

Treatment of respiratory muscle paralysis in ALS patients based on "cultivating earth and producing gold"

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Abstract: Amyotrophic lateral sclerosis (ALS) is a progressive and fatal neurological disease with unknown etiology, complex pathogenesis, and unclear Chinese medicine name, so it is difficult to treat it clinically. Modern medicine found that ALS patients mostly died of respiratory muscle paralysis, and traditional medicine believed that lung and spleen deficiency is the main pathogenesis of the disease. This study discussed on the basis of the five lines of begets rule ridging of gradually frozen raw gold method well and the effect of pulmonary function, to explore the scientific treatment of the system, and the work for the well-being of gradually frozen, enrich the theory of ridging raw gold method at the same time, to find this kind of difficult and the direction of the further mechanism research and improve clinical curative effect.

1. Understanding of ALS in traditional medicine

1.1 The attribution of TCM names of ALS

Chinese medicine will be ALS according to the main clinical symptoms of all kinds of diseases, the performance of the limb, muscle activity is not good, ascribed to the "syndrome of impotence, spasmodic, fibrillation"; And when the medulla oblongata paralysis caused hoarseness, speech is unclear, it is called "aphasia"; The combination of the first two, that is, "strong tongue can not speak, feet and waste can not use" can belong to the category of "mw mw"; In the late stage of the disease, the course of the disease is long, and the loss of Qi, blood, Yin and Yang can be ascribed to "deficiency".

ALS is mainly manifested by myasthenia and muscular atrophy, mostly belonging to the category of "impotence syndrome" in traditional Chinese medicine. Many doctors believe that the spleen is the root of the impotence syndrome, the spleen is the acquired, in the middle of coke, the main transport and change the grain gas, also the main limb muscles, if the loss of temper, Qi and blood biochemical

lack of source, lost in care, will cause thin, weak, so the impotence syndrome. In the impotence of the five organs, "bone dry and pulp reduction" of the impotence of bone and the loss of the motor cells of the anterior horn of the spinal cord happened to coincide.

1.2 TCM position and pathogenesis of ALS

After the study and collation of the ancient literature and a large number of clinical cases related to ALS, it was found that many doctors believed that the disease in the early and middle stages was characterized by deficiency and solid, mainly by deficiency syndrome, and the loss of both Yin and Yang in the late stage. [3] Song Yue wave et al., 240 cases of muscle atrophy of amyotrophic lateral sclerosis cases put forward after an inductive analysis of illness ALS patients mainly of traditional Chinese medicine of traditional Chinese medicine disease in spleen and stomach, liver and kidney, heart, lung, the spleen and stomach losses for early, the middle of the main pathological basis of the disease, liver and kidney deficiency type of late, the often witness, is common in patients with disease progression towards the end of that course of the disease characterized by air. In "Su Q. Taiyin-yang Ming Theory", "the limbs are all the Qi in the stomach but not to the meridian, must be due to the spleen is the ground also", explaining that the syndrome of impotence can be caused by the weakness of the spleen and stomach [4]. "The treatment of impotence alone take Yangming" also said that Gu Ming spleen and stomach is the basic treatment of impotence. "The spleen disperses essence, returns to the lung, and adjusts the water channel", and "the lung is the main qi and the main breath" all show that the functions of the lung and spleen directly affect the filling and filling of qi and blood around the body. From the meridians, hand Taiyin lung meridian and foot Taiyin spleen meridian both belong to the Taiyin meridian. Hand Taiyin lung meridian is the meridian with more qi and less blood, and foot Taiyin spleen meridian is the meridian with less qi and more blood. Both are passed on with qi, and Yin and Yang are endowed with each other. Therefore, after feeling evil, it is easy to pass on to each other. "Splenic vein even the tongue, loose under the tongue", so the spleen vein loss of nourishment, lingual muscle is not moistened, and lingual muscle atrophy. "The atmosphere in the chest sinks, shortness of breath is not enough to breathe, or trying to breathe seems to be panting, or breath will stop, danger in an instant", which is very consistent with respiratory muscle weakness and respiratory failure.

