

# Progress in the Diagnosis and Treatment of Itchy Skin in Uremia in Chinese Medicine

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**Abstract:** *Itchy skin in uremia is one of the common complications in the uremic stage of chronic renal failure, which seriously affects the life of patients. Western medical treatment is mostly based on local use of emollient drugs, improving the quality of dialysis and oral antihistamine drugs, but the efficacy is not satisfactory. In recent years, the research on the treatment of itchy skin in uremia by traditional Chinese medicine has become more and more in-depth, and both oral Chinese medicine compound and external Chinese medicine treatments have gained better efficacy in the clinic with fewer adverse reactions. This article reviews the understanding and treatment of itchy skin in uremia from Chinese medicine, with a view to providing useful methods and ideas for the clinical treatment of this disease.*

**Keywords:** Itchy skin in uremia, Etiology, Chinese medicine treatment, Review.

## 1. Introduction

Uremic pruritus is one of the common symptoms in patients with end-stage renal disease, and the clinical manifestation is mainly local or generalised itching of varying degrees, the site of which is predominantly in the limbs and chest and back, with paroxysmal episodes of varying durations, especially at night, which seriously affects the patients' lives [1]. A Dialysis Outcomes and Practice Patterns Study abroad (DOPPS) found that about 70% of haemodialysis patients from 17 countries experienced itchy skin from 2012 to 2015, and 40% of these patients suffered from at least moderate itching [2]. The etiology of uremic pruritus is complex and involves a variety of underlying mechanisms, and modern studies have found that in addition to immune-inflammatory responses, histamine mechanisms, and opioid mechanisms, factors such as uremic toxin accumulation, secondary hyperparathyroidism, neurological dysfunction, and skin dryness may be involved in the development of UP [3]. In recent years, activation of dialysis-related complement pathway, activation of substance P/neurokinin-1 receptor signalling pathway, and abnormal secretory function of sweat glands have also been associated with UP [4]. In addition to this, relevant studies have shown that dialysis age, primary morbidity, Kt/V values, iPTH levels, blood phosphorus levels, hepatitis virus infections, dialyser materials, and dry skin may influence the occurrence of pruritus in MHD patients [5]. Western medical treatment of UP is guided by emollient topical medication and improvement of dialysis quality as a general preventive guide, and systemic medication includes calcium channel modulators, opioids, sodium thiosulphate, antihistamines, and antidepressants, etc. Though it can partially relieve itchy symptoms in patients with uremia, it does not achieve long-term and complete relief [6]. Traditional Chinese medicine (TCM) treatment means are more diversified, and have significant advantages in improving itching symptoms of uremic patients, which can significantly improve the quality of life of patients.

## 2. Chinese Medicine's Understanding of Itchy Skin in Uremia:

### 2.1 TCM Doctors' Understanding

Chinese medicine ancient books do not have a clear record of uremic skin itching of the name of the disease, because of its most important feature is to no primary skin damage of itching, 'surgical evidence of the whole book' has seen: 'itchy wind: itching all over the body, and no sores and scabies, scratching more than.' The origin of the disease theory' has the cloud: 'wind itch, is the body of the wind, wind into the coupling, and the gas and blood fight, and the club to and from the skin. Evil gas micro, can not impact for pain, so but itching.' Accordingly, the modern medical practitioners will be called 'itchy wind' 'wind itch' and so on. The cause of the disease has two categories: positive deficiency and external evil. Danxi Xinfa contains: 'the itch for the virtual, blood does not glorify in the muscle coupling, so itch.' The difficult classic - forty-eight difficult' and cloud: 'diagnosis of the virtual, itchy for the virtual, pain for the real.' Can be seen itching more than false. Positive deficiency is more responsible for the spleen and kidney qi, blood, yin and yang deficiency, true gas depletion, skin loss and itch.

Hua Tuo's 'Hua's Zhongzangjing': 'its external addiction rash, ..... itchy, ..... all start in the wind also', 'Jin Gui Yao Liao' has recorded that 'wind gas wrestling, the wind is strong for the hidden rash, the body for itch, ' "Su Wen - four times pricked from the theory of inversion, " said: 'wind evil guest in the muscle, the muscle is weak, the real gas dispersion, and hostage to the cold beat the skin, the external hair coupling, open hair, obscenity delusional, it is itchy also.' All described wind evil itch. Wind can be divided into external wind, internal wind, external wind, cold, dampness and heat, the external wind lead to internal wind and the onset of 'the origin of all diseases - wind itch wait' cloud: 'This is by the travelling wind is in the skin ..... itchy when it is hot.' The internal wind is mostly due to the body hosts wind and dampness, dampness and turbidity agglomeration, dampness and heat within the birth, injury to the blood, blood stasis, blood heat (dry), blood deficiency and wind, internal and external wrestling knot, guest in the surface of the muscle, hair for itching, such as the 'Surgical evidence of the treatment of the whole book' cloud: 'Itchy wind, itching all over the body, and there is no sores and scabies. Scratch more



