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2025 Volume 10, Issue 4
Journal of Medicines Development Sciences
ISSN: 2382-6371(Online) ISSN: 2382-6363(Print)

Clinical Observation on Treating Frozen Shoulder with Guizhi Shujintongluo Decoction and Acupuncture

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Abstract: *Objective:* To analyze the effect of Guizhi Shujin Tongluo decoction combined with acupuncture in 100 patients with frozen shoulder. *Methods:* From July 2023 to June 2025, 100 patients with frozen shoulder were selected in our hospital and divided into groups using the random number table method. Each group had 50 patients. 50 patients in the research group were treated with Guizhi Shujin Tongluo Decoction combined with acupuncture, and 50 patients in the control group were treated with acupuncture. The data between the groups were compared. *Results:* Compared with the control group, the total effective rate of the study group was significantly higher, the VAS score after treatment was significantly lower, the shoulder joint mobility was significantly greater after treatment, and the pain mediator level was significantly lower after treatment, $P<0.05$; comparing the VAS scores, shoulder joint mobility, and pain mediator levels before treatment between the two groups, $P>0.05$. *Conclusion:* The application of Guizhi Shujin Tongluo Decoction combined with acupuncture has an ideal effect on 100 patients with frozen shoulder.

Keywords: Guizhi Shujintongluo decoction; acupuncture treatment; frozen shoulder; clinical treatment effect

Online publication: December 26, 2025

1. Introduction

Frozen shoulder is a type of sterile inflammation characterized by pain around the shoulder joint and limited movement. People aged 40-60 are prone to this disease. The incidence rate in women is significantly higher than that in men. The core symptoms are pain around the shoulder joint and limited movement. There are paroxysmal dull pains in the early stage. As the patient's condition progresses, the pain will gradually increase. In severe cases, the patient's ability to sleep at night and take care of himself in daily life is severely affected [1], leading to a serious reduction in the patient's quality of life. In recent years, the incidence of frozen shoulder has been increasing year by year. Modern medicine has proposed that its onset is related to chronic strain of the soft tissue around the shoulder joint, aseptic inflammation, adhesive capsulitis, etc. Patients should be given oral non-steroidal anti-inflammatory drugs, physical therapy, local sealing and other treatments. However, long-term use of anti-inflammatory drugs can cause gastrointestinal adverse reactions in patients. In addition, single treatment for patients is not effective [2]. Traditional Chinese medicine believes that periarthritis of the shoulder

belongs to the category of “Bi syndrome” and “shoulder paralysis”. The pathogenesis is exogenous wind, cold and dampness, poor circulation of Qi and blood, and blocked meridians. The treatment principles are to warm the meridians and dispel cold, relax the muscles and dredge the meridians, and activate blood circulation and remove blood stasis. Clinical research shows that acupuncture, the traditional treatment method of traditional Chinese medicine, stimulates acupoints such as Jianjing, Jianpi, and Jianzhen, which can help patients effectively dredge local meridians and regulate the flow of qi and blood [3]; clinical research has shown that the Guizhi Shujintongluo Decoction has the effect of Guizhi in warming the meridians. Tongyang, dispersing cold and relieving pain, combined with Angelica sinensis and Chuanxiong, can help the patient activate blood circulation and remove blood stasis, and use Duhuo and Qinjin for the patient, which can help the patient expel wind and remove dampness. When all the drugs are combined, the therapeutic effect obtained by the patient is to warm the meridians and dispel cold, relax the muscles and unblock the meridians [4]. This article selects 100 patients to analyze the effect of Guizhi Shujintongluo decoction combined with acupuncture in patients with frozen shoulder.

2. Materials and methods

2.1. Information

In our hospital from January 2023 to June 2025, 100 patients with frozen shoulder were selected and divided into groups using the random number table method, with 50 patients in each group. The study group was 30/20 male and female, aged 44-78 (61.05±4.36) years old, and the control group was 31/19 male and female, aged 45-77 (61.01±4.34) years old. Comparison of the two sets of data resulted in $P > 0.05$.

