

Study on the pathological mechanism and therapy of neurodermatitis

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Abstract:

Etiology: According to the theory of traditional Chinese medicine, the cause of neurodermatitis is mainly due to the invasion of dampness and heat disease on the muscle surface, resulting in the stagnation of qi and blood between the skin. Irregular diet, mood depression, and then affect the function of the spleen and stomach too flourishing, cause heart fire, liver qi can not normal discharge, lead to water metabolism disorder, damp pathogen trapped in coke, damp and heat accumulate spleen and stomach, blood and qi operation blocked, long-term block after turn heat, heat pathogen outside muscle surface; heart fire inflammation, damage blood, lead to blood deficiency and wind. The occurrence of neurodermatitis, according to the western medicine point of view, is often closely linked with mental stress, immune dysfunction and the imbalance of hormone levels. **Treatment selection:** usually, traditional Chinese medicine will adopt strategies to promote blood circulation, remove heat pathogen, moisture, wind pathogen and nourish the blood, including herbal formula, external ointment application, acupuncture, etc., while Western medicine focuses on reducing itching, and commonly used anti-allergy drugs. Sometimes, modern medicine combines Chinese and Western treatment for comprehensive treatment.

Keywords: neurodermatitis; etiology and pathogenesis; treatment methods

1. Introduction

Neurodermatitis, also known as chronic neuropsychiatric skin dysfunction disease, is typically characterized by persistent mossy skin changes and severe itching sensation. In traditional Chinese medicine, the disease is called “psoriasis” or “collar sore”. It

often occurs in areas prone to friction, such as neck, elbow and sacral caudal, and its course is lengthy, difficult to cure, easy to relapse, and is common in young and middle-aged patient groups.^[1] A general description of the causes, pathological mechanisms, and treatments in neurodermatitis.

2. The triggering mechanism of the cortical disorder

2.1 Explore the etiology and pathogenesis from the perspective of Traditional Chinese medicine

Exploring the causes and mechanisms of neurodermatitis allows the analysis of its remarkable clinical manifestations, including the appearance of moss-like changes in the skin, with intense itching sensation, and the roughness and firmness felt during scratching. *Spiritual Pivot* records “When the defensive Wei Qi is weakened, the interstices of the cou li are not well protected, making it easy for wind pathogens to invade, wandering between the skin layers, thus causing incessant dry itching all over the body. This is the principle that there is no itching without wind.” Itch caused by wind pathogen, may be the cause of neurodermatitis. The root cause of this disease is both the external wind and the internal wind. Its pathology is both empirical and false evidence. The external wind pathogen invasion, the blood deficiency in the body leads to dry heat and wind, the liver qi and blood dry and restless. The experiential description involves the invasion of damp or hot living conditions, or due to the lack of vital qi, which accumulates on the skin surface. At the same time, if the mood can not be properly released, the liver will be trapped, resulting in the damage of the drainage function, and then affect the normal flow of qi and blood, making the qi and blood condense in the epidermis. In the manifestation of deficiency, two different types can be observed: one is the wavering state of insufficient blood; the other is the moisture stagnation caused by spleen weakness: (1) blood deficiency. The heart is responsible for the delivery of blood, the Heart Yang does not change fire, Suwen mentioned “All types of pain, itching, and ulcers are related to the heart.” Heat poison disease pathogen invasion blood, suffering blood, the continuous heat pathogen loss of Ying Blood, resulting in Ying Blood deficiency, there is not enough Ying Blood delivery to the skin, the result causes wind symptoms, which is caused by the blood deficiency. The liver is responsible for regulating the qi machine, and if its function is blocked, it will lead to qi stagnation, and then cause internal heat. This heat pathogen will damage the blood, causing blood deficiency, resulting in a hot and windy phenomenon.(2) Spleen

deficiency and dampness-stagnation syndrome. Excessive greasy products and excessive drinking will hurt the spleen and stomach, which are mainly responsible for the digestion and absorption of food. Suwen mentioned “All swellings and fullness due to dampness are related to the spleen.” The function of the spleen is blocked, and the water can not be metabolized normally, resulting in Middle Jiao arrest, dampness and heat stagnation, and then steam the skin. Therefore, in the hot, the skin gets small bumps, and when wet, the symptoms persist and are difficult to cure.

