



Case Report

Treatment of Severe Rhinitis with Dou Kang Plus Diet Control

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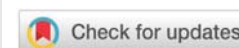
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Abstract

We have proposed the theory of lipid metabolism disorders, which clearly states that the risk factors from the digestive tract are the most important.

Objective: To confirm the effectiveness of Dou Kang and dietary control in treating allergic rhinitis.

Method: We selected 3 patients with severe allergies and treated them with Dou Kang and dietary control. Our main outcome measures were symptoms including sneezing, runny nose, itchy nose, nasal congestion.

Results: The patients showed significant improvement.

Conclusion: In addition to desensitization therapy, effective alternative methods are available to treat allergic rhinitis.

Introduction

We have proposed the theory of lipid metabolism disorders [1], which clearly states that the risk factors from the digestive tract are the most important. So we have played a crucial role in treating rhinitis and asthma by controlling diet and other related factors. At the same time, we also use local medication in the nasal cavity to alleviate and eliminate local mediators such as leukotrienes. These treatments act synergistically.

Treatment method

Dou Kang (Patent number: ZL 201010139343.8): nasal application to the nasal cavity 2 to 3 times per week for 1 to 2 hours each time; Oral Ketotifen (or Claritin): One tablet nightly for one to two weeks or two then half a tablet nightly for a month.

Severe rhinitis is treated with diet control, combined with comprehensive treatment of Chinese and Western medicine with pure traditional Chinese medicine local treatment as the main treatment and systemic treatment as the supplement. Diet control requirements: (1) Reduce or avoid late night snacks, avoid overeating at dinner; (2) Drink soup or water before rather than during or after meals, especially not within an hour of a meal; (3) Avoid greasy, overly sweet and salty foods (all rights reserved). Nasal and oral administrations are applied, i.e.,

In the treatment of allergic rhinitis, symptom assessment is crucial for guiding therapy. Table 1 shows the rhinitis scoring assessment form, which helps us better understand the severity of symptoms in patients, thereby allowing for the development of personalized treatment plans.

Clinical information

Case 1: Patient Tan, male, 57 years old. Complaint: Sneezing, runny nose and stuffy nose for 40 years. The patient had suffered from sneezing, runny nose, stuffy nose and itchy nose for nearly 40 years, especially during seasonal transitions. Although symptoms temporarily improved with medication, they recurred frequently with different rhinitis medications. Diagnosis: Allergic rhinitis. Treatment: Nasal plug (Dou Kang) and Ketotifen, supplemented by diet control. The symptoms improved significantly after 6 months.

Efficacy evaluation: 10 points before treatment, 1 point after treatment, achieved near-complete remission.

Case 2: Patient Kang, male, 60 years old. Complaint: Sneezing, runny nose and stuffy nose for more than 30 years. The patient had suffered from sneezing, runny nose, stuffy nose and itchy nose for the past 30 years. Despite surgery, cryotherapy and medication, the symptoms continued to recur. Diagnosis: Allergic rhinitis. Treatment: Nasal plug (Dou Kang) and Ketotifen, supplemented by diet control. The symptoms improved significantly after about 5 months.

Efficacy evaluation: 9 points before treatment, 1 point after treatment, achieved clinical remission.

Case 3: Patient Liang, male, 50 years old. Main complaint: Sneezing, runny nose and stuffy nose for more than 20 years. The patient had suffered from sneezing, runny nose, stuffy nose, itchy nose and dyspnea for nearly 20 years, which interfered with sleep and occurred frequently in autumn and winter. The symptoms recurred despite improvement with different rhinitis medications. Diagnosis: Allergic rhinitis. Treatment: Nasal plug (Dou Kang) and Ketotifen, supplemented by diet control. The symptoms mostly disappeared after about a year, with occasional recurrence following dietary indiscretions during holidays such as the Spring Festival in recent years, but were brought under control with nasal plugs. Efficacy evaluation: 9 points before treatment, 1 point after treatment, achieved clinical remission.

The clinical information section presents detailed descriptions of the treatment process and efficacy evaluation for the three patients. To help readers better understand the treatment outcomes for each case, Table 2 summarizes the

Table 2: Summary table of basic information of three cases.

