

Progress of Chinese and Western Medicine Research on Pediatric Allergic Purpura

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Abstract: This paper presents a literature review on the progress of Chinese and Western medicine treatment of pediatric allergic purpura in the past 5 years. This paper will discuss the treatment from etiology and pathogenesis, meridian treatment, dialectical typing, Chinese medicine, external treatment, acupuncture and Western medicine.

1. Introduction

Allergic purpura, also known as IgA vasculitis, is characterized by non-thrombocytopenic skin purpura, abdominal pain, arthralgia, gastrointestinal mucosal bleeding such as vomiting blood and blood in stool and renal damage such as hematuria and proteinuria as the main clinical manifestations. Among them, 30%-50% of children with HSP will develop renal damage, called purpura nephritis few children with prolonged disease can develop into chronic renal failure, and the severity of renal damage is a key factor in determining the prognosis. The disease is self-limiting and most children can recover after symptomatic treatment, but some patients can develop serious complications, such as purpura nephritis, which can lead to the death of the child in severe cases. In this paper, we discuss the treatment progress of allergic purpura in recent years to provide a basis for the treatment of allergic purpura and help children grow up healthily.

Henoch-Schönlein purpura is an immunoglobulin A (IgA)-mediated systemic small vessel vasculitis that generally occurs in children and adolescents between the ages of 3 and 15 years, with HSP most commonly seen in the fall and winter months, resulting in symptoms involving the skin, joints, intestines, and kidneys due to IgA deposition in the vessel walls [1]. This is in addition to neurological, cardiopulmonary impairment and scrotal involvement. If rare complications occur, there is a high risk of misdiagnosing the child as a different disease and compromising the treatment progress, as well as leading to a poor prognosis. A comprehensive study and mastery of the clinical manifestations of IgAV is a necessary prerequisite for correct diagnosis, while timely diagnosis and selection of appropriate treatment is the optimal outcome. [2]. HSP is prone to recurrent disease, with approximately 20% to 55% of children developing renal involvement, or HSPN, and approximately 15% to 20% of HSPN progressing to end-stage renal disease [3] To date, there are no internationally agreed evidence-based guidelines. As a result, treatment options vary widely [4]. The etiology of the disease is not fully understood, and possible causes are known to include

infection, allergy, genetics, and vaccination [5]. In Chinese medicine, allergic purpura is classified as “purpura”, “purpura”, “purpura wind”, “vitiligo” and “epistaxis” [6]. “The etiology of the disease is internal heat toxicity and external evil, the heat toxicity and external evil will injure the blood and damage the meridians, make the blood overflow outside the veins, blood heat and stasis, and block the meridians. The treatment is to activate the blood and remove stasis. In Chinese medicine, the treatment principle is to activate blood circulation, remove blood stasis, and open the blood vessels and channels. In this paper, the treatment methods of allergic purpura in the past 5 years are summarized as follows.

Allergic purpura is a more common clinical vascular metaplastic disease the diagnostic criteria of this disease: refer to the diagnostic criteria of allergic purpura in Pediatrics [7] to develop. Necessary conditions: history of upper respiratory tract infection or symptoms such as hypothermia, sore throat, general malaise and loss of appetite 1 to 3 weeks before the onset of the disease; recurrent papular purpura of varying morphology and size on both lower limbs. Auxiliary conditions: gastrointestinal symptoms such as edema, hemorrhage, necrosis of the intestinal wall and black or bloody stools caused by vasculitis; symptoms of joint swelling and pain and limitation of movement; renal symptoms such as hematuria, proteinuria, tubular urine or increased blood pressure and edema within 1 month of onset; routine blood tests suggesting normal platelet function and normal coagulation function.