2.2 Explore the etiology and pathogenesis from the perspective of western medicine

2.2.1 Nerve and psychological perspective

Psychosomatic skin disease, a condition called neurodermatitis, is often closely related to the psychological state. Mental stress and anxiety, as key factors in triggering neurodermatitis, can drive the initiation of hypersensitivity and stimulate norepinephrine secretion. Moreover, microbial invasion in skin lesion areas, such as bacteria and fungi, may trigger an intensification of the local immune response, allowing skin dendritic cells to migrate to the lymph nodes and initiate a series of biochemical reactions. These responses not only stimulate positive activation of the immune system, but also initiate negative regulation, with the former reinforcing the T cell-centered cellular immune response, while the latter alleviating adverse tissue damage caused by the T cell-mediated immune response by reducing T cell apoptosis. The apparent result of this process is that there are more severe lymphocyte inflammatory reactions in the local skin, and the hyperplasia of epithelial tissue becomes more pronounced, resulting in erythema and moss-like skin changes^[2]This circulatory process leads to a progressive thickening of the superficial cuticle of the skin. External factors such as friction, excessive local moisture and extreme dry conditions can stimulate the skin's immune mechanism, leading to increased moss symptoms, thus thickening the epidermal layer. Seasonal shifts and temperature differences between moisture and dry air have an impact on the disease, but excessive consumption of spicy food, excessive alcohol consumption and smoking are also major factors in exacerbating itching and inflammation. Anxiety may lead to nervous

system disorders, which may interfere with the activation and inhibition of the superficial brain areas and the normal operation of the endocrine system. It stimulates mast cells to emit NT, VIP and other biological media. These media affect mast cells through different mechanisms, and then stimulate the production of histamine and other substances, which will induce the skin itching, which may aggravate the condition in serious cases.

2.2.2 Immune-endocrine perspective

From the perspective of immune regulation, Langerhans cells (LC) will be awakened under the action of mental stress and deliver antigen to T / B cells. Co-stimulatory molecules and cytokines will stimulate local immune response and inflammation of skin tissue, and then harm the tissue and cause skin itching.

3. Treatment pathway for neurodermatitis

3.1 Relevant treatment methods of traditional Chinese medicine

3.1.1 Traditional Chinese medicine prescription therapy

Neurodermatitis is mainly by the outside rheumatism heat pathogen invasion, plus body heat trapped spleen, spleen fu fire, lung phase fire stranded in the skin surface, the skin lose nutrients, or heart fire inflammation, liver qi not cause qi block, build epigenetic heat, heat injury, dry wind, so on the treatment, clinical mainly with spleen and stomach, in addition to the heat and heat, heat moisten blood, remove wind relieve itching feeling as the basic principle. Senior doctor Zhao Bingnan^[3]In the long medical practice, a set of therapies for specific diseases is extracted, that is, the use of “whole worm prescription” based on flexible addition and subtraction and syndrome differentiation treatment. The prescription is composed of a variety of medicinal materials such as Whole Scorpion, Gleditschia Fruit, Gleditschia Thorn, White Tribulus, Fresh Bark, Sophora Root, Phellodendron Bark, Sophora Flower, Ligusticum Wallichii, and so on. Among them, the whole scorpion plays a major role, it can extinguish the wind pathogen throughout the inside and outside. Fresh Bark and Sophora Root have the effect of clearing

