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Observation on the Clinical Efficacy of Moist Burn Ointment Combined with Rotating Moxibustion in the Treatment of Pressure Ulcers with Deficiency of Qi and Blood

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Abstract: *Objective:* To observe the therapeutic effect of Moist Burn Ointment combined with rotating moxibustion on patients with pressure ulcers and deficiency of both Qi and blood. *Methods:* 40 patients with pressure ulcers and deficiency of both Qi and blood were randomly divided into two groups from July 2024 to November 2025. Group A received Moist Burn Ointment combined with rotating moxibustion, while Group B received Moist Burn Ointment only. *Results:* Group A showed better efficacy, wound healing time, dressing change frequency, satisfaction, PUSH score, and adverse reaction indicators compared to Group B ($P < 0.05$). *Conclusion:* The combination of Moist Burn Ointment and rotating moxibustion in the treatment of patients with pressure ulcers and deficiency of both Qi and blood can shorten wound healing time, reduce dressing change frequency, and alleviate the degree of pressure ulcers, which is safe and efficient.

Keywords: Pressure ulcer; Deficiency of both Qi and blood; Rotating moxibustion; Moist Burn Ointment; Efficacy

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1. Introduction

Pressure ulcers are related to excessive local pressure that blocks blood circulation, causing degeneration of the compressed skin due to insufficient blood oxygen and gradual ulceration. They are commonly seen in people who have been bedridden for a long time. Pressure ulcers are characterized by a long course of disease and a high infection rate, requiring early treatment to prevent severe conditions such as septic shock, sepsis, and even life-threatening situations. Due to factors such as car accidents, high blood sugar, hemiplegia, stroke, and falls from heights, the number of bedridden patients has increased. Currently, Western medicine treats pressure ulcers with various regimens such as negative pressure wound therapy, topical dressings, cytokines, and stem cell therapy. Although these treatments can delay the progression of pressure ulcers, their control effects are limited. Based on

dialectical analysis of pressure ulcer patients in traditional Chinese medicine, it is found that most cases belong to the deficiency of both Qi and blood syndrome. Treatment should focus on nourishing Qi, replenishing blood, and promoting tissue regeneration, such as using Moist Burn Ointment and moxibustion [1]. Based on this, this article explores the efficacy of Moist Burn Ointment combined with rotating moxibustion using 40 patients with pressure ulcers and deficiency of both Qi and blood who were treated between July 2024 and November 2025 as samples.

2. Materials and methods

2.1. Materials

40 patients with pressure ulcers and deficiency of both Qi and blood were randomly divided into two groups from July 2024 to November 2025. There was no significant difference in patient characteristics between Group A and Group B ($P > 0.05$). See Table 1 for details.

Table 1. Analysis of patient data for pressure ulcers of qi and blood deficiency type

Group	n	Gender (%)		Age (years)		Wound Area (cm^2)		Wound Location(%)	
		Male	Female	Range	Mean	Range	Mean	Trunk	Limbs
Group A	20	13 (65.00)	7 (35.00)	62–78	67.29 ± 2.41	30–90	72.26 ± 2.43	15 (75.00)	5 (25.00)
Group B	20	14 (70.00)	6 (30.00)	63–77	67.31 ± 2.39	30–89	72.31 ± 2.41	16 (80.00)	4 (20.00)
χ^2/t	-	0.1140		0.0264		0.0653		0.1434	
P	-	0.7357		0.9791		0.9482		0.7050	

2.2. Inclusion and exclusion criteria

Inclusion criteria: (1) Diagnosed as Qi and blood deficiency type in traditional Chinese medicine, presenting with symptoms of difficult-to-remove necrotic tissue on the wound surface, poor appetite, poor nutrition intake, dull complexion, and fatigue; (2) Informed consent; (3) Refusal of surgical debridement treatment. Exclusion criteria: (1) Albumin level less than 28 g/L; (2) Terminal cancer patients; (3) Combined with severe complications.

2.3. Treatment methods

All patients with pressure ulcers received regulation of blood sugar and blood pressure, anti-infective drugs, and correction of microcirculation and hypoproteinemia. Group A received Meibo burn ointment treatment. The wound was routinely disinfected, draped, and debrided to completely remove necrotic tissue in the wound area. The wound was repeatedly rinsed with normal saline or hydrogen peroxide and wiped with a sterile cotton ball. Then, an appropriate amount of Meibo burn ointment was evenly applied to the wound, followed by covering with a gauze strip or gauze. After dressing change, moxibustion with rotating technique was performed. The operator ignited the moxa stick and repeatedly rotated and roasted it over the wound for 15 minutes until the local skin felt warm. However, it should be noted that some patients with pressure ulcers have reduced skin sensation, so the operator can use the middle finger and index finger to sense the temperature of moxibustion. Dressing changes and moxibustion treatments were performed once a day until the wound healed. Group B received Meibo burn ointment treatment only, with the same operation as Group A, until the wound healed.

