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Efficacy of Montelukast sodium in the treatment of Henoch-Schonlein purpura

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Abstract. Henoch-Schonlein purpura (HSP) is a common vascular perverted reactive hemorrhagic disease. It occurs mostly in children and adolescents. The renal HSP is easy to relapse and the prognosis is poor. The cause of HSP may be related to abnormal response. There is currently no effective therapy. Traditional therapy is a symptomatic use of hormones, but hormones have more serious side effects. The treatment is easy to relapse and stop drugs. Based on the research on the cause and pathological mechanism of HSP, this article introduces the impact and mechanism of the main component of Menglu Ste sodium and its main ingredients on the immune system, and further analyzes the indications and the treatment principles of Menglu Ste sodium. And the way and process of role, the result of the Menglu Ste sodium can effectively treat HSP. This article provides a reference to the efficacy of Mongolus Sodium for specific diseases, but the research in the field lacks data reference. The accuracy of these examples is yet to be sophisticated. In the future, research can be focused on experimental analysis. Provide more extensive experimental data accumulation.

Keywords: Henoch-Schonlein purpura, Montelukast sodium, treatment evaluation.

1. Introduction

Allergies are a kind of perverted reaction of immune response. That is, the immune system attacks harmless substances, damages normal body tissues, and even attacks and destroys the tissue of the body itself, which is very unfavorable to the health of the human body. The cause of allergic reactions is generally divided into two types: External and internal causes. The external cause is generally an abnormal response to the immune system of some people after entering the human body. Allergens can cause the body's allergenic state after entering the body for the first time. When these substances enter the body again, allergic reactions occur. Stimulating the abnormal activity of the patient's immune system eventually causes a series of allergic damage. The internal cause is generally defective in the immune system of a certain type of population, and it is easy to attack the normal tissue cells in the human body, which leads to allergies.

HSP is also known as symptoms of hemorrhagic capillary poisoning and is a vascular perverted reactive hemorrhagic disease. This disease is one of the most common hemorrhagic diseases, especially for children and adolescents. HSP is easy to relapse. Most patients have a good prognosis, but patients with chronic purpura kidney are poor. The cause of HSP is unknown, which may be related to perverted reactions. Studies are directed to infections, drugs, insect bites and food. Clinical manifestations are

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diverse, including abdominal type, joint type, etc., and complications such as gastrointestinal bleeding and purpurphic nephritis. There are no special effects at present. The traditional treatment method is the application of adrenal hormone, but corticosteroid therapy cannot change the course of acute kidney disease, so hematuria and proteinuria quickly subside, and the incidence of chronic renal lesions cannot be improved. Patients with HSP nephritis who are onset are not effective [1]. At present, the treatment of allergic purpura is mainly drugs, which is often treated with Menglu Snifer. Monte Sodium is a cosmhomyl -glroanne receptor antagonist, which can effectively reduce inflammatory response and quickly relieve the disease [2].

This article hopes to further summarize the impact of Menglu Ste sodium on the immune system through the analysis of the efficacy of Menglu Ste sodium in HSP. It provides a reference for future HSP research, which will help optimize the drug drugs for subsequent Menglu Ste sodium to optimize the drug. Find treatments that are more compatible with recurrent HSP.

2. Etiology and pathogenesis of HSP

2.1. Etiology

Risk factors for HSP may now be related to a variety of factors including infection, genetics, food, drugs, and intestinal microecological imbalance. Infectious factors include bacterial infections, Mycoplasma pneumoniae infections, and viral infections. Parasite and insect infestation are related, the metabolites of parasites such as amoeba protozoa, roundworms, etc. or their larvae release foreign proteins after death to cause an allergic reaction in the body triggering HSP. Drug factors, in the use of some medications can trigger HSP, such as isoniazid, ranitidine, salicylic acid preparations, angiotensin-converting enzyme inhibitors, phenobarbital. Food factors are also one of the risk factors of HSP. Certain protein fragments in food can be allergens, and the entry of allergens into the digestive tract can dysregulate the balance of intestinal homeostasis, leading to the production of abnormal cytokines by immune cells, which can induce allergic reactions. As well as associated with genetic factors such as the human leukocyte antigen gene, gene polymorphisms with the RS gene, heat shock protein 70 with tumour necrosis factorαand the adhesion molecule P-selectin with gene promoters. Correlation with atopic dermatitis. In addition to this, HSP patients have significantly increased populations of parabacteroides spp. and Enterococcus spp. and Enterococcus spp. as opportunistic pathogens it may lead to a flora imbalance in the microbiota Bacteria of the genus parabacteroides accelerate infections, increase intestinal permeability, and are associated with a high risk of HSP.

