

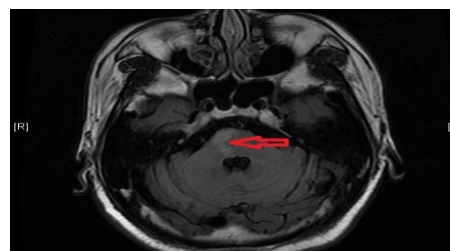
Discussion of Lower Limb Flexor Spasticity in Stroke Patients by Single Point of Continuing Hands Deep Thumb Pressure Rubbing Method

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Abstract: To observe the curative effect of the single point of continuing hands deep thumb pressure rubbing method to the stroke patient with lower limb flexor spasticity. After seeking for spastic muscle, the patient was treated with the method of a single point of continuing hands deep thumb pressure rubbing method. The treatment was 3~5 seconds with the single point of continuing hands deep thumb pressure rubbing method, and the patient had a rest for 6~10 seconds after the treatment, twice a day, 35 minutes each time. The spastic muscle of the patient had a great improvement. And the patient could self-care after treatment. The single point of continuing hands deep thumb pressure rubbing method has obvious effect on the lower limb flexor spasticity of stroke patients.



Keywords: Massage; Deep thumb pressure rubbing; Stroke; Spasm; Medical records

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1. Introduction

Stroke is one of the three major healthy threat diseases. It has a great disability characteristics [1-2]. But with the medical technology and the study on the basis of deep excavation, the death rate of the stroke declined sharply. About 80% of the disability rate has a serious impact on the quality life of the patients [3]. China is the second country with the incidence of stroke disease in the world. And it has spread to the young people in these years [4]. Spastic paralysis is one of the common sequels in stroke patients. Stroke is the result that the higher nervous center is out of the control to the lower nervous center after the brain hurt with the modern theory of the nature of hemiplegia [5]. Spastic paralysis is a part of the characteristics of motor neuron damage. And the clinical manifestation is the increase of the muscle tension, the active tendon reflex and so on. There is longtime step of the disease to affect daily life in patients with functional recovery. Chinese Medicine points out that the imbalance of Yin and Yang is the main mechanism of injury after cerebral apoplexy. In this way, the balance of Yin and Yang is general principles, which is based on the modern anatomy.

Chinese Traditional Medicine believes that the imbalance of Yin and Yang is the main pathogenesis of spastic after spinal cord injury with the symptom of yin and yang imbalance or partial Yin Yang. It causes serious difficulty of the economic, social and training of patient to look for new ways to reduce muscle tension actively. To alleviate muscle tension,

electrotherapy, hydrotherapy, wax treatment and Botox injections are the ways of modern rehabilitation. But massage is used widely in Chinese traditional medicine. The treatment one stroke patient with single point of continuing hands deep thumb pressure rubbing method is reported as follows.

2. Patient and method

2.1. Patient

Patient is male and 45 years old. His left limb activity is ineffective. Brain MR: cerebral infarction (Figure 1, 2). The figures reveal that the section on the right pons patchy is long T1, T2 signal and high Flair Movies. To serological inspection, Table 1 shows that the result of AST (aspartate transaminase), LDL-C (LDL-Cholesterol) and LDH (Asparate transaminase) are lower than the normal reference range, but the result of Lipoprotein and Glucose are higher than the normal reference range. After acute stage treatment, patient had left limb motor dysfunction. Checking: Clear minded, spirit, verbal fluency, left lower limb adductor muscle tension by grading Ashworth [6] 1+; muscle tone by Ashworth scale for Level 2; iliopsoas muscle tension Ashworth scale for Level 2 and by grading Brunnstrom 3 [7]; cannot ipsilateral single leg stand; difficulty in flexion and extension of the hip and cannot ankle dorsal flexion; Achilles tendon contracture. In addition to physical signs, the patient feels that he had tired walk, heavy feeling, especially the lower limb walked difficultly, heavy sense of the whole body.

Table 1 Result of the serology

Biochemical indicators	Test value	Normal reference range
AST	9.00u/l	15~40u/l
LDL-C	1.23mmol/l	1.90~3.12mmol/l
LP(α)	475.9mg/l	0~300mg/l
LDH	109u/l	120~250u/l
GLU	7.5mmol/l	3.9~6.16mmol/l

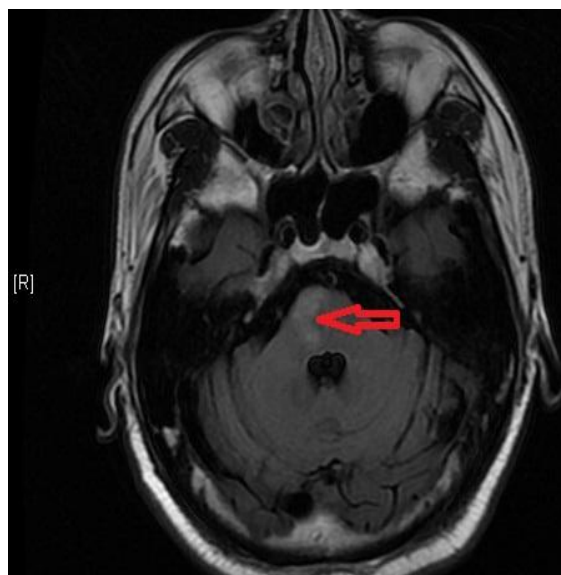


Figure 1. Long T1 signal on the right pons patchy.

