

Therapeutic Effect of Chinese Massage Combined with Warm Acupuncture on Knee Osteoarthritis

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Abstract: Objective: To investigate the effect of Chinese massage combined with warm acupuncture on knee osteoarthritis. **Methods:** 60 patients with knee osteoarthritis who were treated in our hospital from January 2017 to October 2019 were selected as the research subjects, and they were randomly divided into 2 groups of 30 patients each. The control group was treated with oral western medicine, and the observation group was treated with massage combined with warm acupuncture. The clinical efficacy and WOMAC index were compared between the two groups. **Results:** The total effective rate of the observation group was higher than that of the control group, and the WOMAC score was lower than that of the control group. The difference was statistically significant ($P < 0.05$). **Conclusion:** Chinese massage combined with warm acupuncture is effective in treating knee osteoarthritis. It can effectively alleviate the symptoms of pain and joint stiffness in patients, and improve joint mobility, which is worth for clinical promotion.

Keywords: Knee osteoarthritis; Massage; Warm acupuncture; Joint function

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Knee osteoarthritis (KOA), also known as degenerative arthritis or proliferative arthritis, occurs frequently in the elderly. It is a chronic osteoarthritis disease characterized by secondary osteoproliferation and articular cartilage degeneration, which can easily affect synovium of joint, bone and surrounding structures^[1-2]. Besides surgery, non-steroidal anti-inflammatory and analgesic drugs are commonly used in clinical

treatment, but they have many side effects, which will cause certain damage to the liver, kidney and cartilage, and some patients will also have symptoms of gastrointestinal ulcers or even bleeding. At present, the comprehensive treatment of knee osteoarthritis by traditional Chinese medicine has become a new trend, and it also has a high security. This study discusses the clinical effects of Chinese massage combined with warm acupuncture on knee osteoarthritis.

1 Information and methods

1.1 General information

With the approval of the medical ethics committee of our hospital, 60 patients with knee osteoarthritis who were treated in our hospital from January 2017 to October 2019 were selected as the study subjects and randomly divided into 2 groups with 30 patients in each group. The control group included 9 males and 21 females. The age ranged from 45 to 81 years old, with an average of (65.26 ± 4.76) years old. There were 17 cases of one knee and 13 cases of both knees. The course of disease was 17d-12 years, with an average of (4.06 ± 1.68) years. The observation group included 10 males and 20 females. The average age was (66.18 ± 4.94) years. There were 16 cases in one knee and 14 cases in both knees. The course of disease was 21d-12 years, with an average of (4.42 ± 0.78) years. By comparing the data of the two group, the difference was not statistically significant and comparable ($P > 0.05$).

1.2 Inclusion criteria

(1) Inclusion criteria: meet the diagnostic criteria in the Guidelines for the Diagnosis and Treatment of Osteoarthritis^[3], have more than 3 of the following symptoms: age ≥ 38 years; the frequency of knee

pain was high in the last 1 month. Obvious bone friction sound; osteoarthritis enlargement; no relevant treatment was performed within the last 2W; Patients and their families voluntarily signed informed consent. (2) Exclusion criteria: patients who are critically ill and the safety and effectiveness of treatment cannot be accurately evaluated; patients with metabolic bone disease, psoriasis, trauma etc. that will affect osteoarticular diseases; patients with multiple organ dysfunction or endocrine system disease; patients with a history of mental illness or communication impairment; patients who dropped out of the study halfway.

1.3 Method

1.3.1 Control group

Treat with oral voltaren (Beijing Novartis Pharmaceutical Co., Ltd., SFDA approval number H11021640, specifications: 25mg), 3 tablets / times, 1 time / day, 30 minutes after meals.

1.3.2 Observation group

Treat with Chinese massage combined with warm acupuncture. (1) massage: use the rubbing method to perform local rubbing on the knee for 3 minutes (in the order from top to bottom) to fully relax the muscles; Use the dotting-kneading method to knead the acupoints of inner knee eyes, xuehai, heding, dubi, and the Yinlingquan in turn, each point for about 3 minutes; Place the thumb on the patella, the other four fingers on the side of the thighbone joint, and pinch up and down 20 times, and the intensity should be the patient's maximum tolerance; Apply an appropriate amount of vaseline around the knee and rub it until the skin becomes hot and slightly reddened and congested. After the above-mentioned method is completed, the relax the knee by shaking about 6 times. 1 time / day, 10days / course. (2) Warm acupuncture treatment: before acupuncture, eliminate the patient's nervousness by talking or other ways, and treat after fully relaxing. Take half an inch needles to acupuncture the acupoints of inner knee eyes, xuehai, heding, dubi, ashi and Yanglingquan and others, after getting the sensation of qi, ignite (from the lower end) the moxa above the

needle handle, and perform warm acupuncture. It can also be used to relieve the burning sensation of the patients by placing a hard piece of paper in the warm acupuncture area, 4-6 times/time, 1 time /day, and 10days/ course. Patients in both groups were treated continuously for 20 days.

1.4 evaluation index

(1) follow up for 3 months after treatment, and determine the curative effect by referring to the Effectiveness Criteria for Diagnosis of Traditional Chinese Medicine^[4]. Recovery: the knee pain and swelling disappear, the movement angle and function were normal, and the joint fluid was normal; Significantly effective: Knee pain and swelling disappeared, joint angle and function basically recovered; Effective: Knee pain and swelling were alleviated, joint function was basically improved, and movement was restricted; Ineffective: no significant changes in knee symptoms and movement was restricted. Effectiveness = recovery + significantly effective + effective. (2) Three months after treatment, the symptoms of patients were evaluated by the WOMAC index from three aspects: pain (20 points), stiffness (8 points), and daily activities (68)^[5]. The total score was 96 points, the higher the score indicates that the corresponding symptoms are more severe.

