

Treatment of lumbar intervertebral disc herniation with small needle knife combined with hot compress powder of the Clinical effect observation

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Abstract: Objective: To observe the efficacy of small needle knife combined with hot compress powder in the treatment of lumbar disc herniation. Method: A total of 78 patients with lumbar disc herniation in the Department of Orthopedics, Affiliated Hospital of Shaanxi University of Chinese Medicine from May 2020 to November 2020 were selected and randomly divided into treatment group and control group, with 39 cases in each group. The treatment group was treated with small needle knife combined with hot compress powder, while the control group was treated with physiotherapy combined with hot compress powder. After 4 courses of treatment (1 course was 7 days), the clinical efficacy, VAS score, and the changes of flexion and retrograde Angle were compared between 2 groups. Results: After treatment, the clinical efficacy, flexion Angle and retrograde Angle of the treatment group were significantly better than those of the control group, and the VAS score of the treatment group was significantly lower than that of the control group. Conclusion: Small needle knife combined with hot compress powder has obvious curative effect in the treatment of lumbar disc herniation, worthy of clinical promotion.

Keywords: small needle knife; Hot compress; Physical therapy; Herniated lumbar disc

1. Introduction

Lumbar disc herniation (LDH) is mainly caused by intervertebral disc biomechanical imbalance due to various reasons. The annulus fibrosus ruptures and eventually leads to the compression of the nerve and surrounding tissues after the protrusion of the nucleus pulposus [1]. Causes local low back pain, lower limb throbbing pain, waist mobility reduction and other symptoms.

2. Materials and Methods

2.1 General information

A total of 78 patients with lumbar disc herniation in the Department of Rehabilitation Medicine, Affiliated Hospital of Shaanxi University of Chinese Medicine from May 2020 to November 2020 were selected and randomly divided into treatment group and control group, with 39 patients in each group. The treatment group was treated with small needle knife combined with hot compress powder, while the control group was treated with physiotherapy combined with hot compress powder. In the treatment group, 16 cases were female and 23 cases were male. The average age was (33.4 ± 9.7) years. Duration of disease 1 month to 53 months, The forward bending Angle was 36.54 ± 2.98 , the backward Angle is 16.78 ± 1.97 . In the control group, there were 19 females and 20 males, ranging in age from 27 to 60 years old, with an average age of (35.1 ± 11.0) years, and a course of disease ranging from 2 months to 57 months. The forward bending Angle was 38.04 ± 2.87 , and the backward Angle was 17.21 ± 1.89 . After 4 courses of treatment, there were no shedding cases in both groups. There was no significant difference in gender, age, course of disease, flexion Angle and retrograde Angle between the two groups before treatment ($P > 0.05$), indicating comparability. This clinical study was approved

by the Ethics Committee of the Affiliated Hospital of Shaanxi University of Chinese Medicine, and all patients voluntarily signed the relevant informed consent before treatment.

2.2 Inclusion criteria

In line with the clinical diagnosis of lumbar disc herniation; (2) CT or MRI examination confirmed lumbar disc herniation; (3) On the basis of understanding the content and risks of this study, patients voluntarily participated and signed informed consent; (4) High treatment compliance.

2.3 Exclusion criteria

(1) Severe prolapse of lumbar intervertebral disc; (2) Low cognitive ability; (3) Coagulation diseases; (4) Patients with lumbar tumor or tuberculosis; (5) lumbar disc herniation caused by acute trauma;

2.4 Treatment methods in the treatment group

2.4.1 Acupotomy therapy

Ask the patient to relax, take the prone position, and cushion a soft pillow under the waist to make the patient comfortable; (2) According to the different position of the patient's waist, the positioning was started. During the positioning, the body surface marker with the midpoint of the 12th thoracic rib and the anterior superior iliac spine as the waist 3 was used, and the marker pen was used for marking. (3) After routine disinfection, the marker points were injected with lidocaine and sterilization water in a ratio of 1:2, and each marker pen was injected with about 1ml of the injection mixture. (4) Wearing sterile gloves, the acupotomy body was perpendicular to the skin, the knife-edge line was parallel to the longitudinal axis of the spine, and the puncture was about 0.5cm into the spinous process space. The knife-edge line was perpendicular to 90°, perpendicular to the direction of tendon and ligament fibers, and the ligamentum flavum could be cut open if there was ligamentum flavum hyperplasia. Then pull out the needle and press the needle hole for 1 minute. 1 time/week for 4 courses.

