

COMPARISON OF THERAPEUTIC EFFECTS BETWEEN MESSAGE AND MASSAGE PLUS OBLIQUE PULLING METHOD IN TREATING ACUTE LUMBAR MUSCLE SPRAIN OF SPRINTERS

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ABSTRACT

Objective: to explore and compare the therapeutic effects between massage and massage plus oblique pulling method in treating acute lumbar muscle sprain of sprinters.

Methods: to further explore the differences between these two methods and provide reference for clinical treatment, the study selected 1,200 cases of patients of acute lumbar muscle sprain receiving treatment in the Hospital from August 2011 to May 2016 as the research objects, and equally divided them into the control group (600 cases) and the experimental group (600 cases) through drawing method. The patients of the control group received massage therapy and the patients of the experimental group received massage plus oblique pulling. The therapeutic effects of the two groups of patients was compared.

Results: according to the research, the experimental group had a therapeutic response rate of 95%, and the control group had a therapeutic response rate of 83%. Compared with the control group, the experimental group had obvious advantage, meeting the condition that $P < 0.05$, with statistically significant difference.

Conclusion: the massage plus oblique pulling has remarkable clinical effect in treating acute lumbar muscle sprain of sprinters, and can alleviate the patients' pain and shorten the treatment time. It is the best treatment protocol of clinical treatment. Therefore, it is suggested that we actively promote application of massage plus oblique pulling in future clinical practices.

Keywords: Massage, Oblique pulling, Acute lumbar muscle sprain, Therapeutic effect comparison.

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Introduction

Seen from the current situation, acute lumbar muscle sprain (see Figure 1) is a common disease in clinical practices. It has a quite high incidence among the sprinters due to their own factors. This is mainly because that the body of the patients is unevenly stressing under excessive traction or torsion which will directly lead to acute injury to lumbosacral joint, intervertebral facet joint, muscle and other parts, and further cause local soft tissue swelling. At the same time, there will be passive position, limitation of motion, and lumbago, etc. The relatively obvious manifestations in clinical practices includes acute lumbar vertebral posterior joint disorder, and acute lumbar ligament injury. There are relatively more therapeutic protocols for

the treatment of acute lumbar muscle sprain, such as massage (see Figure 2), external application, acupuncture, oral traditional Chinese medicine and so on⁽¹⁻⁴⁾.

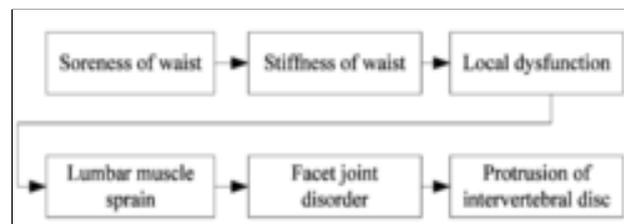


Figure 1: Symptoms of acute lumbar muscle sprain.

Figure source: Yang Zhongliang. Comparison of Therapeutic Effects between Massage and Massage Plus Oblique Pulling Method in Treating Acute Lumbar Muscle Sprain. Guide of China Medicine. 2016; 07(14):220-221.



Fig. 2: Performance of massage on the patients with lumbar muscle sprain.

Figure source: Wang Litong, Zhan Hongsheng. *Comparison of Therapeutic Effects between Massage and Massage Plus Oblique Pulling Method in Treating Acute Lumbar Muscle Sprain*. *Chinese Journal of Sports Medicine*. 2011,08(30):745-747.

According to studies, massage plus oblique pulling has significant clinical effect in treating acute lumbar muscle sprain. This study is to carry out in-depth discussion and analysis on it, and the specific report is as follows.

Materials and methods

General materials

This study selected 1,200 cases of patients of acute lumbar muscle sprain receiving treatment in the Hospital from August 2011 to May 2016 as the research objects. These patients were equally divided into the control group (600 cases) and the experimental group (600 cases) through drawing method. Among them, there were 800 male cases and 400 female cases. Their ages were between 18 to 58 years old, and their average age of 39.9 ± 5.5 years old. Their course of disease was between 0.5 and 7 d, and their average course was 4.3 ± 0.3 d. There were no significant differences between the basic data of the two groups of patients, meeting the condition that $P > 0.05$, without statistical significance.