2.2. Effects of HSP on the immune system

HSP is a haematological disease that can invade capillaries and small arteries in the skin and other organs. The cause of the disease may be the formation of immune complexes in the body caused by the effects of certain medications, pathogenic infections, allergies, etc., which induces vasculitis through the deposition of vasculature on the upper layer of the dermis. According to research, the pathogenesis of HSP involves many factors, including abnormal T-cell subpopulation function, abnormal humoral immune function, coagulation mechanism, cytokines, inflammatory mediators, genetic susceptibility, etc. It is believed that vasculitis mediated by an immune response mechanism is the main pathogenesis of HSP.

Abnormal dysfunction of the immune system is the main mechanism of the pathogenesis of HSP, and the imbalance of the immune system exists at the early stage of the disease, with a significant decrease in the number of regulatory T-cells, which significantly reduces the immunosuppressive effect of the body, thus inducing the imbalance of the immune system. HSP can be triggered by the imbalance of T-cells and B-cells subsets under the stimulation of antigenic substances, and the dysfunction of the immunity of the T-lymphocytes can cause uncontrolled secretion of inflammatory mediators and B-cells from tissues. The uncontrolled secretion of T-lymphocytes stimulates the production of corresponding antibodies and raises the level of serum IgA. The pathogenesis of HSP is characterised by a marked increase in IgA synthesis and secretion, which leads to the accumulation of a large number of IgA-

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antigen-antibody-immune complexes on the glomerular lining and the vessel wall of the tissues and organs, which promotes the activation of complement and the release of a variety of inflammatory cytokines, increasing the glomerular lining and the vascular permeability, and triggering inflammatory reactions.

Stimulating factors such as infection sources and allergens activated T lymphocytes with genetic and susceptible patients, that is, thymus -dependent lymphocytes. This is a kind of immune cell that develops a series of orderly differentiation processes from lymph -like precursor cells. T cells have different sub -groups, and different sub -groups have different surface signs and functional characteristics. Each Asian group T cells cooperate to complete the immune response and give full play to the immune function [3]. Once the stimulus factor causes T cell dysfunction, a large amount of inflammatory factors, that is, the combination of self -secretion, edge secretion and endocrine formation by the body's immune cells and certain non -immune cells. Small molecular polypeptides or glycoprotein that regulates immune response and inflammatory reactions with extensive biological activity, [4] medium B lymphocytes, that is, bone marrow dependent lymphocytes, which are lymphocytes in mammalian bone marrow or bird's sac lymph -like lymphosidom. The predecessor cells are divided and mature, mainly settled in the shallow layer of lymph nodes and the lymph nodes of the red marrow and white marrow of the spleen. It is generally considered to be the only cell in the body that can produce antibodies (immunoglobulin). As a specific antigen receptor, B cells identify different antigen surfaces through immunoglobulin on the surface of the membrane surface, and are too differentiated into pulp cells, producing a large amount of IgA1 antibody and IgA1 immunocardiac material deposited on the blood vessel wall. In interaction under certain conditions, the combination of allergenic lymphocytes or specific antibodies with the re -entered antigen, resulting in physical dysfunction and tissue damage of the body, and ultimately manifested as HSP clinical manifestations.