2.4.2 Heat dispersion

Radix cyanthus 15 g, safflower 15 g, ginger 20 g, prickly ash 15 g, dipterus dipterus 15 g, artemisia argyi 20 g, chuanxiong 15 g, frankincense 15 g, myrrh 15 g, chuanwu 9 g, acao 9 g, Shenjincao 15 g, Transguacao 30 g, cassia branch 15 g, mulberry branch 15 g, salvia miltiorrhiza 20 g. Put the above drugs into a cloth bag, add 250 mL of aged vinegar, steam in a steamer for 30 ~ 40 minutes, take out the medicine bag wrapped in a towel and apply to the affected area to prevent local skin scald, hot apply for 30 minutes each time. The patients were treated twice a day for 6 consecutive days and rested for 1 day for 4 weeks.

2.5 Treatment methods in control group

2.5.1 Physical therapy

The treatment instrument was Quanrikang J48B computer medium frequency therapy instrument. During the treatment, the patient was in the prone position, and the electrode plate was placed near the Jiaji point around the waist pain point. After fixation, the intensity was adjusted according to the patient's tolerance, 20 min/ time, 2 times /d. After 6 consecutive days of treatment, one day of rest was given for 4 courses of treatment.

2.5.2 Heat dispersion

Hot compress powder was used the same as the treatment group.

2.6 Efficacy criteria

The comprehensive curative effect refers to the Curative Effect Criteria for Diagnosis of Diseases and Symptoms of Traditional Chinese Medicine [2] Cure: symptoms and signs disappear, and activities and work return to normal; Significant effect: symptom relief, function significantly improved, can participate in general work; Effective: the symptoms are partially improved, interstitial lumbago and leg pain occurs, but does not affect the ability to live: the above is the total number of effective

treatment; Ineffective: symptoms and signs do not improve significantly or worsen further.

2.7 Statistical Methods

SPSS21.0 statistical software was used for statistical analysis of the data. Measurement data were expressed as mean \pm standard deviation ($x \pm s$). Pair t-test was used for comparison, t-test was used for all groups, χ^2 test was used for rate test, $P < 0.05$ was considered statistically significant.

3. The results

3.1 Efficient comparison

Two groups of patients after two weeks of treatment, 39 patients in the treatment group, 32 cases recovered, 5 cases improved, 2 cases ineffective, the total effective rate of 94.87%. In the control group of 39 patients, 24 cases were cured, 7 cases were improved, 8 cases were ineffective, and the total effective rate was 79.49%. The total effective rate between the two groups was significantly different by χ^2 test ($P < 0.05$). The total effective rate of the treatment group was better than that of the control group. See table 1.

Table 1 Comparison of effective rates between the two groups (n)

group tranches	n	cure	take a turn for the better	invalid	effective rate
treatment group	39	32	5	2	94.87
control group	39	24	7	8	79.49

3.2 Comparison of VAS scores between the two groups before and after treatment

Table 2 Comparison of VAS scores between the two groups before and after treatment ($x \pm s$)

group tranches	n	prior treatment	posttreatment
treatment group	39	6.22 \pm 1.21 Δ	1.50 \pm 0.79 #
control group	39	6.30 \pm 1.17 Δ	3.77 \pm 0.71

Note: Comparison between the two groups before treatment $\Delta P < 0.05$; Comparison between the two groups after treatment # $P < 0.05$.

3.3 Comparison of anterior flexion and retrograde angles between the two groups before and after treatment.

Table 3 Comparison of anterior flexion and retrograde angles between the two groups before and after treatment ($x \pm s$)

group tranches	n	max forward angle		Back Angle	
		prior treatment	posttreatment	prior treatment	posttreatment
treatment group	39	38.56 \pm 2.88*	49.56 \pm 3.16 # ※	17.12 \pm 1.98*	24.23 \pm 2.76 # ※
control group	39	39.01 \pm 2.77*	44.69 \pm 3.42	17.44 \pm 1.99*	21.09 \pm 1.99

Note: Comparison between the two groups before treatment * $P > 0.05$; Comparison between the two groups after treatment # $P < 0.05$; Comparison between the two groups after treatment ※ $P < 0.05$.