Methods

Control group: massage is performed on this group of patients, and the specific operation is as follows: first of all, the patient needs to take prone position. The doctor standing by one side of the patient performs massage on the patients with the back of his hand along the spine at the lower back of the patients as well as the bladder meridian at both sides of the spine. Then, the doctor repeatedly performs rolling manipulation on the upper and lower parts of the patient's hip for 5 min; secondly, the doctor performs continuous pressing on the Huatuo Jiaji points at both sides of the patient's

spine with thumbs from top to bottom, and focuses on pressing the tenderness points. Then, the doctor performs plucking method on the tension part of lumbar muscle. It should be noted that the strength shall be appropriate and shall not be too large. The plucking lasts for 2 min; thirdly, the doctors performs point kneading on the following acupoints of the patient with thumbs. The acupoints include Yaoyangguan point, Shenshu point, HuanTiao point, Yanglingquan point. The point kneading performed on these points shall last for about one minute; fourthly, the doctor performs pushing manipulation on the waist of the patient, and combines palm with kneading manipulation. The pushing manipulation continues until there is local heat sensation. After the treatment is completed, the patients shall firstly move both of their lower extremities from the bed, and hold up upper body with both hands to get off the bed.

Experimental group: the patients receive massage plus oblique pulling, and the massage method is consistent with that of the control group. The doctor shall perform oblique pulling between performance of relaxation technique and spasmolysis technique. The main operating process is as follows: firstly, check the patient's body to make clear the tenderness points at the waist of the patient, and at the same time tell the assistant to press the tenderness points with thumbs. Secondly, the doctor asks the patient to take lateral position on uninjured side plus hip flexion and knee bending with side leg. At the same time, the patient needs to straighten the leg of the uninjured side, and then stretch it backward, so as to straighten the spine; thirdly, the doctor needs to stand in front of the patient, pressing and holding the shoulder of the patient with one hand; and uses the other hand to press on the outer side of the anterior superior iliac spine.

The doctor then requires the patient to rotate the upper body backward and rotate the pelvis forward; finally, the doctor tells the patient to relax his waist, and twist back and forth for several times under the guidance. At the same time, the patient needs to take deep breath, and pay attention to the rhythm of exerting strength to ensure a light and equal strength. Upon the incidence of obstruction or at the beginning of the patient's expiration, the doctor performs sharp shaking on the patient with both hands. Then, the doctor pushes the patient's shoulder backward and presses on it; pushes the patient's iliac bone forward and presses on it; and rotates the patient's waist.

The operation shall be fast with light strength. The assistant shall assist to press on the tenderness point with his thumbs. In general, there will be “clicks” which indicate the completion of the operation. No brute strength shall be allowed during the operation. At the same time, it is not suggested to pursue the “clicks” of the joints. Both of the two groups of patients receive the treatment once a day. Each treatment lasts for thirty min, and each treatment course lasts for 3 d⁽⁶⁻⁶⁾.

Observation indicators

The clinical therapeutic response rates of the two groups of patients were compared with the evaluation standards including: cured: lumbago disappears, and spine movement returns to normal; effective: lumbago is not obviously improved, and spinal movement is basically normal; invalid: lumbago is not improved, and spine movement fails to return to normal.

Statistical analysis

In terms of the data analysis and processing in this study, the new statistical software package SPSS19.0 was adopted. The counting data was represented with (n %), and chi-square test was adopted. The measurement data was represented with mean plus or minus average, namely ($\bar{x} \pm s$), and t test was adopted. $P < 0.05$, which suggested that the difference had statistical significance.

Results

According to the analysis of experiment data, the therapeutic response rate of the experimental group was 95% (570/600), and that of the control group was 83% (500/600). Compared with the control group, the experimental group had obvious advantage. $P < 0.05$, indicating that the difference was statistically significant. In addition, the pain score of the experimental group was significantly lower than that of the control group, and the comparison between groups had statistical significance.

Discussion

In recent years, the sprinter with acute waist injury keeps increasing year by year. Once the incidence of acute waist injury, the life of the patient will be seriously affected. Besides, acute waist injury is also accompanied by intense pain, and compulsive position of the waist and back limiting

the waist movements of the patients such as pitching or rotation. Even the slight cough will aggravate the pain. Since the patients' living quality is affected, clinical practices have attached great importance to the treatment for the patients with acute lumbar muscle sprain. The previous treatment was basically given priority to massage, and oral Chinese medicine, and had obtained relatively good results. According to data investigation, massage plus oblique pulling has remarkable clinical therapeutic response rate, and can maximally reduce the patients' pain, thus it is worthy of clinical promotion.