1.3 Theoretical basis of the method of earth-producing and gold-producing.

The method of cultivating earth and producing gold is to treat the deficiency of lung and spleen by using the law of producing soil and producing gold. Five zang-organs spleen earthy, belongs to the gold farmers lung, spleen is the mother of the lung, lung for the son of spleen and spleen, qi and blood is not born, mother and son, don't gave birth to the lung, spleen soil and in cases of qi and increasingly, unable to "way rate to breathe" and "penetration heart arteries and veins with qi and blood", visible limb lazy god spent, difficulty breathing, heart palpitations, shortness of breath with see tongue Withers softly, qualitative light whitish or bored with lungs and spleen deficiency symptoms such as [5]. "The lung is the pivot of qi, and the spleen is the source of vitality." Physiologically, the spleen is the mother of the lung. Pathologically, spleen disease is related to lung, lung disease and the spleen. Therefore, the deficiency of lung and spleen is the main pathogenesis of the disease, and the main treatment should be to strengthen the spleen and stomach, tonifying lung and invigorating qi. Well,

as Lead Lead explained, "Eating in the stomach...Lung Qi benefit from it is for the spleen soil lung gold, lung by the meaning of the spleen, the Qi more prosperous, reduced water, and the whole body ", said the spleen and stomach to the lungs, the diaphragm because of the water and grain fine nourishment, to regulate breathing movement, improve dyspnea. Influences of Mr. Li Dongyuan's statement that "the spleen and stomach are deficient, and the lung is deficient first", [6] Professor Liu Maocai, a famous TCM doctor in Guangdong Province, proposed that the pathogenesis of ALS is mainly the deficiency of the lung and spleen, and created a prescription for invigorating the spleen and invigorating the lung, which has a significant curative effect.

2. Understanding of ALS in modern medicine

2.1 Exploration of the etiology and pathogenesis of ALS by modern medicine

The etiology and pathogenesis of ALS are not yet clear. Currently, the mainstream belief is that the pathogenesis of ALS is related to genetic factors, excitatory toxicity, oxidative damage, autoimmune theory, lack of neurotrophic factors, and free radical oxidation. Some studies have also found that abnormal aggregation of nerve filaments, imbalance of metals and trace elements, ALS and virus infection can cause neuromuscular damage by affecting the structure and function of mitochondria and cytoskeleton of neuron cells [7]. Because of the involvement of the neurons that control the respiratory muscles, resulting in weak inspiratory, thus causing ventilation dysfunction in ALS patients. In addition, glottic dissonance and laryngopharyngeal muscle weakness in patients with medulla oblongata involvement may also lead to reduced lung volume. Weak coughing, accumulation of airway secretions, coughing from drinking water, and aspiration can lead to repeated lung infections. These conditions form a vicious cycle that leads to respiratory impairment and eventually death. Respiratory disturbance is present in almost all patients with amyotrophic lateral sclerosis, and the later the onset of respiratory symptoms, the longer the patient's survival. Therefore, in order to alleviate the pain of ALS patients and delay the progression of the disease, the primary task should be to control the occurrence time of respiratory symptoms as soon as possible, so as to improve the quality of life of patients.

2.2 Progress of modern research on earth-producing and gold-producing methods

Modern research shows that using the method of "cultivating earth and producing gold" to treat diseases can significantly improve the nutritional status of patients, improve the autoimmune function, and enhance the lung function. Li Hongyu et al. [8] applied the prescription for invigorating spleen in mice with lung qi deficiency and found that the proliferation ability of T and B lymphocytes was significantly improved, indicating that the application of earth-generating gold-generating method could enhance cellular and humoral immune functions. Miao Lanying et al. [9] found that soil cultivation and gold generation method could regulate the expression and secretion of airway mucin by changing the expression of AQP5, thereby reducing the possibility of lung infection with ALS. Ling Xiaohao et al. [10] applied the Buzhong Yiqi Decoction of Li Dongyuan, the pioneer of Bu Tu School, together with ginger moxibustion on bilateral Zusanli in the treatment of COPD patients in stable period. After treatment, FVC, MVV and MIP were significantly higher than before. Similarly, the application of this method in ALS patients can delay respiratory failure, slow down the decline

