

Progress of Clinical Research on Treatment of Lower Limb Lymphedema after Cervical Cancer Surgery

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Abstract: Cervical cancer is one of the most common gynecological malignant tumors, the early stage often without obvious symptoms and signs, with the development of lesions, clinical will appear to vaginal bleeding and vaginal drainage of the main symptoms, and according to the cancer focus of the scope of frequent urination urgent, constipation, lower limb swelling pain and a series of secondary symptoms. Not only that, according to the survey research shows that China's cervical cancer mortality accounted for the fourth of the total cancer mortality, accounting for the second female cancer, and the average age of cervical cancer patients in China to 40~50 years old. Surgical treatment, radiotherapy, chemotherapy, targeted therapy and immunotherapy are important methods for the treatment of cervical cancer. Complications may also occur during treatment, such as urinary tract infections, urinary retention, deep vein thrombosis and lymphedema of the lower extremities. Among them, lower extremity lymphedema is the most common and tricky, according to a foreign study found that the incidence of lower extremity lymphedema in patients with cervical cancer is as high as 47%, the main clinical manifestations of swelling, heavy, stinging, numbness, coarseness and hardening, serious joint dysfunction, difficulty in activity, and even more, can cause erysipelas and cellulitis. Because it is incurable for a long time, the quality of life of patients is seriously reduced. In recent years, for the treatment of lower limb lymphedema after cervical cancer surgery, there are no safe and effective drugs in modern clinical medicine. Despite various treatment methods, its efficacy is still controversial. Therefore, most patients with lymphedema cannot receive effective treatment. Traditional Chinese medicine believes that the disease is mainly characterized by "mixed good and evil, deficiency and deficiency", so the treatment advocates the principle of "attack and tonification, specimen treatment", and its treatment methods are diverse and effective. This article discusses the treatment methods of lower limb lymphedema after cervical cancer surgery, and concludes that the combined treatment of traditional Chinese and Western medicine is effective.

Keywords: Cervical cancer lower limb lymphedema research progress of traditional Chinese and Western medicine.

1. Introduction

Cervical cancer is the most common malignant tumor in gynecology, ranking fourth in the world. The most common pathological type was squamous cell carcinoma, followed by adenocarcinoma. The treatment of cervical cancer is mainly surgery, accompanied by radiotherapy and chemotherapy, cervical cancer in the early stage can be treated with surgery; Local advanced stage was treated with radical concurrent chemoradiotherapy [1]. As the main treatment methods for cervical cancer are surgery or chemoradiotherapy, the treatment mode destroys the circulatory system of lower limb lymph, resulting in damage of lymphatic vessels, obstruction of lymphatic reflux, accumulation in the subcutaneous tissues of limbs, and ultimately lead to the occurrence of lower limb lymphedema. The common clinical symptoms are swelling, heavy, pain of the affected limb, day heavy night light, mostly chronic progressive development. As one of the most common long-term complications after cervical cancer surgery, lymphedema of lower limbs will continue to progress and seriously affect the quality of life of patients if effective treatment is not taken in time. Therefore, early diagnosis and treatment can effectively delay the progression of the disease and improve the prognosis of patients.

2. Research Progress of TCM Treatment

Traditional Chinese medicine will be the disease belongs to the "pulse bi" "edema" "phlegm stasis" and other categories, traditional Chinese medicine that cervical cancer after surgery

will damage the human body, consume body fluid Qi and blood, resulting in qi deficiency and blood stasis, coupled with the duration of the disease for a long time, the body's positive Qi gradually damaged, its own body fluid distribution and operation blocked, can not follow the normal operation of the vein, accumulation in the lower will cause lower limb lymphedema [2]. The affected limb is often accompanied by pain, which is also due to the weakness of healthy qi after cervical cancer surgery. Qi deficiency leads to poor blood operation and blood stasis, resulting in "abnormal pain"; Therefore, the disease is based on the deficiency of viscera Qi, the phlegm is blocked, the meridians are impassable, and the disease belongs to the inclusion of deficiency and solid. The basic pathogenesis of the disease is "deficiency of the original and deficiency of the real". In recent years, the efficacy of TCM in treating lower limb lymphedema has been affirmed by both patients and clinicians.