heat and dehumidification and relieving itching, assisting the whole scorpion, White Tribulus and Ligusticum Wallichii to remove rheumatism, smooth meridians, and eliminate rheumatic toxins in the body. Sophora japonica and bitter can remove the heat in the body, clean the intestines and stomach, and play the role of stopping diarrhea. At the same time, the addition of Phellodendron Bark to clear heat and dampness, honeysuckle has the effect of detoxification, Rehmannia Root can clear heat and cool blood, such compatibility makes the prescription in dry dampness dispel wind at the same time, but also can nourish blood and clear heat, the curative effect is significant. For acute generalized dermatitis, it is appropriate to use medicines, which functions to relieve itching and dispel wind pathogen. For skin damage is hypertrophy and keratosis, white peony root, Spatholobus Stem, Angelica and other medicinal materials to nourish the blood and nourish the heat. According to the treatment concept of Zhu Renkang, Zhang Zhili, Yu Tugen, Zhuang Guokang and other experts, the disease manifestations are divided as follows: (1) Blood deficiency and wind dryness type. If the blood goes smoothly, the wind pathogen will dissipate, and the theory of TCM emphasizes the key position of blood in the treatment of diseases. Therefore, the prescription of nourishing blood, promoting blood circulation, and relieving the itching caused by wind pathogen can treat the blood damage caused by body heat caused by neurodermatitis. In clinical practice, can choose to add rehmannia, angelica, red peony, and other medicinal materials of four things of wind soup, blood soup, angelica, preparation, or use contains cooked rehmannia, angelica, red peony, Spatholobus Stem, Astragalus, White Tribulus, Carthamus Flower, Asparagus Root, Ophiopogon Root with blood dryness drugs to stop itching mixture. For example, “Wind Tinea Soup”^[4] can be used to treat and subtract, Chen’s^[5] “Blood-Nourishing and Wind-Extinguishing Decoction”, Zhang’s^[6] nourish blood, disperse the wind pathogen decoction.(2) Blood heat and wind generation type. In medical practice, through the deployment of prescriptions with the effect of clearing heat and cooling blood, such as adjusting the wind, adding Mint, Saposhnikovia Root, Coptis Rhizome, Rehmannia Root, Ligusticum Wallichii Rhizome, Moutan Cortex, Anemarrhena Rhizome, Dried Silkworm and other medicinal materials, to relieve skin itching, wind pathogen and other symptoms. For example,

the “ringworm soup” for appropriate use, or the variation of Wang’s^[7] classical formula, can effectively display this treatment concept; also use Xu’s^[8] “Schizonepeta and Cicada Decoction”, Mu’s^[9] “Tinea-Overcoming Decoction”, Zou’s^[10] Tinea-Eliminating Soup, Zhao’s^[11] “Root Bark Tinea-Removing Decoction”, Liu’s^[12] “Five-Bark Itch-Relieving Beverage” and Yu’s “Tinea-Eliminating Decoction”.(3) Rheumatic implication type. Cause is rheumatism fever pathogen invasion, treatment should focus on heat dampness, relieve the itch caused by the wind, can consider using Gentiana Longdancao Decoction to adjust, join the Scutellaria Root, Sophora Root, Atractylodes Rhizome, Dittany Bark to enhance the heat dampness effect, or the Fangfeng Shengshi Tang and Quan Chong Fang side combination, at the same time, Yu’s Tinea-Removing Decoction and Shen Ling Bai Zhu San can also be flexible use according to the situation.(4) Liver qi stagnation type. To relieve the liver to regulate qi, eliminate wind and stop itching, to choose free and loose add and decrease, if long depression into heat, can add Citrus Reticulata Peel, Gentiana Scabra Root, Gardenia Fruit, Rehmannia Root, Paeonia Suffruticosa Bark, Paeonia Lactiflora Root and other heat relieving drugs, example: Yu’s Tinea-Removing Decoction Combined with Danzhi Xiaoyao Powder with Modifications.(5) Spleen loss type. It is suitable for dry and moisture to strengthen the spleen and promote the access of qi and blood to clear heat. It is recommended to use the prescription of Phellodendron Bark and Sophora Root, or drink recuperation drinks that can moisturize the skin.(6) Heart fire hyperactivity type. Appropriate to clear heat and extinguish wind, nourish blood and calm god, clinical Tian Wang’s Heart-Nourishing Elixir can be used to add and decrease.

3.1.2 External application therapy

External application of drugs can directly contact the skin surface and enter the body through the transcutaneous absorption, especially suitable for the treatment of local neurodermatitis. The external application of traditional Chinese medicine can be summarized into two categories: one is the preparation with spot sting as the main component, and the other is the topical medicine mainly with liquid and ointment.(1) In the treatment of localized neurodermatitis, the insect preparation drugs showed significant effects, among which the best is Compound Cantharidin

Tincture^[13]. (2) the treatment of skin disease products, mainly to relieve itching and dispel the wind pathogen effect, including like Black Ointment Stick, centipede and Indigo Naturalis made of ointment, Zou development of Tinea-Eradicating Solution and Wang’s^[14] Formula for Persistent Tinea Ointment, Luo’s^[15] Drosera Liniment, Guan’s^[16] Unique Artemisia Tincture and Xie’s^[17] Ginseng and Snake Antipruritic Tincture, etc.

