

Experience in the Treatment of Neurogenic Cervical Spondylosis in Chinese and Western Medicine

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Abstract

Cervical spondylotic radiculopathy (CSR) accounts for over 60% of cervical spondylosis. Clinical Chinese medicine treatment is based on internal Chinese medicine, external Chinese medicine, acupuncture, etc., which is beneficial in improving patients' symptoms and quality of life, while the advantages of combining Chinese and Western medicine in treating cervical spondylosis are also gradually highlighted. In this paper, we propose to summarize the relevant experience and research on the treatment of CSR in Chinese and Western medicine in recent years, so as to provide reference for optimizing the clinical treatment plan for CSR.

Keywords

Cervical Spondylotic Radiculopathy; Chinese and Western Medical Treatment; Summary.

1. Introduction

Neurogenic cervical spondylosis is a clinically common and multi-occurring disease [1]. Patients often suffer from acute trauma or long-term strain injury resulting in cervical spine osteomalacia, calcification of the collateral ligament, protrusion or even detachment of the medullary nucleus, and degenerative changes of the cervical intervertebral disc, which stimulate the cervical nerve to produce corresponding signs and symptoms. The disease is mostly seen in middle-aged and elderly people aged 40 to 60 years [2], and its clinical manifestation is continuous or intermittent neck and shoulder pain and discomfort, which can be accompanied by radiating or numbing pain in the upper limbs unilaterally or bilaterally, and in severe cases, skin sensory disorders, muscle atrophy, weakened or lost tendon reflexes, etc [3]. With the changes in work patterns, the accelerated pace of life, and the effects of prolonged ambulatory work and increased use of computer and mobile phones, the incidence of cervical spondylosis has become increasingly high and rejuvenating, which not only leads to the limitation of normal activities, but also increases the psychological burden of patients, seriously affecting their physical and mental health and quality of life. There are many different ways to treat neurogenic cervical spondylosis. The author will summarize the onset of CSR and its experience in Chinese and Western medical treatment techniques in recent years.

2. Overview of modern medical research on CSR

2.1. Pathogenesis

2.1.1. Local irritation and compression

The degenerative changes in the cervical spine result in chronic local irritation and compression of its Osteophytes, with hyperplasia prone to secondary inflammatory reactions at the hooked vertebral joints and articular prominences, causing increased local vascular permeability and increased circulation disorder, which leads to nerve root pathology [4]. Prolonged cervical flexion increases the pressure in the spinal cord, the spinal cord protrudes outward or even prolapses, and each flexion of the cervical spine allows the cross-sectional area

of the spinal cord to Concomitantly, prolonged and substantial neck flexion and extension increase the mechanical compression burden on the spinal cord and frictional pulling together.

2.1.2. Hemodynamics

Benjamin M [5] et al. on 22 cervical spondylosis with or without spinal cord disease Patients undergo dynamic magnetically sensitive contrast perfusion MRI before, during and after contrast injection, by compressing the Parts were evaluated for relative spinal cord blood volume, reversible relaxation rate, and relative oxygen extraction fraction, and compared with anterior and posterior spinal cord diameters and modified Japanese Orthopaedic Association scores were compared, and the results obtained support the hypothesis that spinal cord compression causes ischemia and hypoxia, and that the degree of ischemia and The degree of neurological damage is proportional. This ischemia and hypoxia may even cause necrosis of the spinal cord, the mechanism of which is still unclear and needs to be further investigated.

2.1.3. Cervical spine instability theory

Degenerative changes in the cervical intervertebral discs cause instability of adjacent vertebrae, chronic strain so that part of the intervertebral discs are not stable. joint loosening, increased laxity of the small articular capsule, and expansion of the fibrous ring, both of which together have caused a portion of the cervical spine to lose its stability. Cervical flexion and extension activities will cause the spinal cord to rub repeatedly on the posterior vertebral body osteophytes, Hirai Shima [6] et al. by comparing The anatomical features of CSR patients undergoing surgery and healthy subjects revealed the width of the intervertebral foramen (developmental factors) and the osteophytes of the Formation (spinal factors) is associated with the development of CSR, which can lead to a loss of soft tissue muscle balance and rotational displacement of the cervical spine bilaterally The nerve roots are irritated and compressed to produce the corresponding clinical symptoms.