Full name	Sex	Age	Diagnosis	Duration of onset	Treatment plan	Pre-treatment score	Pre-treatment score
Mr. Tan	Man	57 years old	Allergic rhinitis	40 years	Dou Kang	9 points	1 point
					Diet control		
Mr. Kang	Man	60 years old	Allergic rhinitis	30 years	Dou Kang	8 points	1 point
					Diet control		
Mr. Liang	Man	50 years old	Allergic rhinitis	20 years	Dou Kang	8 points	1 point
					Diet control		

basic information of the three patients and the changes in their pre- and post-treatment scores, highlighting the effectiveness of the treatment methods.

Discussion

Diet control

This study builds upon the proposed theory of lipid metabolism disorders, which clearly states that the risk factors from the digestive tract are the most important. Thus, dietary control plays a crucial role in treating rhinitis and asthma by controlling diet and other related factors. At the same time, we also use local medication in the nasal cavity to alleviate and eliminate local mediators such as leukotrienes. These treatments act synergistically.

Possible mechanisms of dietary non-allergic factors in atopic diseases: indigestible fat → arachidonic acid → leukotrienes.

Studies indicate that patients with asthma often exhibit abnormal triglyceride metabolism, and inhibition of triglyceride synthesis can reduce the level of airway inflammation in asthma mice [2]. Elevated postprandial serum triglycerides may enhance the inflammatory response can enhance the inflammatory response of vascular endothelial cells [3].

Leukotrienes can be generated from arachidonic acid (arachidonic acid, AA) through the metabolic pathway of lipoxygenase. Leukotriene B₄ is a key pro-inflammatory mediator involved in allergic responses [4], primarily responsible for activating and recruiting neutrophils, macrophages, and other cells, and exhibits strong pro-inflammatory biological activity [5]. Arachidonic acid is an omega-6 PUFA, an essential fatty acid in the human body, found in animal tissues [6]. Its metabolic pathways include cyclooxygenase (COX), lipoxygenase (LOX), and cytochrome P450 (CYP450) [7]. The imbalance between the key products of AA, cysteine leukotriene (cysteinyl leukotrienes, Cys LTs) and lipoxin (lipoxins, LXs), is closely related to clinical symptoms of asthma and chronic airway inflammation. When the 15-lipoxygenase (15-LO) pathway predominates, the synthesis of LXA₄ increases, inhibiting airway inflammation and bronchial constriction; when the 5-lipoxygenase (5-LO) pathway predominates, leukotriene synthesis increases, exacerbating asthma symptoms [8].

Table1: Rhinitis scoring assessment form.

Rhinitis scoring assessment form			
	Mild	Moderate	severe
Sneeze	Less than 10 sneezes a day (one point)	Sneeze 10-20 times a day (two points)	More than 20 sneezes a day (three parts)
Runny nose	A small amount of nasal discharge (one point)	Wipe your nose 5-10 times (two points)	Wipe your nose more than 10 times (three parts)
Stuffy nose	No obvious nasal congestion (one point)	Suffer from nasal congestion (two points)	There is obvious nasal congestion (three parts)
Diminished sense of smell		One point	

Mechanism of leukotriene clearance

Dou Kang: Deleoside therapy is a new type of therapy suitable for various types of rhinitis, sinusitis and adenoid hypertrophy.

Our drug works more effectively to combat the symptoms by targeting the unique mechanism of leukotriene clearance.

Schematic diagram illustrating the process by which drugs act on leukotrienes:

Before the process: schematic diagram of leukotriene molecule

–The diagram (Figure 1) shows the structure of leukotriene molecules, highlighting their importance in allergic reactions.

Participating substances in the process:

Bioenzymes: The diagram Figure 2 includes bioenzymes associated with leukotriene metabolism, such as leukotriene synthase (5-lipoxygenase), and other enzymes that may be involved in the metabolism.

Drugs: Show the key drugs in the desensitization and dehumidification therapy, indicate their mechanism of action (such as leukotriene receptor antagonists and synthetic inhibitors), and explain how they interact with biological enzymes to reduce leukotriene levels.