3.1.3 Acupuncture therapy

The occurrence of neurodermatitis is closely related to the psychological state, nervous mental state can weaken the brain to the regulation of excitement and inhibition process, at this point, the acupuncture therapy of traditional Chinese medicine can effectively act on the central and peripheral nervous system, through the regulation of nerve-body fluids, stimulate the benign reaction of skin tissue, power skin function repair. In the treatment of neurodermatitis, a variety of acupuncture methods can be used, such as body acupuncture, plum needle, fire needle, ear acupuncture, ring thorn, beating, meridian line embedding, drug acupoint injection, warm moxibustion, etc.(1) Body needle. Specific acupoints are selected for the disease, mainly involving Xuehai, Zusanli, Hegu and Fengchi. According to the specific constitution and symptoms of the patient, adjust the acupoint accordingly: for the invasion of dryness and wind pathogen caused by the blood deficiency, with the treatment of Shenshu and Geshu points; if the wind dynamic symptoms caused by the body heat, add the Geshu, Fengmen and other points for conditioning; and the block caused by the accumulation of rheumatic qi, acupuncture with the market and Yinlingquan points. Feng’s^[18] select specific acupoints such as Ashixue, Fengchi, Quchi, Sanyinjiao in the patient, using mildstabbing and diarrhea, 45 patients were treated with 97.78%. In this clinical trial, Wang^[19] compared three different medical plans: one group was 52 patients treated with body needle and plum needle, the other group was 46 patients treated with traditional Chinese medicine alone, and the last group used western medicine as its treatment method, involving 32 patients. In the treatment group of body needle and plum blossom needle, the main acupoints such as Xuehai, Quchi, Fengchi, Hegu and Zusanli were selected, and the 252-inch needle was used for direct stabbing, and the technique of flat repair and diar-

rhea was used, and the needle was left under the skin for 30 minutes. Plum needle is in the skin damage area after disinfection, with seven star plum needle tap, until the skin slightly bleeding. Both injections were administered once daily for 10 days each, for a total of two cycles of treatment. Finally, the total response rate in the treatment group reached 90.38%, which was significantly better than 80.43% in the Traditional Chinese medicine group and 75.00% in the Western medicine group. This result showed that the combination of body and plum needles was significantly effective, and no toxic side effects were observed.(2) Plum blossom needle. Neurodermatitis is tightly associated with autonomic nervous system disorders. Plum blossom needle has the function of dredging meridians, promoting blood circulation and relieving itching, and its use process is convenient. At the beginning of the treatment, it is necessary to accurately select the acupoints and diseased areas, and iodine disinfection should be disinfected. Then, the plum needle should be used to tap the skin with moderate to strong strength until moderate bleeding occurs. At the end, use acupuncture to help remove blood stasis. Zhou and Lin^[20] used small silver needles combined with fire moxibustion to treat neurodermatitis. First, the damaged area was thoroughly disinfected, and then the affected area at the vertical Angle, until the thorn is slightly bleeding (if the moss changes significantly, the strength of the thorn can be aggravated until the bleeding is obvious). Take a very thin sterile gauze, the size is about two centimeters by two centimeters, placed above the lesion, and then light the gauze, let the flame gently touch the affected area, each part of the moxibustion three times, after completing the fire moxibustion, and then wipe the affected area with iodine. This treatment was administered once daily and five times was counted as a full course. In the process of treating 42 patients, all effective treatment results were obtained; according to the case of Chen and Lin^[21], using cupping therapy to treat localized neurodermatitis, they selected 150 patients and divided them into two groups, each containing 75 patients. In the control group, patients were instructed to apply haloethasone cream to the affected area and gently massage to promote absorption twice daily. They also took 10mg ebastin tablets once a day for half a month for a total of two courses. The results clearly show that the combination of plum blossom needle and cupping