2.2. Treatment

2.2.1. Pharmacological therapy

Relief of symptoms mainly by anti-inflammatory and analgesic drugs, currently more commonly used are non-steroidal anti-inflammatory drugs. such as aspirin, ibuprofen extended-release capsules, and sodium diphenhydramine [7], as well as nutritional neuroleptics, such as methcobalamin, and Glucocorticoids, etc. Zhang Jie [8], in observing the value of gabapentin in CSR treatment, had a total effective rate of 94.59% in his study group, which was higher than the 75.68% of the control group, indicating the efficacy of gabapentin in relieving pain in patients. CSR pain is commonly used in the early stages due to the ease of application of the drug and high patient acceptance.

2.2.2. Physiotherapy

The application of natural and artificial physical energy in the prevention and treatment of diseases, such as electricity, light, water, magnetism, heat, freezing, etc. in many forms, can promote blood circulation, improve local tissue nutrition, and may also have an excitatory or inhibitory effect on the nervous system. It is effective in relieving spasticity and treating diseases such as muscle weakness and muscle atrophy. By observing physiotherapy combined with traction in 60 patients with CSR, Luo Jun [9] et al. achieved an overall effective rate of 85.00%. It shows that physiotherapy is effective in relieving patients' symptoms in the treatment of CSR and can be promoted for use in clinical practice.

2.2.3. Closed injection therapy

Closed injection therapy to reduce tissue adhesions and edema by injecting the drug directly into the lesion. Wang Yong [10] used cervical transverse spine injection therapy to treat patients with CSR with an overall effective rate of 86.7%, and Wang Zhonglu [11] et al. observed the clinical efficacy of Zhengqing Fengyanin Injection in the paravertebral neck for the treatment

of neurogenic cervical spondylosis and found that its overall effectiveness was 88.0% compared to 58% in the control group treated with traction alone. Closed injection therapy allows the medication to go straight to the site and provides rapid pain relief, but also requires attention to sterility and selection of injection sites Question.

2.2.4. Surgical treatment

Surgical treatment is often used for severe cases that have failed to respond to conservative treatment. Anterior decompression and fusion of the cervical spine. cervical fusion (ACDF)), and with the constant development of medical devices, microscopically assisted The inferior anterior cervical discectomy with bone graft fusion achieved significant results [2]. By selecting 102 patients with single-segment neurogenic cervical spondylosis, Guangchun Li [13] used traditional anterior cervical discectomy Bone grafting and fusion treatment and microscopically assisted anterior cervical discectomy with bone grafting and fusion, the latter with an excellent rate of 96.08%. 82.35% higher than the control group. In an environment of continued development and use of cervical replacement prostheses, non-fusion cervical artificial disc replacement (artificial cervical disc replacement, ADR) It has also become another option for the treatment of multi-segment cervical spondylosis, with Li Gan [14] and others arguing that non-fusion surgery and hybrid surgery are more effective than simple The fusion procedure is advantageous in avoiding postoperative degeneration of adjacent segments, preserving the segmental motion and biomechanical environment of the cervical spine, reducing the Fusion-related complications. By observing radiofrequency ablation (radiofrequency ablation. (RFA) combined with ozone at different concentrations in neurogenic cervical spondylosis, and found that RFA combined with ozone for the treatment of CSR was efficacious. Ozone at a concentration of 60 mg/mL has better efficacy, or is concentration-dependent, which is worthy of clinical reference. However, due to the trauma of surgery, complications and contraindications, most patients prefer conservative treatment.

3. Overview of TCM research on CSR

3.1. TCM diagnosis

Neurogenic cervical spondylosis belongs to the category of "paralysis" and "neck and shoulder pain" in our mother tongue medicine. Wind-cold and damp evils invade the meridians and stay in the body, leading to stagnation of Qi and blood and poor blood circulation, resulting in neck and shoulder pain and numbness of the limbs. [15] As recorded in Su Wen, "The disease is in the bones, the bones are heavy and cannot be lifted, the bone marrow is sore, the cold arrives, the name is bone paralysis" [16]. It is believed that the invasion of cold evil is an important causative factor in this disease. The "Su Wen - Paralysis" said: "Wind, cold and damp three mixed to, together for paralysis, its wind wins for the line paralysis, damp wins for the paralysis also." According to the Su Wen (Su Wen - Great Theory on the Essence), "All neck and neck items are strong and belong to dampness", indicating that wind and dampness are also related to the onset of this disease. The "Su Wen - Paralysis" said: "All five organs have shedding, disease for a long time and do not go, the inner shedding in its combination also. Therefore, bone paralysis has not been, re-sensitive to the evil, internal shedding in the lungs" [17], pointing out that paralysis is not only related to the invasion of external evil, and the five organs also have closely related, as recorded in Su Wen - Xuanming Wu Qi, "The Kidneys Dominate the Bones," and Su Wen - The Six Sections of the Organ and Symptoms, "The Kidneys, the Sequestration of this, the essence of the place also; its Hua in the hair, its full in the bone" [17], illustrating the important relationship between the kidney and bone. In addition to external evil, the five organs, the disease is also associated with chronic strain, such as "Zhang's Medical General" cloud: "Kidney qi does not follow the old way, the qi rebellion coercive ridge And on, resulting in shoulder and back pain... or view the book on Xianxiang sitting for a long time to cause spinal pain", due to