Seen from the perspective of traditional Chinese medicine, acute lumbar muscle sprain belongs to side stitch, and sudden lumbar sprain. In general, it is caused by sudden indirect external force on the patients. According to ancient records, it is a kind of lumbago caused by extravasated blood. And its etiology based on syndrome differentiation in TCM is qi stagnation and blood stasis which will cause pain. The pathological mechanism of acute lumbar muscle sprain is coordinated qi movement, disturbed joints and synovium incarceration. The acute lumbar muscle sprain is relatively common in waist joints, and acute injury is frequently found in waist muscle or ligament (see Figure 3), and joints. However, it is likely to exist in these parts at the same time⁽⁷⁻¹⁰⁾.

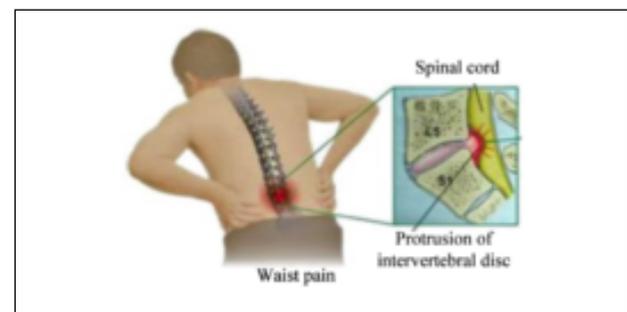


Fig. 3: Pain caused by injury to waist muscle.

Figure source: Xuling Hong. *Treatment of Acute Lumbar Muscle Sprain through Fumigating with the TCM plus Manipulative Reduction and Nursing Observation*. *Journal of Emergency in Traditional Chinese Medicine*. 2014; 03(25):494-495.

Different acute injuries of tissue have different symptoms. Among them, laceration appears in lumbar muscle, ligament and fascia. This is because of errhysis of local soft tissue caused by injury. The manipulative therapies include: pushing and embrocation, pinching and kneading. And the assumed adoption of malaxation method is likely to aggravate the injury to patients.

Acute synovium incarceration of the posterior joint of lumbar vertebra belongs to lumbar intervertebral facet syndrome, and is generally caused by mild acute lumbar muscle sprain, or sudden standing up from bending. It limits the spin movement of the patients and aggravates the patients' pain. Studies have shown that application of massage plus oblique pulling method has better clinical effect in treating the acute lumbar muscle sprain, and can effectively improve the patients' living quality, and reduce their pain score.

In this study, the patients of the experimental group received massage plus oblique pulling method obtained relatively good clinical effect, and their therapeutic response rate reached 95% which had significant advantage compared with the 83% of the control group. The comparison between groups met the condition that $P < 0.05$, indicating that the difference had statistical significance. Therefore, it can be seen that the application of massage plus oblique pulling method in the treatment for the patients with acute lumbar muscle sprain can reduce the patients' pain, speed up their recovery, and improve their living quality. Therefore, it is necessary to actively expand its application in future clinical practices so as to make more patients benefit from it⁽¹¹⁻¹²⁾.



Fig. 4: Performance of oblique pulling on the patients for the treatment of lumbar muscle sprain.

Figure source; Li Sibin, Wang Lixin, Li Zhengxiang, Li Xiubin, Yuan Hui, Sheng Shaoshan. *Evaluation on the Clinical Effect of Improved Oblique Pulling in Treating Acute Lumbar Muscle Sprain*. *China Modern Doctor*. 2014; 11(10):95-97.

For patients with acute lumbar muscle sprain, massage therapy can not obtain good therapeutic effect. It only relaxes muscles and tendons, removes obstruction from meridians, and alleviate waist and back muscle tension through simple waist and back massage and pitching. While, the performance of oblique pulling on the patients' waist can obtain better therapeutic effect as well as effect of smoothing tendons and reduction, thus reducing the patients' joint dislocation.

To a certain extent, the massage plus oblique pulling (see Figure 4) had significant therapeutic effect. It can not only reduce tension and spasm of the waist and back muscle of the patients, but also adjust the intervertebral joints and contact synovium incarceration, with good clinical therapeutic effect. In this study, clinical research achievement with objective value was obtained on the basis of experimental research. Besides, the result is consistent with the views of scholars both at home and abroad, which is sufficient enough to show that the research result has certain clinical application value. Therefore, it is suggested that this research result be further promoted in the future clinical treatment⁽¹³⁻¹⁸⁾.

To sum up, massage plus oblique pulling has remarkable therapeutic effect in treating patients with acute lumbar muscle sprain. It can not only reduce the patients' pain, but also accelerate their rehabilitation. As a relatively effective clinical treatment protocol, it needs to be further expanded in the future clinical practices. This article focused on expounding the clinical effect of massage plus oblique pulling in treating the patients with acute lumbar muscle sprain, and obtained research achievement with clinical value on the basis of experimental data analysis. The research achievement is worthy of clinical promotion.

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