techniques for the treatment of neurodermatitis is very effective, the skin damage was significantly improved, and the recurrence rate was also significantly reduced. After disinfection, Xie^[22] used a special needle to gently knock the lesion area, and the strength gradually increased from the weak, maintaining a uniform rhythm, about 435 times per minute. This operation continues until the skin is red but not broken (for mossy-like skin, the stimulation intensity can be appropriately increased). The treatment cycle is three times a week, and a total of nine treatments constitute a full course of treatment. Three courses of treatment under this protocol, and based on past data, the efficacy is 95%. Pan's^[23] use of traditional Chinese medicine with plum blossom acupuncture for neurodermatitis, research object group and take the mainly sparse liver itching of traditional Chinese medicine formula (including Bupleurum, Zedoary Rhizome, Scutellaria Root, White Peony Root, Poria, Margarita, Ziziphus Jujuba Seed, Cypress, Paeonia Moutan Cortex, Uncaria Hook, Saposhnikovia Root and Licorice Root), at the same time with the plum blossom needle tapping patient skin damage area, by the skin surface to light thorn to slight bleeding. The effectiveness of this therapy reached 86.67%, with significant superiority compared to the control group.(3) The ear needle. In the study of 78 patients with neurodermatitis, Liu, Deng^[24] compared the effect with that of 64 patients treated with western medicine. The treatment of ear acupuncture embedding involves selecting specific ear acupoints, such as parotid gland, lung, pillow, adrenal gland, endocrine and divine door, and using the sterilized press needle to gently puncture the sensitive tenderness points of the patient. The annular needle handle is smoothly placed on the skin surface and then fixed with small pieces of tape. For treatment, each session consisted of two to three alternating piercing of both ears for 1 day for a total of 3 sessions. The results showed that 52 patients recovered completely, 22 patients were improved, and only 4 patients showed no improvement, so that the recovery rate was 66.67%, and the total effective rate was 94.87%. In contrast, only 12.50% of patients in the western medicine treatment group were cured by oral administration, vitamin C and urea ointment, and 84.38% of patients showed total effectiveness. After analyzing the data, we found that the effect of acupuncture embedding treatment significantly exceeded that of western medicine

treatment. Wang^[25] intervened neurodermatitis with acupuncture and zinc ion introduction, and the treatment effect was remarkable. In total, Yue's^[26] performed ear acupuncture therapy in 69 patients with neurodermatitis. The main points selected include lung, endocrine, subcortical and trijiao. If the patient has severe itching; if there is swelling, the ear point will be added; if the disease is depressed; if the disease is not cured for a long time, if the itching is severe, the ear tip will be bleeding. Both sides of the ear points at the same time treatment. After the completion of treatment, 59 patients recovered, 9 patients improved, and only 1 case had no results.(4) Fire needle. The technique of burning is the therapy of folk inheritance, with the burning needle, and the surface of the skin, to achieve the effect of soothing the atmosphere, dampness, relieving itching and curing poison. Yang Huo, help Yang Qi to eliminate Yin, strong life Yang.*The Suwen - The Great Treatise on the Etiology of Yin and Yang* states: A skilled practitioner of acupuncture draws Yin from Yang and Yang from Yin, treats the left with the right, and the right with the left, perceives the other through oneself, and understands the interior through the exterior, clearing the difference between inside and outside. With the help of Yang heat energy, fire needles disperse cold, relieve pain, remove moisture, reduce swelling, accelerate the circulation of qi and blood, smooth meridians and stimulate vitality. As it says, warm temperature therapy is used for fever, while cold temperature treatment is needed. Zhang Jingyue also mentioned the burning needle, the red burning needle, through the cold pathogen hot breath. With the characteristics of rising and spreading, fire needles have the function of guiding pathogen diseases to go out, which can clear heat and detoxify, reflecting the truth of "fire depression"; in addition, fire needles achieve the effect of relieving depression and discharging sepsis by stimulating blood flow and bleeding. Pan's^[27] flame acupuncture is a method of treating neurodermatitis that focuses on treating the patient area. Using flame acupuncture needle of about 0.80 mm diameter, around the lesions at about 2 cm interval circular acupuncture, and in the central point for a acupuncture (for less skin damage, usually use shallow acupuncture technique), treatment frequency for every three days, a total of 15 times for a course of treatment, a total of two courses of treatment. After the end of treatment, 68 patients recovered, 19 patients had significantly