Inclusion criteria: consistent with diagnostic criteria for frozen shoulder; no other related treatments; informed consent, voluntary participation.

Exclusion criteria: a history of gouty arthritis or rheumatoid arthritis; a history of soft tissue injury to the affected shoulder joint; shoulder pain caused by heart disease and cervical spondylosis; severe cardiovascular, cerebrovascular, liver and kidney diseases; mental illness, and unclear consciousness.

2.2. Method

The 50 cases in the control group were treated with acupuncture. They selected Jianliu, Jianliao, Jianzhen, Ashi, Quchi, Waiguan, Hegu, sitting positions, and routinely disinfected acupoints. Use 0.30mm × 40mm needles to prick directly or obliquely. After gaining qi, keep the needles for 20-30 minutes and apply the needles 1-2 times. Twisting and reinforcing the acupuncture points 5 times/week for 4 weeks.

50 cases in the research group were treated with Guizhi Shujintongluo decoction combined with acupuncture. On the basis of the treatment in the control group, the following were added: 12g each of cassia twig, angelica root, rhinoceros root, and achyranthes root, 15g each of white peony root and mulberry branch, 10g each of Chuanxiong, Qianghuo, Duhuo, and Fangfeng, and Zhigancao 6g. If the cold evil is severe, add 6g dry ginger and 3g asarum. If the wet evil is severe, add 20g coix seed and 15g poria. If the pain is severe, add 6g frankincense and 6g myrrh. 1 dose/d, decoct 400ml in water, take warm medicine twice in the morning and evening, and treat for 4 weeks.

2.3. Observation indicators

(1) Compare the total effectiveness of the two groups. After treatment, if the pain in the shoulder joint disappears and normal movement function is restored, it is judged to be cured; if the pain in the shoulder joint is significantly reduced and the movement function is basically restored, it is judged to be significantly effective; if the shoulder joint pain is reduced and the movement function is partially improved, it is judged to be effective; in other cases, it is judged to be invalid. Total efficiency = 100% - inefficiency.

(2) Compare the VAS scores and shoulder joint mobility between the two groups. Measured using visual analogue scale (VAS).

(3) Compare the pain mediator levels of the two groups.

2.4. Statistics

Data calculation was completed with statistical SPSS 28.0 software. Measurement data were described with $\bar{x}$ ±S, t test, count data was described with %, χ^2 test, P<0.05, statistically significant.

3. Results

3.1. Compare the total effectiveness of the two groups

Compared with the control group, the total effective rate of the study group was significantly higher, P<0.05. Table 1.

Table 1. Comparison of the total effective rate (%) of the two groups

Group	Cure	Effective	Valid	Invalid	Always efficient
Research group(n=50)	23(46.00)	18(36.00)	7(14.00)	2(4.00)	96.00
Control group(n=50)	15(30.00)	16(32.00)	10(20.00)	9(18.00)	82.00
χ^2	-	-	-	-	5.0051
P	-	-	-	-	＜0.05

3.2. Compare the VAS scores and shoulder joint mobility between the two groups

Compared with the control group, the VAS score of the study group after treatment was significantly lower, and the shoulder joint mobility was significantly greater after treatment, P<0.05; comparing the VAS scores and shoulder joint mobility of the two groups before treatment, P>0.05. **Table 2**.

Table 2. Comparison of VAS scores and shoulder joint mobility between the two groups

Group	VAS score (points)		Forward flexion (°)		Outreach (°)		Reach (°)	
	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Research group(n=50)	7.7±1.1	2.2±0.7	85.2±10.1	152.5±12.6	72.4±9.5	135.7±11.2	35.1±8.2	58.6±9.5
Control group(n=50)	7.5±1.2	3.6±1.1	84.6±10.6	130.4±11.7	71.7±9.9	112.5±10.4	34.9±8.6	52.2±9.1
t	0.8687	7.5926	0.2898	9.0884	0.3607	10.7334	0.1190	6.7531
P	0.05	＜0.05	0.05	＜0.05	0.05	＜0.05	0.05	＜0.05

3.3. Compare the levels of pain mediators between the two groups

Compared with the control group, the pain mediator levels in the study group were significantly lower after treatment, P<0.05; compared with the pain mediator levels before treatment in the two groups, P>0.05. Table 3.