sitting for a long time or long time low head work study and other bad posture cause The disease is caused by poor blood circulation in the neck and obstruction of the meridians, which leads to pain. In summary, TCM believes that the main causes of cervical spondylosis of the nerve root are feeling external evils, improper work and rest, old age and weakness, illness in the tendons and bones, and Liver, spleen, and kidney are related, and between the specimen and the real, the evidence is more intermingled and can be mutual cause and effect. Chinese medicine treatment is based on the basic principle of eliminating evil spirits and clearing the collaterals, according to the deficiency and reality of the deviation of the positive, identify and apply treatment, and at the same time according to "treating wind first treats blood, and blood flows wind". The theory of "self-destruction" nourishes the blood and invigorates it, and the treatment is varied and effective [18].

3.2. Traditional Chinese Medicine (TCM)

3.2.1. Internal and external use of traditional Chinese medicine

Due to the differences in the understanding and diagnosis of this disease among medical practitioners and the differences in the patients' constitution, it is necessary to The clinical differentiation of neurogenic cervical spondylosis is clinically diverse. Liu Bo-ling [19] et al. divided it into four types: wind-cold and damp, qi-stagnation and blood stasis, liver and kidney deficiency, and deficiency-cold, respectively, with Qiang Wu Sheng Damp Tang, and Body Pain Expelling Sludge Soup, Paeoniae Glycyrrhizae Soup, and Astragalus Gui Zhi Five Soup to treat it. Zhu Ligu [20] et al. analyzed the rules of application of Chinese herbal medicine for the treatment of CSR in clinical practice and concluded that the use of Chinese herbal medicine to To activate blood and eliminate stasis, together with herbal medicines that benefit blood, nourish qi, dispel dampness and dispel cold, can be based on Astragalus quinquefolium or Gui Zhi plus Ge Gen Tang is added and subtracted with evidence. Topical use of Chinese herbs also has unique advantages, Lin Jialiang [21] uses saffron, frankincense, myrrh, perforated bones, and Lu Lu Tong to mix well The total number of patients in the group treated with acupuncture alone was observed by comparing the total number of patients treated with acupuncture alone with the total number of patients treated with acupuncture in the control group. There was significantly higher efficiency (91.67%) than the control (80.56%). The internal and external use of TCM highlighted the uniqueness of TCM therapy, significantly improved the quality of life of patients, and had a good recovery from this disease. The help is valuable for the clinical application of CSR.

3.2.2. Acupuncture and moxibustion therapy

Acupuncture and moxibustion therapy for CSR is effective in relaxing tendons, relieving stasis and pain, and reducing tissue compression. The acupuncture points mainly focus on the cervical pinch after the vertebral body or spinal nerve lesion and the Sun, Shaoyang, and Yangming meridian points on the hands and feet [22]. By observing the clinical effects of different acupuncture therapies for the treatment of CSR, Cao [23] et al. found that the experimental group using warm acupuncture had an effective rate of The results were higher than those of the control group using conventional western medicine combined with electroacupuncture ($P < 0.05$), and the treatment of nerve root type with electroacupuncture combined with warm acupuncture was better than that of the control group using conventional western medicine combined with electroacupuncture ($P < 0.05$). cervical spondylosis, which is more conducive to improving symptoms and improving treatment outcomes. By observing the efficacy of acupuncture combined with traction in the treatment of neurogenic cervical spondylosis, Wang Jiawei [24] randomized 104 patients with CSR according to The numerical table method was divided into 52 cases in the observation group and 52 cases in the control group, both of which were treated with traction, and the control group was treated with acupuncture points for pinching the spine and upper limb. The total effective rate was 94.23% in the observation group

and 84.61% in the control group, and the difference between the two groups was statistically significant ($P < 0.05$), indicating that acupuncture combined with traction can improve the efficacy of treatment of CSR. In conclusion, the efficacy of acupuncture in the treatment of CSR is remarkable, because of the positive effect, simple treatment method, mild complications and the low cost of treatment, easy to be Widely accepted by patients [25].