1.5 Statistical method

SPSS 18.0 software was used for data processing. Count data were expressed as percentages. χ^2 test and sum of ranks test was used. $\bar{x} \pm s$ was used to represent measurement data, and t test was used. $P < 0.05$ was considered statistically significant.

2 Result

2.1 Efficacy

3 months after treatment, total rate of effectiveness in the observation group was higher than that in the control group, and the difference was statistically significant ($P < 0.05$). See Table 1.

Table 1. Comparison of clinical efficacy between patients in two groups n (%)

| groups | significantly effective | effective | ineffective | total rate of effectiveness |
|-------------------------|-------------------------|-----------|-------------|-----------------------------|
| control group(n=30) | 11(36.67) | 10(33.33) | 9(30.00) | 21(70.00) |
| observation group(n=30) | 19(63.33) | 9(30.00) | 2(6.67) | 28(93.33) |
| χ^2 | | 2.432 | | 5.455 |
| <i>P</i> | | 0.015 | | 0.020 |

2.2 WOMAC score

There was no statistically significant difference in WOMAC score between the two groups before treatment ($P > 0.05$). Three months after treatment,

the WOMAC score of the observation group was lower than that of the control group, and the difference was statistically significant ($P < 0.05$). See table 2.

Table 2. Comparison of WOMAC index before and after treatment between two groups ($\bar{x} \pm s$, points)

| groups | pain | stiffness | daily activity | total score |
|-------------------------|------------|-----------|----------------|-------------|
| control group(n=30) | 11.25±3.43 | 4.23±1.02 | 48.26±4.25 | 62.36±9.45 |
| observation group(n=30) | 8.46±1.76 | 3.34±0.76 | 32.56±6.05 | 43.26±8.57 |
| t | 3.964 | 3.832 | 11.631 | 8.200 |
| P | 0.000 | 0.001 | 0.000 | 0.000 |

3 Discussion

Osteoarthritis is a degenerative disease of human peripheral joints and central axis joints. The early stage of the disease is mainly characterized by cartilage damage. When the disease progresses, the articulation will be severely deformed and the bone structure will be significantly damaged. According to statistics, the incidence of osteoarthritis is positively correlated with the increase in age, that is, it occurs most frequently in the elderly, and the majority are female patients. The main clinical symptoms are joint swelling, pain, and deformation. It restricts patients' activities a lot and shows a slow and progressive trend^[6]. The usual clinical treatments used previously can temporarily relieve pain, but the prognosis is not satisfactory. Traditional Chinese medicine has rich historical experience in the treatment of osteoarthritis, and it has achieved ideal results in clinical application.

The result of this study shows that the total effectiveness of the observation group is higher than that of the control group, and the WOMAC score of the observation group is lower than that of the control group, suggesting that Chinese massage combined with warm acupuncture for knee osteoarthritis can effectively alleviate the symptoms of pain and joint stiffness in patients, and improve joint mobility. Knee osteoarthritis belongs to the category of "rheumatism" in traditional Chinese medicine. It usually arises from injury, stagnation of qi, blood stasis and meridian disorder caused by wind and cold dampness. The patients feel pain in the knee, weakness and inability to walk, which is the swelling due to dampness. Therefore, the main treatment should be Warming and activating meridian, and dispelling cold.

According to the study, relax the muscle group in the knee by massage to adjust the balance of muscle strength and achieve the effect of releasing adhesion,

promoting blood circulation and removing blood stasis. And then use methods of rubbing, dotting and shaking or others to accelerate blood circulation around the affected knee, promote local absorption of inflammatory mediators and reduce pressure in the joints, which can not only prevent the vicious cycle of synovium and cartilage, but also accelerate the regeneration of damaged cartilage matrix of the knee, promote the recovery of the tension, stress and pressure balance of the knee, and gradually recover joint function. Warm acupuncture is a treatment that effectively combines traditional acupuncture and moxibustion. Local acupoint selection method was used in acupoints of inner knee eye, xuehai, hedong, dubi, ashi, yanglingquan and other acupoints. Acupuncture xuehai, yanglingquan and inner knee eyes can directly reach the lesion to remove stasis and pain; Acupuncture at zusanli can strengthen and consolidate body resistance, eliminate pathogen and relieve pain; Acupuncture at xuehai has the effects of nourishing blood, expelling cold and activating blood; Dubi, inner knee eye, and hedong are the main acupoints of knee pain. Acupuncture on these acupoints can help relieve and dispel cold, and relieve pain. With the help of moxibustion, acupuncture can warm the meridians, dispel cold and dehumidify, invigorate qi and activate blood, promote the absorption of inflammatory exudation and repair the soft tissues around the knee joint. Modern research shows that the warm and heat stimulation of moxibustion can induce local muscle to produce heat shock protein, thereby activating the immune system and improving the body's ability to prevent and cure diseases^[7].

In summary, Chinese massage combined with warm acupuncture in the treatment of knee osteoarthritis can have a significant effect, effectively relieve the symptoms of pain and joint stiffness in patients, and improve the function of joint movement, which is

worthy of clinical application.

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