning after acupoint application, it was necessary to stop the treatment and clean the local skin at the same time. If there was none, apply rhubarb to the umbilicus; that was, grind 6 grams of raw rhubarb into powder, sift it carefully, take an appropriate amount of honey, adjust it into paste, place it in the center of the square breathable application, the thickness of the medicine cake is about 0.5cm, and paste it on Shenque and Guanyuan acupoints once a day for 6 hours interval. Then, a moxa stick will be used to carry out rotary moxibustion at the above acupoints. It was appropriate for the patient to feel warm locally twice daily, 15 minutes each time. On the second day, postpartum baseline data was established. After taking baseline information on the second day postpartum, the patient was treated with moxibustion for five (5) minutes two (2) times a day with six (6) hour intervals. Precautionary measures were observed when applying moxibustion to mitigate potential adverse effects like allergies, infection, coughing, nausea and vomiting, hyperpigmentation, and many others. This included the following:

- a. the participant/s with a history of allergy, infection, coughing, nausea, vomiting, and hyperpigmentation were excluded from the study.
- b. early signs and symptoms of untoward effects should be strictly monitored. An observation checklist was also utilized to regulate adverse effects.
- c. If any of these symptoms occur, the moxibustion therapy is stopped. Then, the patient was referred to the resident physician. If management order impacted the effect of the moxibustion, the participant was automatically withdrawn from the study. Continued care for the client was done until adverse symptoms were resolved.

The moxibustion treatment continued until bowel movement was present or if the patient still had no bowel movement until the seventh postoperative day to monitor the outcome of moxibustion treatment.

3.2.2. Data Collection

Six nurses with training certification on moxibustion/acupoint application implemented Moxibustion with acupressure. The ratio of the one implementing Moxibustion to the participant was 6:31.

The operation was carried out in the subjects' wards, with six beds in each ward; it took 2-3 hours to complete the operation for 31 subjects.

The principal researcher was responsible for drawing up the protocol, selecting the sample, and collecting and analyzing the data.

This intervention implementation took seven days. In order to prevent the recurrence of abdominal distension, even if the subject already has cheerful bowel sounds, the Moxibustion for defecation and defecation still needs to be carried out until the seventh day.

Using a result measurement and detection table, they monitored the time to the first flatus and feces. The participants checked the corresponding boxes based on whether the first bowel sound, first flatus, and first defecation had occurred and then recorded

the time of occurrence. Self-reporting the timing of the passing of flatus and feces is reliable.

This study did not undergo pilot testing because it is usual to apply Moxibustion and acupoints to restore bowel function.

3.2.3. Data Analysis

Data was stored in a sealed box with a lock and key. Only the researcher and research assistants had access to the data sheets. After all the participants' data were completed, the data was encoded in the primary investigator's laptop with password encryption, and the results were analyzed to determine the differences between the experimental and control groups' data.

4. Conclusions

This study intends to explore the effect of combining Moxibustion with acupoint application in promoting the convalescence of intestinal function after Caesarean Section.

Traditional Chinese medical theory and Betty Newman's systematic model are used as the basis for research. This study used a randomized controlled trial (RCT), where participants were arbitrarily consigned to the experimental or control groups. In this study, 62 subjects were divided into the experimental and control groups. The control group subjects received routine postoperative care, including dietary care and activity guidance. The subjects in the experimental group received Moxibustion and acupoint application therapy based on routine postoperative care.

a. The experimental group and the control group were homogeneous in terms of age, BMI, gestational age, surgical time, pulses postoperatively, temperature postoperatively, systolic blood pressure postoperatively, and diastolic blood pressure postoperatively ($P>0.05$).

b. There were significant differences between the experimental and control groups regarding the time to first bowel sound, flatus, and defecation ($P<0.05$). Findings showed that the group that received Moxibustion therapy demonstrated faster release of flatus and regain of bowel sound and movement.

c. There were significant differences between the experimental and control groups regarding abdominal distension scores, abdominal pain scores, and gastrointestinal symptom scores ($P<0.05$). Findings revealed that the group with Moxibustion Therapy had higher efficacy outcomes and lower adverse outcomes regarding abdominal distention score, abdominal pain score, and gastrointestinal score.

d. Demographic and postoperative variables, except for surgical time, were not correlated with the outcome of both groups ($P>0.05$), so they did not have a significant relationship with the outcome variables. Surgical time has a significant relationship with the outcome variables. The longer the surgical time, the worse the outcome.

5. Conclusions

Based on the above findings, Moxibustion had superior efficacy, demonstrating faster flatus release and a regain of bowel sound and movement. It also had fewer

adverse outcomes regarding abdominal distention, abdominal pain, and other gastrointestinal outcomes.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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