improved symptoms, and only 2 patients showed no efficacy. For Huang, Zhao and Nie^[28], 40 patients were divided into experimental and control groups. Experimental group adopted a combination of fire needle and moxa therapy to deal with neurodermatitis, specific operation is to clean the patient area, then use red needle quickly vertical into the skin lesion, depth control in about 0.2 to 0.5 cm, the distance between the thorn is about 0.2 to 0.3 cm, after the thorn, with moxa gently smoked the area, time about 15 to 20 minutes. According to the patient's itching sensation, acupuncture treatment is performed every 3 to 7 days, and each treatment is counted as a phase of three stages completed. The control group was given triamcinolone acetonide acetate urea ointment, and was required to apply it once in the morning and evening for a weekly treatment cycle. The study noted that the intervention group achieved a full perfect improvement in effect, which was not achieved by the untreated control group. This shows that the fire needle treatment can significantly reduce the skin discomfort. When combined with moxibustion, it can not only effectively stimulate the vitality of the meridians, promote blood circulation, but also eliminate the itching caused by dampness, so as to significantly improve the treatment effect. A total of 64 Xiu and Wang^[29] treated patients with neurodermatitis after fire needle acupuncture therapy. After disinfecting the damaged area of the patient's skin, a three-edged needle was removed, heated to redness in the alcohol lamp flame, and then pricked quickly and uniformly in the affected area. Meanwhile, prepare another three-edged needle in case of a rainy day. Once the first third-edge needle is cooled, the second needle is immediately replaced for treatment. Treatment was given every three days for a total of ten times for a complete treatment cycle. The results showed that the method had 100% overall efficacy.(5) Acupoint-embedding line. The alternative therapy to acupuncture, by inserting wire at specific points, combining tiny stimuli with tissue repair methods, constitutes a multiple treatment method. This method uses wire to replace the traditional needle, stimulate the recovery mechanism of the body's own recovery mechanism, restore the balance state, reduce the pain, promote blood circulation, help the skin recovery, and improve the body's self-renewal ability. In Gan's^[30] treatment study of 82 patients with localized neurodermatitis, the study group received acupoint em-

bedding therapy. During the treatment, the skin lesion area and large vertebral area of the study group (for patients affected above the waist and upper limbs; for patients affected below the waist or lower limbs, bilateral blood sea) were treated with three times. Based on the size of the lesion, the study group created two to six local pins around the lesion, then used a disposable embedding needle with sterile intestinal line to oblique from the pinus to the center to the baslayer, and exit the needle, leaving the intestinal line under the skin. Each line was maintained at a distance of 1 to 2 cm. The skin lesion area received the ring ring, while the acupoints were punctured by the conventional line embedding method, reaching a depth of 2 cm and then implanted into the intestinal line. After the embedding line, squeeze the skin on both sides of the embedding point to drain 2 to 3 drops of blood, and then disinfect the pinholes and use a band-aid bandage. Line embedding therapy was performed every 20 days for a total of 6 consecutive sessions. Mai^[31] used the line marking method in 40 patients with neurodermatitis. Davertebral points were disinfected three times in areas of damaged skin. Two to six isometric anesthetic skin mounds were established at the damaged edge depending on the area size of the damaged area. Using a dedicated disposable embedded needle with absorbable suture, stab the bottom of the damaged center from the skin at a 45 degree angle and then slowly exit the needle. The following steps were the same as in the above-described cases. The treatment cycle was arranged once a week for a total of three times as a full course. After completing two such courses, we will evaluate and monitor the efficacy. Final result: The final data analysis revealed that 38 cases were recovered, and the other two cases showed significant improvement, so that the total effectiveness ratio of treatment reached a complete victory. In the process of treating neurodermatitis, Zheng^[32] first carried out standard disinfection procedures for the blood sea, qu pool and the skin damage area (i. e., a yi acupoint). Next, the sterilized and cut bowel line 3 / 0 to 2 cm long was placed into the syringe of the autoclaved number 9 needle. Then, stab the surface of the skin with rapid action, go deep along the meridians to the muscle layer in the direction, and push the intestinal line into the acupoints with the core of the needle. Finally, the needle was gradually withdrawn and the eye of the needle was gently pressed to ensure fixation. After the treatment,