3.2.3. Acupuncture and Knife Therapy

Acupuncture and Knife is based on the nine needles of the Chinese ancient medicine, the contact needles and the sharp needles, and the Western medicine. Surgical scalpel combined with the development of the needle body is composed of metal, the needle handle is made of plastic, in the clinical use of Hanzhang 3 or 4. Needle knife for the treatment of CSR [26]. When operating, the blade is aimed at the pressure point, the blade body is at a perpendicular angle to the skin of the neck, and the line of penetration of the blade is parallel to the travel of blood vessels, nerves and tendons. direction, from shallow to deep layer by layer loosening, when touching the toughness of the material in the direction of the fiber line 2-5 times cutting, to loosen the soft tissue adhesions, and contracture and improve local microcirculation [27]. Ruxing Yang [28] divided 64 patients with CSR into 2 groups of 32 each by taking a randomized controlled trial for clinical study. The control group was treated with traditional acupuncture, and the treatment group was treated with acupuncture and knife therapy before treatment, after the first treatment, after the full treatment, and after the The NPQ scale and McGill Pain Rating Scale were measured at 1 month after the end of treatment, and the results were statistically analyzed. Both acupuncture and traditional needling have achieved good clinical outcomes for the treatment of CSR, but acupuncture vs. There are good near-term and long-term effects.

3.2.4. Manual therapy

Manual therapy for CSR is thought to relieve spastic adhesions in the cervical spine-related muscle groups and soft tissues, correct the cervical joint misalignment and pain relief [29]. Rotational manipulation is used clinically because it restores the physiological position of the vertebral bodies and intervertebral joints and allows the release of compressed blood vessels and nerves extensively [30], while the extensor method can pull open the embedded joint capsule and correct the abnormal position of the intervertebral joints and the slight displacement of the cervical vertebrae. which is thought to radically relieve or reduce nerve root irritation and compression [31]. Wang Xiang [32] randomly divided 120 patients with CSR into Shih's group and conventional group to observe the effect of Shih's maneuver on the treatment of CSR. After 4 weeks of treatment, 26 cases were cured in the Shih group, 22 cases were significant, 1 case was ineffective, and 19 cases were cured in the conventional group, 17 cases were significant. This shows that Shi's maneuver can effectively reduce neck and shoulder pain in patients with CSR and the therapeutic effect is accurate. The clinical treatment is often combined with other means, such as traditional Chinese medicine, traction, etc., so as to give full play to the characteristics of Chinese medicine treatment. The role of CSR.

3.2.5. Other Treatments

There are many other treatments that are effective and popular with patients, such as traction, cupping, and Chinese medicine fumigation, etc. In exploring the adjunctive therapeutic effects of fitness qigong on CSR, Chen Changle [33] and others randomized 94 patients into a test group 48 cases and 46 cases in the control group, both groups were treated with the same acupuncture for one month, and the test group also added fitness qigong for at least 5d per week. As a result, the overall effective rate of 93.75% in the experimental group was significantly higher than the 86.96% in the control group, indicating that the effect of fitness qigong on CSR The treatment has a good adjuvant effect. By studying the clinical efficacy of supine intermittent angle traction for the treatment of CSR, Hu Hai [34] randomized 148 patients with CSR to Divided into 74 cases each in the observation and control groups, the control group

was treated routinely, and observation was based on the addition of supine interval angle traction, which was found to be The total effective rate of clinical treatment in the observation group (91.89%) was significantly higher than that in the control group (78.38%) ($P < 0.05$), which indicates that supine intermittent angle traction can effectively improve patients' condition and is highly safe. ($P < 0.05$) indicated that supine intermittent angle traction could effectively improve patients' condition and was safe, which was worthy of clinical promotion.

4. Summary

There are a number of methods available for the treatment of CSR, and two or more methods are often used clinically for the non-surgical treatment of patients. There is a wide range of types, with minimal adverse effects and remarkable results. For non-surgical treatments that do not work, surgery is an option, and with the continuous development of science and technology, surgical treatment is moving toward less traumatic, more effective, and more effective. The direction of rapid postoperative recovery. The combination of Chinese and Western medicine in the treatment of this disease combines multiple modalities to achieve a better therapeutic effect, and a variety of new techniques have been developed to achieve clinical efficacy. The significant improvement also provides a new direction for the future treatment of CSR, and we believe that in the near future, the treatment of this disease will be even better. Specification and refinement, looking forward to further research.

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