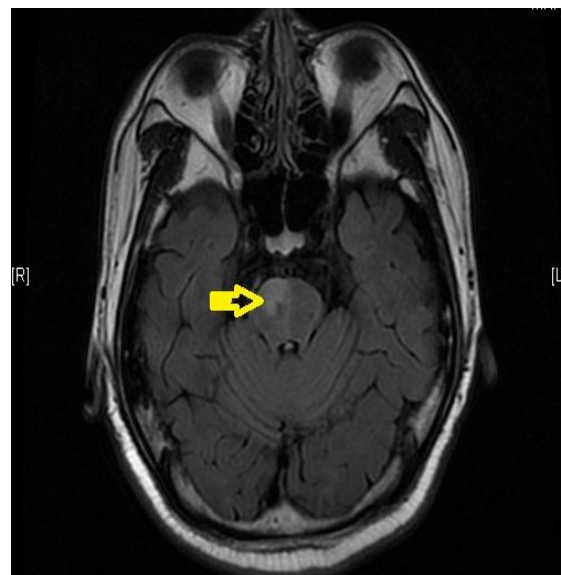


Figure 2. Long T2 signal on the right pons patchy.

2.2. Method

Thumbs were put to the affected area with bilateral elbow straight. The specific adjustment was accorded to the patient or the performer's posture. Both hands thumb press the affected area, while the press part of the dial method and rubbing method. Through the muscle method to find a relatively high degree of spasticity 3 to 5 spasm points, which were deeply pressed with the dial method and rubbing method. Patient should insist 5 minutes and take a deep breath to make body relaxing. After the massage treatment, patient had a rest from 6-10s. Adductor muscle spasm in the highest site after 1 to 2 times the manual treatment, the skin parts of adductor muscle had a sense of soreness after to 2 times the manual treatment on the spasm area.

For patients with lower extremity Yinjing line parts of the spasm, massage points was usually found in the hamstring at the relatively high degree of spasm. For patients with hip flexion difficulties, we massaged the iliopsoas, gluteus maximus, and back muscles. After the massage treatment, we stretched the knee for 3~5 times, ankle for 5~6 seconds continuously. The gently rub method was used to relax the body of patient. The method was performed about 35 minutes 2 times one day.

3. Results

The evaluation of muscular tension of the lower limb adductor by the Ashworth method reduced from level 1+ to level 1. The degree of spasm of iliopsoas muscle was down from level 2 to level 1. And patient could make approximately 50° of hip flexion and 10° ankle dorsiflexion. The patient could keep standing for about 3 minutes with ipsilateral leg lonely. After 20 meters walking, patient did not have heavy feeling. The Barthel of the ADL [8] of the patient could be 100 points. Single point of continuing hands deep thumb pressure rubbing method was useful for the patient.

4. Discussion

The areas of the treatment had pain, swelling and blood stasis purple macula. However, the blood stasis purple macula would continue for several days. The finger of the rehabilitation therapist would be numb, acid expansion. So we suggest the high blood pressure and the paralgesia should not be treated by the method, including the therapist.

There is not a good definition of spasm currently. Pandyan described the spasms in 2005 year as: A feeling of upper motor neuron damage caused by motion control disorder, manifested as intermittent or continuous row of involuntary muscle activation [9].

But Chinese traditional medicine believes that the imbalance between Yin and Yang is the main pathogenesis of post-stroke spasticity. It shows the imbalance of Yin and Yang partial shade or partial symptoms. Single point both thumbs sustained deep pressure rubbing method can relax the network and muscle spasms, to reduce muscle tension. So, the body tends to balance between Yin and Yang. Professor Lu [10] has treated the stroke through rub the head and the face of the patient.

Modern medical research shows law and kneading method can stretch the muscles-joints tendon organ and inhibit α motor neurons to relieve spasm. On the other hand, the distance is shorten in different skeletal muscles to reduce the afferent impulses of the motor neuron excitability [11]; The sustained deep pressure thumb rubbing could directly make the main spastic muscle effect. Then the pain and the acid expansion can make cerebral cortex sensory area excited to inhibit the brainstem reticular formation Alienation. So the single point both thumbs sustained deep pressure rubbing method can reduce muscle tension. At the same time a large number of modern clinical studies have confirmed that the method of the massage can reduce the muscle tension and improve the effectiveness of patient motion function [12]. Rubbing methods can stimulate the skin surface of the muscles and stretch receptors in muscles intensify γ efferent. It makes these receptors on the physiological response easily of muscle stretch [13-15].

5. Conclusion

The single point of continuing hands deep thumb pressure rubbing method is the combination of Chinese Traditional Massage with anatomy of Western Medicine. It is an effective physical therapy for the spasm in clinical care and can improve the ability of ADL of the patient. The method has many advantages, such as a short treatment period, strong operability, and obvious affection and so on. Single point of continuing hands deep thumb pressure rubbing as one of the treatment methods of spasm in clinical care should be widely applied.

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