2. Etiology and Pathogenesis

According to Wang Junhong [8], the etiology of this disease is mainly in the lung and spleen, and children often have the physiological characteristics of lung deficiency and spleen deficiency, plus wind is the longest of all diseases, and wind evil enters from the surface and easily turns into wind-heat. Professor Liu Xia [9] pointed out that the main cause of purpura is “heat”, which includes external wind-heat evil, damp-heat evil, or heat poisonous evil caused by eating fatty, sweet and greasy food, and also includes internal heat due to deficiency of qi and blood, stagnation of veins and channels. Professor Zhou Zhongying [10], a master of Chinese medicine, proposed that the etiology of allergic purpura is due to the sensation of external evil, the deficiency of evil, which leads to wind-heat, and the cross-fertilization with stasis-heat and damp-heat, and the combination of stasis-heat throughout the disease. Chen An-Min [11] believed that “internal and external combination of evil” is the basic etiology of HSP, and wind, heat, stasis and deficiency are the basic pathogenesis. Zhang Jinyue of the Ming dynasty said in “Jinyue Quanshu - blood evidence”: “Most of those who move are due to fire, and fire is strong enough to force the blood to act delicately.” It is mentioned that bleeding can be caused by the heat forcing the blood to move delicately. Combining the ideas of various medical schools, it is believed that the pathological factors of HSP are mainly the following: wind, fire, dampness, heat, stasis, toxicity and deficiency, and the different factors can be added to each other.

3. Treatment

3.1 Classification and Typing Treatment

The clinical typing is mostly based on deficiency, actual, and mixed deficiency and actual. Professor Zhou Zhongying [10] divided the treatment of HSP into: the method of clearing heat and cooling blood; the method of clearing heat and dispelling dampness; the method of diarrhea and blood stasis; the method of tonifying the kidney and strengthening the spleen; the method of clearing heat and dispelling wind; and the method of benefitting the kidney and clearing profit. They are applicable to: blood-heat delusion type, damp-heat internalization type, allergic purpura

abdominal type, spleen qi deficiency type, kidney-yin deficiency type, and wind-heat external sensation type, respectively. Director Qiu Yu-liang [12] believed that in the treatment process, evidence-based treatment should be administered according to the different stages of disease development. In the acute phase, the treatment is divided into acute and chronic phases: wind-heat injury to ligaments, treatment method: dispel wind-heat, cool blood and calm ligaments, formula with addition and subtraction of Ma Huang Lian Qiao Chi Xiao Dou Tang. Blood-heat delusional evidence, treatment: clearing heat and detoxification, cooling blood and calming blood, formula with Rhizoma Dihuang Tang plus or minus. Chronic phase treatment: damp-heat internal obstruction, treatment: clearing heat, relieving dampness, activating blood circulation and resolving blood stasis, using San Ren Tang with addition and reduction. Yin deficiency and fire, treatment: nourishing Yin, clearing heat, cooling Blood and resolving blood stasis, formula: Great Tonic Yin Pill. Qi does not regulate Blood. Treatment: Benefit Qi, strengthen the spleen, invigorate Blood and regulate Blood. Blood stasis and obstruction: activating blood circulation and resolving blood stasis, using: Tao Hong Si Wu Tang with Gui Zhi Fu Ling Wan, plus or minus. Professor Wang Shaojie [13] classified pediatric allergic purpura by its onset, course, rash color, and concomitant symptoms into wind-heat injury, blood-heat injury, yin deficiency and fire, and qi non-regulation of blood. According to Zou Yanqin [14], HSP is characterized by “stasis”. In the acute stage, the main clinical manifestations are purple spots on the skin, hematuria and irritability, while in the remission stage, the main clinical manifestations are the fading of purple spots on the skin and recurrent episodes of hematuria. In the acute stage, it is more common to see the evidence of poisonous heat forcing blood delusion and the evidence of yin deficiency and blood heat. The treatment should be based on treating the root of the problem, and should be beneficial to the spleen and kidney to nourish the yin and nourish the kidney.[15] et al. retrospectively investigated 225 cases of children with allergic purpura and concluded from the analysis that the most common is blood-heat delusion evidence; the three types of wind-heat injury, blood-heat delusion, and damp-heat stasis dominate in the early stage, and the type of yin deficiency and fire and qi non-regulation of blood dominate in the recovery stage. Among them, the blood-heat delusional type tends to turn into the qi non-regulation of blood and damp-heat stasis type, and the damp-heat stasis type tends to turn into the blood-heat delusional and qi non-regulation of blood type. He Ningxin [16] et al. applied self-prepared clearing spot detoxification soup to treat blood-heat delusion evidence, and after treatment, clinical symptoms were improved to different degrees compared with those before treatment, which could improve the survival quality of the children with significant efficacy. In Zhang Liguang et al [17], the control group was given western symptomatic treatment, and the observation group was treated with Jianshuanyi Kidney Tang based on the prescription of Astragalus, Dangceng, Fu Ling, Atractylodes, Gorgonzola, Yam, Xie Cao, Xianhe Cao, and roasted licorice, and the results of their study showed that the clinical efficacy of the observation group was better than that of the control group ($P < 0.05$), which indicated that Jianshuanyi Kidney Tang was more effective in treating pediatric allergic purpura with spleen-kidney qi deficiency. Ma Sifeng et al [18] made homemade Qixi Huang Anti-plaque Drink by benefiting Qi, cooling Blood and activating Blood, with the basic formula of Astragalus, Radix et Rhizoma, Radix Angelicae Sinensis, Buffy's horn, Mudanpi, Radix Paeoniae, Radix et Rhizoma Xi and Chicken Blood Vine, to treat the evidence of Qi and Yin deficiency with stasis in HSP, and achieved satisfactory efficacy. Li Tianqi et al [19] applied Plus and Minus Gastric and Spleen Tang granules to treat 64 cases of children with allergic purpura in which the qi did not take in blood, and the test group used Guixian Tang and the observation group used Plus and Minus Gastric and Spleen Tang granules. It indicates that both GUI Spleen Tang and Plus and Minus Stomach and Spleen Tang granules have better efficacy on purpura with Qi not taking blood, but the latter is better than the former.