the effect is remarkable. Yang and others^[33] used acupuncture and moxibustion combined with acupoint line embedding method to treat the disease. The main acupoints included the large vertebra in the neck, the foot in the leg, the qu pool in the elbow, the three Yin cross of the lower limbs, and the No.00 intestinal lines from 1 to 1.5 cm long were placed into the special needle, and then stabbed into the acupoints. After the patient felt the needle prick, the needle core was slowly advanced and slowly withdrawn from the syringe, so that the intestinal line was effectively buried in the tissue or muscle layer under the skin, and the buried line was covered with sterile gauze, and contact with the water source was avoided for the following two days. Usually treated once every 15 days, usually requiring three to five treatments. In addition, the fire needle was used to quickly penetrate the skin of the lesion area every 1 cm until the entire lesion area was covered by the needle spot. Fire needle therapy is usually performed once a week, five times as a full course, and the overall response rate of this therapy is up to 94.16%, showing excellent efficacy and a relatively low recurrence rate. Qi and Zhu^[34] used small acupuncture tools — plum needle, combined with acupuncture points and intestinal line implantation method to treat neurodermatitis. The selected acupoints include hepatpoint and its adjacent men point, Xinyu, Dau, Lingtai, Quchi, hai, Zusanli, Sanyin, etc. After strict disinfection treatment of each acupoint, about 3 cm long intestinal line is implanted to the muscle layer. Next, the pinhole was gently pulled and squeezed to promote bleeding, and subsequently sterilized with iodophor and protected with a band-aid. During the treatment period, patients should keep the pinholes dry and avoid exposure to water sources, and treat once every 20 days, usually for 3 to 5 sessions. At the same time, it is recommended that patients keep a light diet, and tap with the plum needle to stimulate the skin. After treatment, 53 patients were cured, 30 patients had significant results, and 4 patients showed no improvement, and the overall response rate reached 95.4%.(6) Acupoint injection. Xu^[35] used integrated Chinese and Western medicine to treat neurodermatitis, randomly assigning participants to two groups. Specific acupoints were selected in the skin lesion area, one group selected wind pool, blood sea and foot, and the other group chose wind pool, three Yin intersection and qu pool. Injection of 0.5 ml of liquid at each point, the two groups

used different acupuncture techniques, the application of the acupoint alternately, the treatment frequency is an alternate day, each treatment cycle is six, a total of three cycles. The final treatment effectiveness showed that the total effective rate reached 97.0%.

3.2 Related treatment methods of Western medicine

In modern medical practice, neurodermatitis is usually treated by the combination of multiple drugs. For example, the combination of Mometasone Furoate Cream with Calcipotriol Ointment has shown remarkable therapeutic results clinically. Xu, Feng, Wan and Zhou^[36] started the experiment, A total of 80 patients with chronic eczema or neurodermatitis were randomly assigned to two groups. In the control group, patients received only Mometasone Furoate Cream; while the observation group combined Mometasone Furoate Cream and Calcipotriol Ointment. Efficacy was compared between the two groups after 6 weeks of treatment. At 2 weeks of treatment, the area of skin damage, skin lesion severity score, pruritus degree score, eczema condition index (EASI), and transepidermal water loss (TEWL) were significantly lower than before treatment, and the observation group improved more than the control group. In addition, the cuticular moisture content (WCSC) and skin oil content (SC) were significantly higher than before treatment, and the observation group also exceeded that of the control group. Clinical trials have shown that the combination of ometasone furoate cream with Calcipotriol Ointment in patients with chronic eczema and neurodermatitis is much more effective than ometasone furoate alone. (2) Neurodermatitis can be significantly improved by the combination of Caspotriol Ointment and Butoconazole Cream. In a comparative study between Zhang and Zhou^[37], they applied daily, twice daily, and at night. For the comparison experiment, group A was assigned to apply Butoconazole Cream in the morning and evening. Whereas control B was designated to use 0.05% concentration of halomethasone cream once daily. The final efficacy analysis showed that after four weeks of treatment, the test group did not show A significant therapeutic advantage over the control group B, but improved compared with the control group A. Meanwhile, the difference between the test group and the control A group was not significant in terms of the re-