2.4. Statistical analysis

SPSS 21.0 was used to process the data of patients with qi and blood deficiency type pressure ulcers. The count data of Qi and blood deficiency type pressure ulcers were described by percentage (%), and the measurement data were described by mean ± standard deviation (SD). The chi-square test (χ^2 test) and *t*-test were used for statistical analysis. Statistical differences were considered significant at $P < 0.05$.

3. Results

3.1. Efficacy

The efficacy rate of Qi and blood deficiency type pressure ulcers in Group A was 95.00%, which was higher than that in Group B (70.00%). The difference was statistically significant ($P < 0.05$). See **Table 2** for details.

Table 2. Comparison of the efficacy of treatment for pressure ulcers of qi and blood deficiency type (n, %)

Group	Marked effect	Effective	Ineffective	Effective rate
Group A ($n = 20$)	14 (70.00)	5 (25.00)	1 (5.00)	19 (95.00)
Group B ($n = 20$)	10 (50.00)	4 (20.00)	6 (30.00)	14 (70.00)
χ^2	-	-	-	4.3290
P	-	-	-	0.0375

3.2. Wound healing time and dressing change frequency

The wound healing time of qi and blood deficiency type pressure ulcers in Group A was shorter than that in Group B, and the frequency of dressing changes was less than that in Group B. The differences were statistically significant ($P < 0.05$). See **Table 3** for details.

Table 3. Comparison of wound healing time and dressing change frequency for pressure ulcers of Qi and blood deficiency type (mean ± SD)

Group	Wound healing time (days)	Dressing change frequency (times)
Group A ($n = 20$)	45.25 ± 1.26	42.26 ± 1.06
Group B ($n = 20$)	48.95 ± 1.85	47.25 ± 1.42
t	7.3925	12.5936
P	0.0000	0.0000

3.3. PUSH score

At 7, 14, 21, and 28 days of treatment, the PUSH scores of Qi and blood deficiency type pressure ulcers in Group A were lower than those in Group B. The differences were statistically significant ($P < 0.05$). Before treatment, there was no significant difference in PUSH scores between the two groups ($P > 0.05$). See **Table 4** for details.

Table 4. Comparison of PUSH scores for pressure ulcers of Qi and blood deficiency type (scores, mean ± SD)

Group	Before treatment	7 days of treatment	14 days of treatment	21 days of treatment	28 days of treatment
Group A (n = 20)	15.61 ± 2.15	11.02 ± 1.26	4.16 ± 0.58	2.39 ± 0.36	2.01 ± 0.21
Group B (n = 20)	15.63 ± 2.13	13.05 ± 1.37	9.58 ± 0.69	4.11 ± 0.57	2.53 ± 0.35
t	0.0296	4.8774	26.8907	11.4098	5.6975
P	0.9766	0.0000	0.0000	0.0000	0.0000

3.4. Satisfaction

The satisfaction rate of qi and blood deficiency type pressure ulcers in Group A was 95.00%, which was higher than that in Group B (70.00%). The difference was statistically significant ($P < 0.05$). See **Table 5** for details.

Table 5. Comparison of satisfaction for pressure ulcers of Qi and blood deficiency type (n, %)

Group	Satisfied	Basically satisfied	Dissatisfied	Satisfaction rate
Group A (n = 20)	13 (75.00)	6 (30.00)	1 (5.00)	19 (95.00)
Group B (n = 20)	7 (35.00)	7 (35.00)	6 (30.00)	14 (70.00)
χ^2	-	-	-	4.3290
P	-	-	-	0.0375

3.5. Adverse reactions

The adverse reaction rate of Qi and blood deficiency type pressure ulcers in Group A was 5.00%, which was lower than that in Group B (35.00%). The difference was statistically significant ($P < 0.05$). See **Table 6** for details.

Table 6. Comparison of adverse reactions for pressure ulcers of Qi and blood deficiency type (n, %)

Group	Neck and shoulder pain	Limb numbness	Low back pain	Incidence rate
Group A (n = 20)	0 (0.00)	1 (5.00)	0 (0.00)	1 (5.00)
Group B (n = 20)	2 (10.00)	3 (15.00)	2 (10.00)	7 (35.00)
χ^2	-	-	-	5.6250
P	-	-	-	0.0177