2.1 TCM Internal Treatment

2.1.1 Compound therapy

In the treatment of lower limb lymphedema after cervical cancer, many doctors adhere to the principle of "Fuzheng and eliminating evil" in the treatment of lower limb lymphedema, and promoting blood circulation and water benefit or warming Yang and water benefit. Some doctors use self-designed prescriptions to observe the clinical treatment effect in the selection of prescriptions, and some doctors add or subtract according to specific symptoms on the basis of classical prescriptions. The clinical effect of the treatment of lower

limb lymphedema after cervical cancer surgery has also been confirmed. Qiang Caoxia [3] selected 35 enrolled patients with lower limb lymphedema after cervical cancer surgery and treated them with a self-designed prescription, namely Bushen Jianpi Tongluo recipe, to observe the changes in clinical symptoms and body composition indexes of the patients before and after treatment. The total effective rate was 97.1%. Compared with before treatment, the pain, swelling, numbness and limb dysfunction of the affected limb were significantly relieved, and the total body water and lower limb water were significantly reduced. It can be seen that Bushen Jianpi Tongluo formula has remarkable clinical effect and is worth recommending. Baige and Hao Shulan et al. [4] proposed that the key pathogenesis of lower limb lymphedema secondary to postoperative gynecological malignancies was vein block. Guided by the idea of "Daowanchen chopped", Tanggui Shaoyao powder was initially used to promote blood circulation and channel collature and mediate qi and blood. In the middle stage, the decoction of Guizhi Poria combined with ephedra forsythia Chidou decoction was used to remove evil and promote hydration and dampness; Late focus on Fuzhengdispelling evil, harmonizing Yin and Yang. Li Yuhuan and Liu Zheng et al. [5] proposed that "dampness" is an important pathogenesis of lymphedema, so the treatment should focus on dampness and turbidity. Because of the causal relationship between Qi stagnation and dampness, in addition to drying and dampness, it is necessary to regulate qi in order to achieve the purpose of treating both symptoms and root causes. The research team based on the treatment method of "promoting Qing and reducing turbidity", using Yinchen Simiao decoction for treatment, and achieved good curative effect. Xu Jing and Zhu Weikang et al. [6] selected 60 patients treated with Juanyin decoction combined with Zhushui decoction externally as the treatment group, and compared them with 60 patients treated with Meiziling orally. After 4 weeks of treatment, circumference and functional index of limbs before and after treatment were observed and measured. The results showed that Juanyin decoction combined with Zhushui decoction externally could improve the limb function and quality of life of patients, and alleviate the inflammatory response of patients. Liu Jianying and Lai Huichao et al. [7] applied the combined program of flavour-supplemented osmanthus poria decoction and standardized external application of glauher's glass to 90 patients with lower limb lymphedema after cervical cancer surgery, and they were evenly divided into two groups, namely the control group and the experimental group. The control group was treated with conventional treatment measures, and the experimental group was treated with the combined program of flavour-supplemented osmania poria decoction and standardized external application of glauher's glass. After treatment, it was found that the total effective rate of the experimental group was much higher than that of the control group, up to 96%, and the combined program of added flavor of cinnamon and poria decoction and standardized external application of glauherite could be obtained for the treatment of patients with lower limb lymphedema after cervical cancer surgery, which could effectively improve the total effective rate, improve the average venous blood flow velocity, and provide a guarantee for the improvement of quality of life.

2.1.2 Single drug treatment

The occurrence and development process of cervical cancer is the result of the conflict between positive and evil, positive deficiency and evil victory. It is necessary to take care of the root at the same time to strengthen the constitution to resist evil. Li Wenjing and Zhou LAN [8] advocated the use of qi and blood tonifying drugs, such as astragalus for promoting hydration and reducing edema, and herbs for enhancing Yang qi; Codonopsis tonifying lung and spleen, Qi and blood double supplement, angelica nourishing blood to make Qi can be relied on, as blood qi medicine; White peony sour bitter, nourishing blood to collect Yin, so that Yin blood convergence rooted in the inside, Yang qi outside solid; Nourishing the blood and nourishing Yin, nourishing essence and filling marrow. Wang Cancan and Yang Lili et al. [9] mentioned that lymphedema of lower limbs is caused by the interformation of phlegm, dampness and blood stasis. Therefore, starting from the principle of "water is bad for blood", they adhered to the principle of "Fuzhengdispelling evil and harmonizing blood and water". The commonly used drugs are Wang Jiuhan, peach kernel, safflower, Chuanxiong, red peony root, salviorrhiza, Zeelan, Angelica and so on. Not only that, but also to do the syndrome differentiation treatment, can not use the simple method of activating blood and water, according to the different clinical manifestations of patients, the method of activating blood and blood, nourishing Yin and clearing heat, warming Yang and dampness, eliminating phlegm and dredging the liver and invigorating the spleen, such as qi and blood deficiency, to the drugs of supplementing qi and nourishing blood; Yin and Yang deficiency, can be used to nourish Yin, Yang medicine, to make the body to achieve Yin Pingyang secret state.