currence rate, but it is noteworthy that the recurrence rate was significantly lower than that of the control B group. In conclusion, the combination of Caspotriol Ointment and Butoconazole Cream showed high effectiveness and low recurrence rate in the treatment of neurodermatitis and chronic eczema, while fulfenfenointment played an indispensable role.

4. Typical case

The patient, Mr. Li, aged 58, was first recorded on January 8, 2021. Self-reported worry in the busy work and mental pressure, often feel agitated. Have a long-term drinking and smoking habit, a preference for spicy and fish food. Recently, he noticed itching in the neck with unusual small yellow particles, followed by a red, flat rash on the inside of the calf, which gradually extended to the abdomen, shoulders, elbows, inner thighs, and buttocks, with severe itching, leading to constant scratching. After scratching, yellow flat blisters form on the skin, discharging smelly yellow pus after rupture. After the pus outflow, the blisters subsided, but started again a few days later. In addition, there is a strong burning sensation at night and an exacerbated itching, leading to decreased sleep quality and emotional restlessness. The yellow particles of the neck eventually evolve into a red, palm-sized flat moss, and extend up to the posterior neck, with the formation of scales. The patient also appeared dry mouth, bright red tongue, yellow and greasy tongue coating, pulse tension and slippery symptoms. After the evaluation of medical institutions, it was identified as eczema gradually changed into neurodermatitis, and the etiology analysis showed the accumulation of rheumatic qi, liver stagnation leading to endogenous anger. Treatment when the qi machine, disperse the cold wind, eliminate moisture, clear anger. The apy includes: (1) by pressing the points of Hegu, Xuehai, Sanyin, Yanglingquan, Weizhong, Chengshan, Baihui, Yongquan and other acupoints, supplemented by neck bleeding therapy, once a week, a total of six times as a course, a total of three courses; (2) taking wet soup and corn whiskers; (3) mixing purslane and garlic in the skin damaged area; (4) eating cool vegetarian food, avoid spicy and stimulating food, meat, hair, and food, stop smoking and drinking. Careful monitoring was conducted during the treatment, and after a period of time, the damaged area

shrank, the moss-like changes were relieved and the color became light. About a year later, the patient fully recovered and did not appear again.

5. Discussion

Neurodermatitis, a chronic skin disease characterized by a long course and difficulty in complete cure. In the theory of traditional Chinese medicine, its root may be because of the invasion of the skin, or due to the dysfunction of the spleen, resulting in the accumulation of dampness and heat, or the anger of the heart, harm the body blood, resulting in the blood shortage and wind dryness. In addition, it may also be because of hidden anger in the lungs, or liver qi stagnation, leading to qi block and poor blood operation, which can lead to the combination of internal heat and external wind, causing skin itching and moss-like changes. In modern medicine, the disease is thought to be due to excessive mental stress, which leads to dysfunction of the endocrine system and excessive immune response causing skin damage and itching. In medical practice, traditional Chinese medicine analyzes diseases according to the methods of observation, smell, questioning and cutting, and takes syndrome differentiation and treatment as its core principle. According to the different symptoms shown by patients, the treatments commonly used in Chinese medicine include dispersing wind pathogen, relieving itching, clearing heat and detoxifying, and removing moisture. In contrast, modern western medicine focuses on the diagnosis of diseases, and based on this, precise treatment. Its common treatment methods include swelling elimination and itching relieving. The exploration points out that the integration of syndrome differentiation of Chinese medicine with the disease positioning of western medicine, and the internal intake of Chinese medicine with the external application of western medicine, show a more significant effect on the recuperation of neurodermatitis. Therefore, for the future therapies of neurodermatitis, the strategy of integrating traditional Chinese and western medicine is crucial, which can maximize the effectiveness of the drug and serve the patients more quickly.

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