4. Discussion

The increasing number of long-term bedridden patients in the context of population aging is characterized by digestive system disorders, abnormal organ function, poor immunity, and multiple underlying diseases. Most bedridden individuals also suffer from malnutrition, blood circulation disorders, and other issues, which significantly impact their daily lives. Western medicine primarily treats pressure ulcers by reducing inflammation, sterilizing, and accelerating wound healing, without deeply analyzing the pathogenic characteristics of patients with Qi and blood deficiency type pressure ulcers. Therefore, treatment plans lack specificity and cannot address pressure ulcers from their root causes. Additionally, long-term western medicine treatment can have adverse effects such as hepatorenal toxicity, allergies, and drug dependence in a few patients, with the condition rebounding after

drug withdrawal, which is not conducive to the prognosis of patients with Qi and blood deficiency. Scholars of traditional Chinese medicine believe that pressure ulcers are related to long-term Qi and blood weakness and organ dysfunction. Over time, the lack of Yang Qi leads to Qi dysregulation and an inability to nourish the skin. As the duration of bed rest increases, continuous pressure and friction on local skin areas can worsen skin damage. The pathogenesis of Qi and blood deficiency type pressure ulcers is analyzed to be related to factors such as insufficient vital Qi, obstruction of pathogenic Qi, and externally contracted pathogenic factors, leading to skin necrosis and damage. These factors interact with each other, resulting in the onset of the disease. The dialectical analysis of Qi and blood deficiency type pressure ulcers in traditional Chinese medicine includes syndromes such as Qi and blood deficiency, toxin accumulation and ulceration, and Qi and blood stagnation.

The patients with pressure ulcers selected in this study primarily exhibited the Qi and blood deficiency type, manifesting as difficulty in removing necrotic tissue from the wound surface. In a few patients, new tissue did not grow after the necrotic tissue fell off, or the newly formed muscle had a pale color and was difficult to heal. Additionally, as the course of pressure ulcers progressed, patients gradually developed symptoms such as reduced appetite, poor nutrition, fatigue, and a lack of luster in their complexion. In this study, MEBO (Moist Exposing Burn Ointment) was chosen to treat Qi and blood deficiency type pressure ulcers. It is composed of multiple Chinese herbal medicines such as *Angelica sinensis*, *Astragalus membranaceus*, and *Scutellaria baicalensis*, making it a pure traditional Chinese medicine preparation. Among these herbs, *Scutellaria baicalensis* combined with *Phellodendron chinense* and *Coptis chinensis* can produce a cooling blood and detoxifying effect. Lumbricus can dredge meridians and stimulate blood circulation in the wound area. *Pericarpium papaveris* can relieve pain. *Angelica sinensis* combined with *Astragalus membranaceus* can promote the removal of necrotic tissue, stimulate tissue regeneration, nourish Qi, and enrich blood. The combined use of these Chinese herbal medicines aligns with the principles of "supporting," "debridement," and "healing" in the dialectical treatment of sore and ulcer diseases in traditional Chinese medicine. Therefore, patients with Qi and blood deficiency type pressure ulcers respond well to MEBO treatment, which promotes wet wound healing. Based on this, the application of revolving moxibustion therapy can dredge meridians and promote Qi and blood circulation. As early as the "Su Wen: Pathogenesis, Qi and Yi, and Life Protection Collections," there are relevant records suggesting that patients with pressure ulcer-like diseases should receive acupuncture and moxibustion treatment to expel pathogenic Qi from their bodies, thereby promoting wound healing [2]. Additionally, persistent revolving moxibustion therapy can increase levels of IgM, IgA, CD3+, and other immune markers in patients with pressure ulcers, inhibit inflammatory reactions, and optimize immune function.

Based on the data analysis presented in this article, the efficacy rate of Group A's treatment for pressure ulcers with Qi and blood deficiency was 95.00%, which was higher than Group B's 70.00%, with $P < 0.05$. The analysis suggests that the use of Moist Exposing Burn Ointment (MEBO) in the treatment of pressure ulcer patients allows for the synergistic effect of various traditional Chinese medicine ingredients, which can reduce inflammation, promote healing, maintain wound moisture, accelerate local tissue repair, generate collagen, and enhance cell adhesion, thereby facilitating the repair of damaged skin. Additionally, consistent treatment with MEBO provides nutrients to the wound tissue, accelerates capillary blood circulation, corrects insufficient blood oxygen supply to cells, stimulates epithelial cell proliferation, and inhibits the growth of local pathogens. Combined with rotary moxibustion, which involves rotating a burning moxa stick clockwise over the wound area to generate warm stimulation, it can alleviate burning pain, accelerate blood circulation, and achieve the effects of removing blood stasis and promoting blood circulation [3]. Another set of data indicates that Group A's Qi and blood deficiency type

pressure ulcer patients had a shorter wound healing time (45.25 ± 1.26 days) compared to Group B (48.95 ± 1.85 days), and fewer dressing changes (42.26 ± 1.06 times) compared to Group B (47.25 ± 1.42 times), with $P < 0.05$. The analysis suggests that MEBO can enhance the analgesic effect, relieve pain and discomfort in pressure ulcer wounds, and the drug administration scheme is simple and convenient, as operators only need to apply a suitable amount of ointment evenly. The warm stimulation generated by rotary moxibustion can relieve patient pain, promote wound healing, and is more easily accepted by medical staff and pressure ulcer patients. Moreover, rotary moxibustion accelerates local blood circulation, reducing the frequency of MEBO administration [4].