Table 3. Comparison of pain mediator levels between the two groups (pg/ml)

Group	TNF-α		IL-6	
	Before treatment	After treatment	Before treatment	After treatment
Research group(n=50)	35.4±6.7	18.1±4.4	28.4±5.2	15.2±3.3
Control group(n=50)	34.7±7.1	25.2±5.2	27.8±5.4	20.5±3.7
t	0.5070	7.3703	0.5659	7.5591
P	0.05	＜0.05	0.05	＜0.05

4. Discussion

With the incidence of frozen shoulder increasing year by year, the quality of life of middle-aged and elderly people has been seriously reduced. Analyzing the core pathological characteristics of this disease, it is mainly chronic aseptic inflammation, fibrous tissue hyperplasia, and adhesive capsulitis in the soft tissues around the shoulder joint. The main manifestations are severe pain and limited activity. In severe cases, patients will increase the burden on their families. Clinically, symptomatic intervention has been proposed for patients with frozen shoulder. The use of non-steroidal anti-inflammatory drugs can temporarily relieve the patient's pain [5]. However, the patient has adverse reactions. Physical therapy and local sealing treatment are used for the patient, which has the risk of disease recurrence and limited efficacy. It cannot fundamentally solve the patient's soft tissue adhesion and inflammation.

From the perspective of traditional Chinese medicine, frozen shoulder belongs to the category of "shoulder paralysis". When treating patients, we must pay attention to "treating the root cause of the disease." By regulating qi and blood, dredging meridians, and eliminating pathogenic factors, the patient's joint function can be effectively restored. Compared with a single Western medicine treatment plan, the clinical advantages are more obvious [6]. "The Yellow Emperor's Internal Classic" first mentions periarthritis of the shoulder and clarifies the main cause, which is exogenous wind, cold and dampness. For middle-aged and elderly people, the functions of the internal organs are gradually declining, the biochemistry of Qi and blood is insufficient, and the muscles and veins are not nourished [7]. In addition, patients have long-term strain and poor recovery after trauma. The Qi and blood flow is not smooth, and the meridians are blocked. In the end, "blockage results in pain, and lack of prosperity results in stiffness." Modern TCM clinical research has further improved the pathogenesis theory of frozen shoulder, and determined that the core pathogenesis is "cold coagulation, blood stasis, and meridian blockage" [8]. Patients have both deficiency and excess. Effective treatment of "warming the meridians and dispersing cold, relaxing the muscles and dredging meridians, activating blood circulation and removing blood stasis, and replenishing qi and blood" is necessary to help patients achieve both symptoms and root causes of treatment. The classic method of treating Bi syndrome in traditional Chinese medicine includes acupuncture. Its mechanism of action is highly consistent with the pathogenesis of frozen shoulder. It uses acupuncture to gain qi and twist to replenish and relieve pain, which can help patients dredge meridians, promote patients to significantly improve blood circulation, and effectively reduce inflammatory adhesions. Guizhi Shujintongluo decoction is used for the patient. Its compatibility closely follows the pathogenesis. A detailed analysis shows that Guizhi is a monarch medicine, which can help patients effectively warm the meridians, relieve cold, and relieve pain. The main ingredient is cinnamon twig oil. The patient's microcirculation has been significantly improved and the release of inflammatory factors has been inhibited. Angelica sinensis, Chuanxiong, and white peony root are used for the patient. They are all ministerial drugs. Their functions are nourishing and activating blood, softening muscles and relieving pain. Together with cinnamon twig, they form a "harmony of nutrients". "Wei", use adjuvants such as mulberry branch, platycodon, and qianghuo for the patient, which can help the patient effectively dispel rheumatism and unblock the meridians. Use Achyranthes bidentata for the patient, which can nourish the liver and kidneys and take into account the underlying deficiency. The function of Zhigancao is to harmonize the various drugs. In this study,

the addition and subtraction plans for severe cold and damp evils and severe pain reflect the flexibility of TCM syndrome differentiation and treatment, and the prescriptions are more targeted, which significantly improves the patient's treatment effect.