the wind. In the observation of skin itching, it was found that tonifying the kidney and fixing wind soup was economical and effective, and worth promoting its application [18]. Liu Ziyang et al. explored the clinical effect of expectorant formula in the treatment of uremic pruritus, 100 patients who met the diagnostic criteria of uremic pruritus were randomly divided into treatment group and control group, and the treatment group used expectorant formula, while the control group used tretinoin acetate cream, and the results of the experiment showed that the total effective rate of the treatment group was 82.00%, which was higher than that of the control group of 54.00%, and the difference was statistically significant ( $P < 0.05$ ), and the difference of the total effective rate of the treatment group was 82.00%, which was higher than that of the control group of 54.00%. 0.05), the expectorant formula can effectively alleviate the itching of the skin caused by uremic pruritus, and this formula provides a reference content for the development of the late standard of chronic kidney disease-associated pruritus [19]. In clinical observation, Jiang Bingqian found that the combination of Nourishing Blood, Removing Dampness and Relieving Itch Soup with loratadine had better efficacy than loratadine alone in treating patients with uremic itchy skin, and it was better than loratadine alone in improving itch scores, regulating calcium-phosphorus balance, and controlling inflammatory reactions ( $P < 0.05$ ) [20].

### 3.2 External Treatment Method

Pan Yongjin divided patients with itchy skin of uremia into observation group and control group, the observation group received western medicine basic treatment combined with the oil ointment made of traditional Chinese medicine formula, and the control group received western medicine basic treatment combined with the basic oil ointment made of no traditional Chinese medicine formula, and it was found that the oil ointment containing the traditional Chinese medicine formula was more effective in improving the symptoms of UP after 4 weeks of treatment, and there were no adverse reactions, which reflected the simplicity and safety of traditional Chinese medicine treatment, The simplicity and safety of TCM treatment [21]. Gua Sha is the traditional external treatment method of Chinese medicine, tiger copper acupuncture Gua Sha is the use of special brass Gua Sha board for Gua Sha treatment, due to the brass can reach the optimal resonance frequency with the human body, raise the temperature of the scraping site, its penetration is stronger than the effect of ordinary Gua Sha. Related research found for uremia skin itching, tiger copper acupuncture gua sha treatment has good efficacy and safety, can significantly improve the clinical efficacy, effectively alleviate the patient itching symptoms, its mechanism of action may be to reduce serum P, PTH and inflammatory factor CRP, IL-6 levels [22]. As the skin has a strong excretory function, the application of herbal baths can promote the secretion of sweat glands so that toxins can be eliminated from sweat, and reducing the skin irritation of uremic toxins becomes one of the ideas of clinical treatment. In order to observe the clinical efficacy of the self-proposed wind nourishing blood emollient bath for the treatment of blood deficiency, wind dryness and blood stasis type of uremic skin itching, Chen Yangyang et al. divided 80 cases of uremic skin itching patients into the control group and the observation group, 40 cases of the control group were

given basic treatment with Western medicine, and 40 cases of the observation group were added with the self-proposed wind nourishing blood emollient bath on the basis of the control group, and the results of the experiments showed that the total effective rate of the observation group was 87.5% (35/40). (35/40), significantly higher than the 65.0% (26/40) of the control group, the difference was statistically significant ( $P < 0.05$ ), suggesting that the self-proposed dispelling wind and nourishing blood emollient bath treatment of itchy skin in uremic uremia of the blood deficiency, wind and dryness, and blood stasis type is effective in relieving itchy skin and improving renal function, and it can also down-regulate the levels of hs-CRP, TNF- $\alpha$ , and IL-6, and inhibit microinflammation state of the body [23]. Ding Tongfeng et al. in 65 cases of maintenance peritoneal dialysis uremia itching patients performed auricular acupoint pressure kidney, heart, lung, Shenmen, endocrine, subcortical and other acupoints control treatment, and concluded that auricular acupoint pressure can significantly improve the itching symptoms of patients with uremia itching, and improve the quality of life, and the mechanism of this mechanism may be closely related to IL-6, but the specific mechanism needs to be further studied [24]. Wang Rui et al. concluded through Meta analysis of systematic evaluation of acupuncture for itchy skin in uremia that acupuncture can relieve itching symptoms and reduce itching scores in patients with itchy skin in uremia, with no obvious adverse effects [25]. Zhang et al. evaluated the effect of Chuanbai Itch Relieving Wash on patients with itchy skin in uremia through multidimensional indicators such as itch score, serum inflammatory indexes, and use of antipruritic medication, confirming that it can significantly improve itching symptoms, reduce the level of inflammatory factors, and reduce the use of antipruritic medication [26]. Qu Zhenzhen applied acupoint acupuncture combined with bloodletting in the commission to treat uremic patients with itchy skin undergoing haemodialysis, and found that it could effectively reduce the degree of itchy skin, improve the quality of sleep, and effectively improve the relevant blood indexes of the patients, which is worthy of clinical promotion and application [27].