rate of lung function, so as to improve the quality of life of patients. Xu Sheng et al. [11] found that the intake of Huangqi Jianzhong Decoction in COPD rat models can regulate the diaphragm movement by improving the activity of substances such as NO_x, CCO and SDH in the diaphragm mitochondria, thus improving respiratory function. In addition, some studies have also found that the application of soil and gold cultivation can improve the immune system of patients, improve the blood circulation in the lungs, and facilitate the absorption and cure of inflammation. The physiological and pathological functions of the lungs and spleen interact with each other. Through consulting relevant literatures and experimental analysis and collection, it has fully proved the scientific validity of the classical theory of Chinese medicine, which is "Earth-generating Gold".

3. Treatment progress of ALS

Modern medicine has no cure for ALS means and drugs, mainly including the cause, symptomatic and non-drug treatment. It can only improve the quality of life and prolong the survival time of patients to a certain extent, but can not completely block the degeneration process of motor neurons. In addition to the general symptomatic support, currently internationally recognized drugs, riluzole and edaravone, which were approved for treatment by the US Food and Drug Administration (FDA) in 1996 and 2017 respectively, have been shown in clinical trials that early application can delay the progression of the disease. As the disease progresses and affects the respiratory muscles, auxiliary ventilation with oxygen or double positive pressure ventilator (BIBAP) is usually used, and tracheostomy is required for further respiratory failure. Although there has been no cure for ALS so far, doctors and scholars continue to explore ways to treat ALS, such as antisense therapy, gene therapy and neural stem cell transplantation, but there has been no significant progress in clinical results. How to bring into full play the therapeutic advantages of Chinese medicine for ALS treatment to find a way out is a major issue. Wang Anqi et al. [12] selected 60 patients with ALS as the research subjects and treated them with Jianpi Yifei Decoction for 8 weeks. The evaluation indexes of lung function and respiratory muscle strength (FVC/Pred%, MIP/Pred%, MEP/Pred%) before and after treatment showed no statistical significance, indicating that respiratory function of the observation group remained stable. Effectively delayed the progression of the disease. Li Huaqiang et al. [13]

4. Discussion and outlook

Conventional treatment options for ALS are not only of limited efficacy, but also of high cost, trauma, side effects, and poor quality of life. Clinical studies have shown that riluzole can only prolong the life of patients by about 3 months on average, and should be taken for more than 6 months. Its high cost, gastrointestinal side effects and liver function damage limit its utilization rate in China [14]. Once patients have symptoms of respiratory dysfunction, long-term and continuous mechanical ventilation, and later tracheotomy, a series of complications are likely to occur, such as respiratory acidosis, pulmonary infection and so on. In the process of diagnosis and treatment of ALS, there are defects such as delayed diagnosis, misdiagnosis and irregular medication after diagnosis, and the timing of respiratory dysfunction poses a major threat to the survival time of patients. Therefore, it is particularly important to conduct regular and timely respiratory assessment for ALS patients. Because of the limitations of existing medical treatments, there is an urgent need to find new treatments. Clinical practice has shown that Chinese herbal medicine combined with western medicine has certain

therapeutic advantages in the treatment of this disease [15], facilitating early identification of the occurrence of disease and evaluation of patients with respiratory failure, and timely monitoring, which is of great significance for early intervention and improvement of the onset of acute respiratory failure in patients.

This shallow to be discussed based on delay ALS breathing myoparalysis ridging raw gold method, using the unique medical system and the diversification of traditional Chinese medicine treatment, thereby increasing patient 5 years survival rates, the view is follow the traditional Chinese medicine and the concept of cure not ill, regulate this dirty despite it dirty, as early as possible in order to improve the clinical curative effect, not to reverse the disease process, but to a certain extent, can slow down even more, For one thing, it greatly improves the quality of life of patients and prolongs their life span. Second, reduce the economic burden of patients and their families and reduce the side effects of drugs. At the macro level, it has improved the sense of participation of traditional Chinese medicine in the treatment of refractory diseases to a large extent, promoted the treatment development of traditional Chinese medicine in the field of ALS, and continuously explored newer and more effective ways of combined drug use, laying a foundation for a larger scale of clinical treatment.

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