4. Discussion

Prolapse of lumbar intervertebral disc in orthopedics is a common disease and frequently occurring, more common in young adults, because teenagers in 20 years old after the occurrence of intervertebral disc degeneration phenomenon. The intervertebral disc is mainly composed of annulus fibrosus, cartilage plate and nucleus pulposus. The physiological reason is that the decrease of water in the

nucleus pulposus and the increase of external pressure in the annulus fibrosus will occur after the age of 20, and the external reason is that the herniation of the intervertebral disc will be caused by strain and trauma, and the herniation will compress the nerve, resulting in waist pain accompanied by pain and numbness in the lower limbs [3]. When there is cauda equina injury, the minor can cause incontinence, the serious can cause paraplegia. Since lumbar disc herniation can seriously affect our quality of life [4], we need to see a doctor in time. Current treatments with conservative treatment and surgical treatment, conservative treatment with acupuncture and moxibustion, massage, physiotherapy, massage, traction, TCM hot compress, medicines are, magnetic treatment methods, such as thermal therapy, chiropractic, needle knife, treatment of quick effect, method is simple, easily accepted by patients, but not fundamentally change the changing structure of the lumbar spine, symptoms easily repeated [5]. Although the surgical treatment of lumbar intervertebral disc herniation is quick and the therapeutic effect is maintained for a long time, the surgical trauma is large and the complications are many in the later period, so it is generally not accepted by patients. Therefore, our clinical staff are looking for better treatment methods in conservative treatment. At present, we have found that small needle knife combined with hot compress powder has obvious therapeutic effect in the treatment of lumbar disc herniation through multiple ways of combined treatment. Therefore, we are observing the therapeutic effect of small needle knife combined with hot compress powder in the treatment of lumbar disc herniation.

Acupotomy has a history of 45 years. It is a new medical science in China, which applies multiple disciplines such as TCM meridians, Western anatomy, physical mechanics, mathematics and so on [6]. It is a new medical discipline that studies the relationship between biomechanics and the occurrence and development of disease with multidisciplinary method.

In the treatment of lumbar intervertebral herniation, acupotomy is used to stab the lesion site for cutting and dissection, to restore biomechanical balance between the herniation and peripheral nerves, blood vessels, muscles, ligaments and deep and shallow fascia. It can relieve the compression on nerve roots, eliminate edema of nerve roots [7], and relieve the symptoms of pain and numbness. The operation of acupotomy is very simple, the incision is small, the treatment is completed without suture, so it is not easy to cause infections and other adverse reactions. Xiao Lin et al. [8] believed that stripping and cutting the pain point could promote local blood circulation of the diseased tissue, accelerate the metabolism of inflammatory factors, relieve lumbar soft tissue spasm and relieve pain symptoms. The operation of acupotomy is very simple, the incision is small, the treatment is completed without suture, so it is not easy to cause infections and other adverse reactions. Xiao Lin et al. [8] believed that stripping and cutting the pain point could promote local blood circulation of the diseased tissue, accelerate the metabolism of inflammatory factors, relieve lumbar soft tissue spasm and relieve pain symptoms. Based on the principle of promoting blood circulation, removing blood stasis, relaxing tendons and dredging collaterals of traditional Chinese medicine, Reefu Powder can accelerate blood circulation, improve the permeability between tissues, facilitate the absorption of exudate and alleviate local muscle spasm through its drug penetration and the warm effect of the drug package [10].

To sum up, by comparing the treatment of lumbar disc herniation with small needle knife combined with hot compress powder and physiotherapy combined with hot compress powder, the results show that: The effective rate of the treatment group was 94.87%, and that of the control group was 79.49%. The VAS score of the treatment group was significantly decreased ($P < 0.05$), and the range of flexion Angle and retrograde Angle were significantly increased ($P < 0.05$). It can better relieve the pain symptoms of patients' waist and legs. The treatment method of small needle knife combined with hot compress powder is simple, safe, reliable and has low hospitalization cost. It is worthy of our clinical application and promotion.

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