3.2 Sutra Treatment

Gu Xueying [20] et al. compared by grouping the control group with dipyridamole tablets and vitamin C chewable tablets, and the observation group with cool blood and blood-strengthening and anti-pigmentation soup combined with tonifying Chinese medicine and concluded that the herbal group was more effective. Lv Shuting [21] treated children with allergic purpura with Gui Quan Tang, giving conventional treatment with Western medicine to patients in group A and adding Gui Quan Tang to patients in group B. The clinical symptoms disappearance time and clinical treatment effect were compared. The results showed that clinical symptoms such as abdominal pain, skin purpura, hematuria/proteinuria, and arthralgia disappeared earlier in group B than in group A; the total treatment efficiency of group B was 97.5%, which was higher than that of group A, which was 82.5%. Ran Mengzhou et al [22] used blood activation and stasis removal methods (e.g., Chuanxiong, peach kernel, and safflower), which resulted in a significant increase in serum superoxide dismutase, β 2-microglobulin, and microalbumin levels after treatment. The overall efficiency was higher than that of oral dipyridamole tablets only. Zhang Linlin et al [23] used a self-prepared formula for eliminating blemishes and healing the kidney with: astragalus and gorgonian, raw groundnut, Xinjiang comfrey, white foxglove, white flowered snake's tongue, peony bark, and licorice, and the total effective rate reached 93.55%. Song Chundong et al [24] treated allergic purpura of blood-heat delusion type with Rhizoma Dihuangwan, and urine erythrocytes, urine albumin/creatinine, PLT and serum GP IIb/IIIa expression of patients in the treatment group were significantly reduced compared with the control group, and the total effective rate of the treatment group reached 93.3%. Chen Guoguang [25] et al. analyzed 100 children in 2 groups of 50 cases each; group 1 was given conventional treatment with bed rest, cessation of allergic foods, timely nutrition, balanced water and electrolytes, and in case of gastrointestinal bleeding, fasting was stopped and infusion therapy was administered. In the absence of obvious disease manifestations, a nutrient-rich liquid diet was given. Vitamins were also given for treatment. At the same time, cimetidine was provided to the children; in the study group, Danshen Yinjiaoyao Drink was added to the former: Danshen, Jinyinhua, Lianzi, Angelica, Chuanxiong, Shengdihuang, Bai Shao, and Peppermint, and the duration of treatment was 2 weeks in both groups. The treatment effect of the study group was significantly higher than that of the control group, mainly in terms of length of hospitalization and disappearance of rash, which were significantly less than those of the control group. It can be seen that the treatment of allergic purpura with Dan Shen Yin Qiao Drink can significantly improve the treatment effect, reduce the hospitalization time of patients and improve the manifestation of the disease, so it is worth to be widely promoted.