### 4. Clinical Experience of Medical Practitioners

Ding Haihua, on the basis of Zhang Zhongjing's classic provisions, combined with many years of clinical experience, treatment from the patient's overall situation, that uremia itchy skin evil stagnation of the Xuanfu, Yingwei disorders of the pathogenesis and Gui Zhi, Ma Huang, half of a soup of 'can not get a small sweat, the body will be itchy,' the mechanism of the disease, found that Gui Zhi, Ma Huang, half of a soup for itchy skin uremia patients can play a role in detoxification, dispersal of evil, harmonisation of Yingwei efficacy, significantly improve the symptoms of itching [28]. It was found that applying Gui Zhi, Ma Huang and Huan Huan Tang to patients with itchy skin in uremia could relieve the symptoms of itching by dispersing the evils and regulating the Ying and Wei functions [28]. Professor Ruan Shiwei believes that the basic pathogenesis of uremia is the internal retention of turbid toxins, the external development of poisonous evils, the deficiency of fluid and blood, skin loss of nourishment, and puts forward the 'tonic, clear, down, sweat' treatment law [29], summing up the deficiency of tonic to supplement but not to hinder the evil, in order to prevent the closure of the

door to keep the invader, and the actual leakage of the emphasis of the theory of the situation in order to get rid of turbid toxins. Sun Jie from the lung theory of treatment, proposed to tonify the lung, moisturise the lung, clear the lung, promote the lung four major principles of treatment, according to the identification of the proposed complementary spleen and kidney, blood circulation and blood stasis, clearing dampness and turbidity and dispelling wind and other treatments [30]. Professor Shen Hongchun, in his clinical diagnosis, considered wind, dampness, stasis and toxicity as the basic pathogenesis of the disease, and proposed that the treatment of the disease starts from the lungs and the skin as the key point, and adopted the sweating method in order to promote lung qi, open the couperous tissue, perspire to dispel the wind, and dry the dampness to stop the itching, and formulated the agreement prescription for the treatment of the disease - Bohuang Itch Relief Soup, which has remarkable therapeutic efficacy in the clinical application [31]. Professor Ma Jiwei proposed uremic skin itching patients with 'wind' as the main mechanism, there are external heat toxicity wind outside the wind, but also blood deficiency, blood dryness, blood heat within the wind, and uremia patients with low immunity, susceptible to dampness and heat wind, treatment when the wind to stop the itch, clearing heat and dampness detoxification [32]. Zhang Xianbin, et al. that uremic pruritus on the treatment of positive cultivation, elimination of evil and detoxification, the use of complementary viscera detoxification as the principle of complementary viscera, liver, spleen and kidney deficiency, ventilation and drainage of the six viscera and triple jiao toxicity, attack and complementary, internal and external method and use, so that the positive security and evil to go, the toxicity of clear itch stop [33].

## 5. Summary

The pathogenesis of itchy skin in uremia is complex, and Western medicine treats itchy skin in uremia in a variety of ways, but the efficacy is mostly unsatisfactory, and there is no specific treatment means and drugs. Chinese medicine treatment means more diverse, can significantly improve the itching discomfort symptoms of uremia patients, significantly improve the quality of life of patients. At present, scholars in the Chinese medicine field have conducted in-depth research on itchy skin in uremia, and there are obvious efficacies in oral Chinese medicine compound and external treatments such as ointment rubbing, medicinal bath and gua sha. However, most of the current studies on UP are targeted at dialysis patients, and there are relatively few studies on UP in non-dialysis patients, and there is no uniform clinical standard for TCM diagnosis and diagnostic typing. Strengthening the exploration of the TCM pathogenesis of UP, and carrying out basic research on effective prescriptions and medicines with reference to the modern medical research methods are the main directions of TCM research in the future. In the process of promoting the development of Chinese medicine, we must respect its intrinsic law, not only to inherit the traditional essence, but also adhere to the development of innovation, specific to clinical practice, should be widely absorbed by the strengths of various schools of thought, according to the patient's specific circumstances and flexibility of treatment, to avoid sticking to a single therapy or prescription and the constraints of diagnosis and treatment of ideas.

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