2.2 TCM External Treatment

The treatment methods for lower limb lymphedema after cervical cancer surgery are mainly local topical application and fumigation, and the treatment principles are promoting blood circulation and removing blood stasis, softening and dispersing congealments, and reducing edema with water. Compared with the treatment of acupuncture and traditional Chinese medicine decoction, patients have better acceptance and compliance with such non-invasive treatment as external application and fumigation [10].

2.2.1 Chinese medicine fumigation

Traditional Chinese medicine fumigation method is to boil the traditional Chinese medicine into soup, and then put the affected limb on the hot soup for fumigation. After the liquid is cooled, the affected limb is soaked in the soup, which can achieve the purpose of relaxing the meridian, clearing heat and detoxifying, and dispelling wind and dampness [11]. Song Kuiquan and Sun Qing et al. [12] selected 43 patients in each of two groups. One group was decocted with decoction composed of bone-deep grass, safflower, vinegar, angelica sinensis, mugworm leaf, mulberry branch, Chuanxiong, pine joint, Sichuan pepper, gardenia, red peony and sapwood, and then smoked and washed the affected limbs, and compared with the other group treated with magnesium sulfate wet dressing. After 20 days of treatment, tumor necrosis factor α and hypersensitive C-reactive protein were detected. Skin thickness was detected by B-ultrasound. Limb circumference was measured and then comprehensive evaluation was carried

out. The results showed that fumigation of affected limbs with Huoxue lotion could reduce the subcutaneous inflammatory response and had significant clinical effect.

2.2.2 External application of Chinese medicine

External application of Chinese medicine refers to the method of cutting and crushing Chinese herbs until they form foam, or crushing them into foam, adding adjuvants, stirring into paste, and then applying to the affected area or corresponding acupuncture points. Zhang Guanglu and Zhuo Chaolin et al. [13] applied Fuzheng Xiaoshui powder composed of Astragalus, nemorosa, jujube, Radix platycodon, trichosanthis peel, Sichuan pepper, Tuckaia, poria, vinegar ganshui, morning glabra, and Chinese yam evenly on the affected limb, and compared it with the oral Furosamide tablet group. 80 patients in each group were treated for one week. Results The treatment of limb lymphedema after the operation of malignant tumor has a good effect and less adverse reactions. Geng Wenqian and Sun Yian [14] selected 30 patients who met the criteria and applied self-designed ice dissipation to the affected limb, compared with 30 patients who simply did physical exercise and cardiothoracic massage of the affected limb, and observed the degree of edema of the affected limb, shoulder joint motion and pain degree of the affected limb in the two groups after treatment. Results Better than the control group in improving limb edema, shoulder joint motion and pain. It can be seen that external application of Chinese medicine in the treatment of limb lymphedema has obvious efficacy in improving clinical symptoms and improving the quality of life of patients.

2.2.3 Acupuncture treatment

For the limb dysfunction caused by lower limb lymphedema after surgery for gynecological malignant tumor, acupuncture therapy can be used. This method can significantly improve the edema condition of patients, play the role of dredging meridians, removing blood stasis and promoting water, so that patients' limb activities can be effectively improved, and at the same time, it can also reduce the economic and mental burden of patients to some extent [15]. Gao Liquan and Wang Xianbin et al. [16] selected 40 patients with upper limb lymphedema, and compared 20 patients with oral hydrochlorthiazide tablets by warm acupuncture and moxibustion plus massage. After observation, the arm circumference difference, sleep quality score, peak time of lymphangiography and relative signal intensity of patients treated with warm acupuncture and moxibustion plus massage were observed. It is found that warm acupuncture and moxibustion combined with massage can effectively reduce limb swelling, improve limb function and improve patients' quality of life.