3.3 Combined Chinese and Western Medicine Treatment

Zhang Fengli [26] used the random number table method to divide 71 patients with allergic purpura into two groups as study subjects. One group was treated conventionally with oral loratadine tablets plus famotidine injection; in the observation group, purpura soup (Shengdi, Angelica, Bai Shao, Bai Mao Root, Danpi, Xianhe Cao, Chuanxiong, Dandelion, Jinyinhua, Danshen, Guiban, Licorice) was added to the control group. For blood-heat rash, add Pu Huang; for blood in urine, add Yi Mu Cao, Angelica sinensis, and Perilla leaf; for itchy skin, add Xu Changqing; for heat in the heart of the hands and feet, add Huang Bai. After 2 weeks of treatment, the flow, morphology, and peritubular scores of both were lower than before treatment, and the conventional group was higher than the study group, with statistically significant differences ($P < 0.05$). The combination of Chinese and Western medicine has a stronger effect in treating patients with purpura, which can improve the microcirculatory status of patients and reduce the immunoglobulin level, and is worthy of clinical promotion. Wang Xi [27] experimented by randomly dividing 60 children with

blood-heat delusional HSP into 2 groups. In addition to the common therapeutic regimen: basic treatment with antihistamine, improvement of vascular permeability, and antiplatelet aggregation, and chewable tablets of montelukast sodium were given to the control group, while the observation group took oral Chinese herbal soup, which finally resulted in Cool Blood Expelling Stasis Soup (whose formula is as follows: Sheng Di Huang, Xuan Shen, Peony Skin, Red Peony, Gardenia, Comfrey, Dan Shen, Radix et Rhizoma gastrodiae, Arctium lappa, Glycyrrhiza glabra.) The addition of western medicine can reduce clinical symptoms, promote the disappearance of symptoms, reduce the inflammatory response and regulate the immune response of the child, which is worthy of clinical reference.

3.4 Western Medicine Treatment

Western drugs have better efficacy in allergic purpura, and considering the multiple effect hypothesis of the pathogenesis of IgAVN [28], the use of immunosuppressive drugs such as mycophenolic acid, cyclophosphamide, rituximab, calcium-modulated neurophosphatase inhibitors (CNIs) or complement inhibitors in patients with IgAVN should be well justified. Li Hailong [29] treated 100 children with allergic purpura with loratadine combined with methylprednisolone shock therapy, the children's clinical symptoms were improved, the serum immunological indexes were optimized, the time of clinical symptoms disappeared was shortened, and C-reactive protein, IgA, complement C3, and complement C4 were reduced, indicating that the clinical efficacy of loratadine combined with methylprednisolone in the treatment of pediatric allergic purpura is exact, and it can The clinical efficacy of loratadine in combination with methylprednisolone in the treatment of pediatric allergic purpura is accurate.

4. Conclusion

Allergic purpura is an inflammation and bleeding of the skin, joints and renal tubules caused by capillary degeneration, which mostly occurs in spring, autumn and winter, and its pathogenesis is still unclear and may be related to infection, genetics and other factors [30]. In the treatment of either Chinese medicine treatment, combined Chinese and Western medicine treatment, or Western medicine treatment have better clinical efficacy on HSP, but the combination of Chinese and Western medicine treatment is effective, not only can improve the patient's microcirculation, the patient's immunoglobulin level is reduced, worthy of clinical promotion. hsp treatment is not timely will appear some complications, in order to early detection of complications, must be familiar with its characteristics, to use a high degree of suspicion In order to detect complications early, it is important to be familiar with their characteristics and to treat the disease with a high degree of suspicion, and not to take the same steps to avoid mistreatment. More research in this area is urgently needed to develop appropriate treatment guidelines.

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