The research results of this article show that the total effective rate of the research group is 96.00%, which is significantly higher than the control group of 82.00% (P<0.05). The reason for the analysis result is that the two synergize. Among them, acupuncture is centered on "drug", which can directly dredge the patient's local meridians and relieve muscle spasm. Relief, the patient can quickly relieve pain. The Guizhi Shujintongluo Decoction is used for the patient, which focuses on "regulating". After oral administration, it can help the patient effectively eliminate evil and strengthen the body, replenish qi and blood, fundamentally improve the pathogenesis, and effectively consolidate the curative effect of acupuncture on the patient. One is external and one is internal, one is acute and the other is relieving, and the symptoms are treated together. The results of this study show that in terms of pain relief, the VAS score of the study group (2.2±0.7) after treatment was significantly lower than that of the control group (3.6±1.1) (P<0.05). Analyzing the reasons for the results, acupuncture can activate the release of endorphins and help patients with immediate analgesia. Ingredients such as cinnamon twigs and angelica in the prescription can inhibit the patient's pain signal conduction and help patients reduce nerve compression. The two can synergize with each other to effectively relieve pain. The results of this article show that in terms of recovery of shoulder joint mobility, the angles of forward flexion, abduction, and back extension of the study group after treatment were significantly greater than those of the control group (P<0.05). Analyzing the reasons for the results, acupuncture can be performed on the patients to loosen local adhesions. Ingredients such as mulberry branch and rhinoplasty in the prescription can help patients effectively resist inflammation and clear tendons, jointly improve the patient's joint range of motion, and promote the patient's effective recovery of daily life abilities. The results of this study show that in terms of inflammatory indicators, TNF-α (18.1±4.4) pg/ml and IL-6 (15.2±3.3) pg/ml in the research group were significantly lower than those in the control group (P<0.05). The results confirmed that after the combination of the two, the patient's immune function was regulated, the expression of pro-inflammatory factors was suppressed, and the inflammatory response was effectively controlled.

The research in this article has high application value. It integrates the classic theory of traditional Chinese medicine and modern clinical practice to build a synergistic model of "external treatment + internal treatment and conditioning", which is in line with the trend of "comprehensive treatment" in modern medicine. In this study, the principles of prescription compatibility and addition and subtraction are explained, which provides theoretical support for the clinical promotion of Guizhi Shujin Tongluo Decoction combined with acupuncture treatment. In addition, this study also comparatively analyzes objective indicators such as pain media to enhance the scientific nature of the results. Analyzing the shortcomings of this article, the main reasons are that there is a single health center, the sample is small, there may be selection bias, and the results are poorly extrapolated. Moreover, this article does not set up a control group of Western medicine, and it is impossible to compare the efficacy of Chinese and Western medicine. Moreover, the follow-up time of this study is short, and it is necessary to track the long-term efficacy and recurrence rate. The molecular mechanism of action of the prescription is not discussed in depth in this study, which can be improved in the future.

In summary, the application of Guizhi Shujin Tongluo Decoction combined with acupuncture in 100 patients with periarthritis of the shoulder has an ideal effect. The VAS score after treatment is significantly lower, the range of shoulder joint mobility is significantly greater after treatment, and the level of pain mediators is significantly lower after treatment. It is worthy of clinical promotion and use.

About the author

Li Ang (1986.11—), female, Han, from Suqian, Jiangsu, undergraduate, deputy chief TCM physician in the community, research direction is the clinical efficacy of acupuncture in the treatment of painful diseases.

Disclosure statement

The author declares no conflict of interest.

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