3. Research Progress of Western Medicine Treatment

In the clinical treatment of lower limb lymphedema after cervical cancer surgery in Western medicine, conservative treatment and surgical treatment are the main treatment. Conservative treatment is the basic therapy. Since lymphedema cannot be cured, conservative treatment should be carried out throughout the patient's lifetime treatment. Even if the patient has undergone surgical treatment, it is still

necessary to continue conservative treatment and good nursing to maintain the curative effect.

3.1 Conservative Treatment

As the basic treatment for lymphedema, this method can be used by elevating the affected limb, limiting the intake of water and salt, performing compression therapy, wearing elastic socks as much as possible, and applying diuretics rationally. At present, the most effective treatment methods for lymphedema are manual lymphatic drainage, multi-layer pressure bandage, therapeutic exercise and skin care. Thus, the blocked lymphatic fluid is drained into the normal lymphatic vessels to achieve the purpose of reducing edema [17]. Bai Qiaaling and Wang Wang [18] selected 51 patients undergoing abdominal lymph node dissection for cervical cancer and divided them into the control group (25 cases) and the experimental group (26 cases). The control group followed the routine rehabilitation and discharge guidance for patients with malignant tumors plus progressive resistance training. Compared with the experimental group that added early manual lymphatic drainage technology on this basis, the technology mainly includes four aspects: fixed circle, pumping, shoveling and rotation. After treatment, it was found that there was only 1 case of stage 1 lymphedema in the experimental group, and the incidence rate was much lower than that in the control group. Finally, it was concluded that early application of hands-free lymphatic drainage technology could delay the occurrence of secondary lymphedema of lower limbs after cervical cancer surgery, and could also enable patients to be found and treated as soon as possible. In terms of drug treatment, diuretics for patients with stage 0 or stage 1, the short-term effect is obvious, but the long-term effect is poor, long-term use will lead to fluid and electrolyte disorders. Although it has been reported that Diosmin or horse chestnut seed extract has the effect of treating lymphedema, the specific mechanism of action is still unclear [19].

3.2 Surgery

Surgical treatment is generally used in patients who do not respond to conservative treatment, but it is mainly to improve the appearance and movement of the affected limb. Zhang He and Kong Weimin [20] mentioned that modern surgical microsurgery is less invasive than early surgical treatment, in which vascularized lymph node transplantation is to transfer the flap of tissue and arteriovenous tissue containing lymph from the non-cancer invaded donor area (such as armpit and abdominal cavity) to the affected limb area through microsurgery, and carry out lymphatic circulation reconstruction. Lymphatic venostomy involves the establishment of lymph vessels or lymph nodes between adjacent venules to relieve lymphedema in the lower extremities. Lymph liposuction volume reduction is to remove all the adipose tissue around the lymph and open the muscle fascia to make the shallow lymph flow back to the depth, reduce the production of lymph fluid, and achieve the purpose of alleviating the lower limb lymphedema.

4. Combined Treatment of Chinese and Western Medicine

From the current clinical treatment point of view, in the process of treating patients with lower limb lymphedema after cervical cancer surgery, the advantages of integrated Chinese and western medicine treatment are more obvious, which can achieve both symptoms and root causes, and realize the improvement of the treatment effect of patients. The effect of surgery is very significant in a short time. But it can also bring many complications. The traditional Chinese medicine is aimed at the patient's condition for syndrome differentiation treatment, its advantages are obvious, and the side effects are few. The treatment of lower limb lymphedema by the combination of traditional Chinese and western medicine can achieve a good effect in improving the patient's condition and improving the patient's quality of life [21].

5. Discuss

Studies have found that the incidence of cervical cancer shows a younger state, and the incidence is constantly improving. Lymphedema of lower extremity is a special clinical complication after cervical cancer surgery. Its condition not only develops slowly, but also varies greatly in latency, which is easy to delay the treatment of the disease. The treatment of lymphedema after cervical cancer mainly includes traditional Chinese medicine treatment and Western medicine treatment. Traditional Chinese medicine treatment can be determined according to the specific situation of the patient's condition, and it has the characteristics of good efficacy and small side effects, but the treatment time is long. Although the treatment time of Western medicine is short, new drugs and surgical treatment methods need to be further explored. At present, the combined treatment of Chinese and Western medicine has achieved good results. However, whether to add Chinese and Western medicine in the process of combined treatment of Chinese and Western medicine needs more research and clinical trials.

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