3. The mechanism of the action of Menglu Ste sodium

Menglu Ste sodium is a drug that can specifically block the metamine of the cuscketine. Cyteinel-whitenne, (Cysteiny-LTS CYSLTS) is CYSLT1 receptor. The lipopical media produced mainly includes LTC4, LTD4, LTE4, etc., which is closely related to respiratory diseases and inflammatory reactions [5]. Meng Luste Sodium has a high degree of affinity and selectivity. After combining it, it will interrupt the agglomeration of inflammatory factors. The common inflammatory factors in allergic purpura are generally leukocyte-6 and bone bridge protein. White blood cells-6 is an important immunomyal regulatory molecule. It plays an important role in the children's kidney injury and expression of return. Basin protein is a type of TH1 cytokine that can regulate the differentiation of TH cells, resulting in the TH1/TH2 balanced imbalance. Therefore, leukopenocyrum-6 is closely related to HSP [6]. The interruption of inflammatory factor aggregation can cause lymphocytes, neutral granulocytes, and eosinophils to be unable to gather. Neutral granulocytes are a polynucleic white cell, the first reactor of the richest immune cells in the body and congenital immunity. They have functions such as phagocytosis, release of cytotoxic particles, generating active oxygen (ROS), and formation of neutral granulocytocytosis. Acute inflammation caused by granulocytes can also cause degradation and tissue damage of extracellular matrix, and inhibit tissue regeneration. It is an acute inflammatory cell that causes acute inflammation [7]. By hindering the aggregation of these cells, Meng Lu Ste sodium controlled the inflammatory cells' infiltration effect on tissue, thereby reducing or avoiding the inflammatory response. In summary, the use of Meng Luje Sodium to treat HSP has a significant effect. The mechanism of the treatment of this drug is mainly to reduce the level of inflammatory cytokine to inhibit the inflammatory response, which leads to the improvement of the disease [8].

4. Analysis of drugs

There is no effective medicine for treating HSP. Doctors need to use relevant medication according to the condition of the child, and patients with more serious conditions need to take bed rest and go to hospital for treatment in time, otherwise, due to the young age, the condition will develop for a long time, which will lead to damage of capillaries all over the body and even affect the future growth and

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development. Since the causes of paediatric recurrent allergic epilepsy are varied, such as streptococcal infection, viral infection, food allergy, etc., in the course of treatment, not only conventional anti-infective and anti-allergic measures are needed, but also avoiding allergy-inducing food should be taken into account. However, the effect of conventional treatment is not significant, and patients still have signs of recurrent attacks. When conventional treatment is ineffective, treatment with montelukast sodium is needed. Montelukast sodium is a cysteinyl leukotriene receptor antagonist, and leukotrienes play an important role in recurrent paediatric HSP attacks by propagating and amplifying the inflammatory response, thereby exacerbating the condition. Therefore, the use of leukotriene receptor antagonists reduces the possibility of leukotriene binding to the receptor and inhibits it, which can be effective in improving the therapeutic effect [9]. The shortest time for adverse reactions to montelukast sodium in children is one hour after dosing, and the longest time is two years after dosing. The main symptoms of adverse reactions are mental system disorders, gastrointestinal disorders, haematological and lymphatic system disorders, skin and subcutaneous tissue disorders [10]. Luo Yan's study showed that children in the observation group had mild adverse reactions such as drowsiness, dizziness, and gastrointestinal discomfort. This shows that montelukast sodium is generally well tolerated and is safe and effective in the treatment of HSP in children. However, there are reports showing that delayed hepatic impairment can occur with montelukast sodium, so the liver function should be closely monitored for those patients taking it for a long period of time in order to ensure the safety of the drug [11].

5. Conclusion

This article discusses the etiology of HSP and its pathogenesis as well as the rationale for the treatment of HSP with montelukast sodium. The results of the study show that montelukast sodium is generally well tolerated and safe and effective, but it also has adverse effects. Through the analysis of this paper, we believe that compared with conventional treatment, montelukast sodium treatment of HSP condition has been significantly improved, for the follow-up of montelukast sodium on the treatment of HSP research provides reference value. There are still many factors that have not been taken into account that need to be addressed, such as the problems that arise during the use of montelukast sodium in the treatment of HSP, how we can solve these problems or find an optimised method and the lack of comparison with other drugs. Finally, future studies are expected to optimise the use of montelukast sodium and to find a more compatible treatment for HSP.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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