Leukotriene mediator: Explain the mechanism of leukotrienes in the body, how they trigger allergic symptoms, including nasal itching, sneezing, and rhinorrhea. The diagram Figure 3 illustrates the process by which leukotrienes act in the nasal cavity to cause rhinitis. Figure 3 illustrates the nasal pathways and demonstrates the interaction between leukotrienes and nasal tissue and the interaction between leukotriene molecules and nasal tissues, leading to symptoms like itchy nose, sneezing, and runny nose.

Post-process: leukotriene metabolite: Finally, Figure 4 the leukotriene metabolites after drug intervention are shown to emphasize how these products no longer trigger allergic reactions and promote health.

A diagram illustrating the entire process by which drugs act on leukotrienes: The schematic diagram Figure 5 clearly

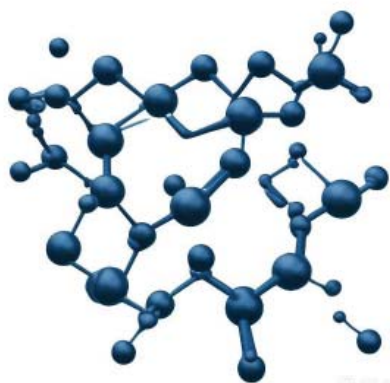


Figure 1: Schematic Diagram of Leukotriene Molecule.

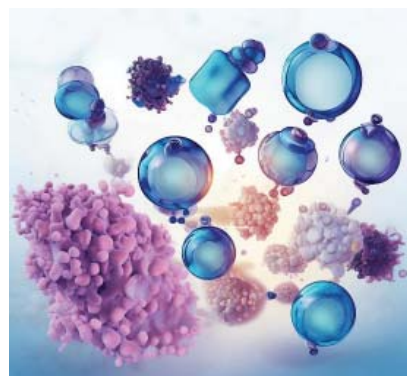


Figure 2: Schematic Diagram of Bioenzymes Involved in Leukotriene Metabolism and Their Role.



Figure 3: Schematic Diagram of the Mechanism by Which Leukotriene Mediators Trigger Allergic Symptoms.



Figure 4: Schematic diagram of Leukotriene Metabolites after Drug Intervention.

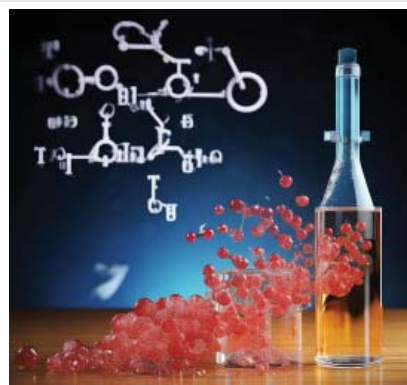


Figure 5: Schematic Diagram of the Entire Process by Which Drugs Act on Leukotrienes.

shows the whole process of drug action on leukotrienes, from the formation of leukotrienes to the intervention of drugs and finally to the metabolites. The first half of the process marks the formation and function of leukotrienes, highlighting their central role in allergic reactions.

The middle section details the biological enzymes and drugs involved in the metabolic dissolution, emphasizing that drugs reduce the discomfort caused by leukotrienes by inhibiting their synthesis or antagonizing their receptors. Through these biological mechanisms, drugs can significantly reduce the concentration of leukotrienes in the body, thereby alleviating allergic symptoms.

Finally, by demonstrating the metabolites of leukotrienes, it highlights the drug's effectiveness and safety during treatment, emphasizing its crucial role in improving patient health. This illustration aids comprehension of desensitization therapy mechanisms, supporting patient and provider education, facilitating both patient and healthcare provider comprehension of the treatment.

Dou Kang is composed of pure herbal ingredients and is prepared using traditional decoction methods according to the preparation method of traditional Chinese medicine. Composition: Key components include Magnolia bark, Scutellaria baicalensis, and Xanthium sibiricum.

- **Authors' contribution** Lila Xie was involved in funding acquisition, writing, reviewing, editing, and project administration.
- Yuqin Wen contributed to original draft writing, validation, and formal analysis.
- Jieli Cheng was responsible for visualization and data curation.
- Jing Cheng contributed to the conceptualization, methodology, resources, investigation, and supervision.

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