Another set of data shows that at treatment intervals of 7, 14, 21, and 28 days, Group A's Qi and blood deficiency type pressure ulcer patients had lower PUSH scores than Group B, with $P < 0.05$. The analysis indicates that the PUSH score objectively reflects the healing status of pressure ulcers, including tissue type, amount of exudate, and wound size, which is beneficial for physicians to quantitatively analyze patient prognosis. In this article, the combination of MEBO and rotary moxibustion treatment was chosen, which can reduce the PUSH score in the following ways:

(1) Shortening wound healing time: MEBO, composed of traditional Chinese medicines, can enhance the effects of promoting muscle growth, pain relief, detoxification, and heat clearance, thereby shortening wound healing time. Combined with rotary moxibustion to regulate qi and blood in the wound area, the synergistic effect can further shorten the healing time of pressure ulcers.

(2) Inhibiting wound exudate: Regular application of MEBO maintains the moist state of pressure ulcer wounds, stimulates cell regeneration, reduces wound exudate, optimizes the wound environment, and inhibits local bacterial growth, thereby suppressing local infection. Additionally, rotary moxibustion stimulates the body to absorb and expel exudate when regulating local blood circulation, further optimizing the wound environment and lowering the PUSH score.

(3) Accelerating epithelization: The active ingredients in MEBO can stimulate the body to generate collagen and enhance cell adhesion. Combined with rotary moxibustion, it can dredge meridians, accelerate Qi and blood circulation, stimulate the growth of new granulation tissue in the wound, and accelerate the epithelization process, which is beneficial for improving the PUSH score [5].

Another set of data demonstrates that Group A's satisfaction rate of 95.00% for Qi and blood deficiency type pressure ulcer patients was higher than Group B's 70.00%, with $P < 0.05$. The analysis suggests that the combined treatment of MEBO and rotary moxibustion can alleviate patients' pain, improve their experience, and reduce psychological stress, thereby increasing patient satisfaction with treatment [6]. The final set of data indicates that Group A's adverse reaction rate of 5.00% for Qi and blood deficiency type pressure ulcer patients was lower than Group B's 35.00%, with $P < 0.05$. The analysis reveals that MEBO can reduce inflammation and prevent post-pressure ulcer infection. Combined with rotary moxibustion, it can further enhance the antibacterial effect. Moreover, the combined treatment accelerates pressure ulcer recovery, facilitating patients' later rehabilitation exercises and reducing the adverse reaction rate [7]. However, it is important to note the following considerations during the treatment of Qi and blood deficiency type pressure ulcer patients with MEBO and rotary moxibustion:

(1) Strict control of contraindications: Evaluate whether the patient's wound conditions are suitable for topical administration, and exercise caution when administering the medication to breastfeeding women, elderly individuals, and children.

(2) Adjustment of drug dosage: Adjust the dosage of MEBO according to the doctor's instructions, ensure proper wound cleaning before application, and completely cover the wound with the medication. Maintain

an appropriate distance between the moxa stick and the wound during rotary moxibustion treatment, ensuring that the patient feels warmth without burning pain. Determine the frequency of moxibustion and dressing changes based on the patient's wound condition, and discontinue medication once the wound has healed.

(3) Management of adverse reactions: A few pressure ulcer patients may experience complications such as itching and skin rashes after applying MEBO. If these reactions occur, immediately stop the medication and seek medical treatment. Additionally, closely monitor the wound for signs of exudate or redness, and promptly initiate anti-infective treatment if abnormalities are detected.

(4) Dietary adjustments: Advise Qi and blood deficiency type pressure ulcer patients to maintain a bland diet, increase intake of fresh fruits and vegetables, and easily digestible foods, while avoiding greasy, cold, and spicy foods, as these can affect drug absorption and potentially prolong wound healing time.

(5) Daily care and management: Prevent friction and pressure on the wound, promote adequate sleep and maintain a positive attitude. Pay attention to drug interactions, and consult a doctor before using other medications to evaluate potential effects on drug efficacy. Store MEBO properly in a dry and cool environment, avoiding high temperatures or direct exposure to UV light to prevent drug deterioration. Inform pressure ulcer patients of follow-up appointments, and adjust treatment plans based on the assessment of wound healing status to enhance management effectiveness.

5. Conclusion

In summary, the combination of MEBO and rotary moxibustion treatment for Qi and blood deficiency type pressure ulcer patients can reduce wound healing time, alleviate pressure ulcer symptoms, increase patient satisfaction, and decrease adverse reactions, making it a viable treatment option.

Disclosure statement

The authors declare no conflict of interest.

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