

A Brief Analysis of the Correlation Between Allergic Rhinitis and Traditional Chinese Medicine Constitution

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Abstract: Allergic rhinitis (AR) is a type of allergic diseases caused by an inflammation of the nasal mucosa caused by allergens. Clinically, AR is a common allergic disease and is difficult to treat. Due to differences in individual constitutions also known as body type, the severity of the disease is also different and it may even affect the daily life of the patient if it is severe. The effective treatment of AR has become a hot topic in current allergic disease research. Traditional Chinese Medicine's understanding of constitution is based on the "Yellow Emperor's Internal Classic" book, and Professor Wang Qi put forward the "physical constitution theory of traditional Chinese medicine". The constitution is a key internal factor of the occurrence and development of diseases. It is believed in Traditional Chinese medicine (TCM) that the constitution can be regulated, and rectifying the patient's imbalanced constitution has a positive effect on the diagnosis, treatment, and prognosis of the disease. Therefore, based on the "physical constitution theory of TCM", this study considers the idea of treating body differently applying TCM constitution in the treatment of AR as the breakthrough point, and explores the correlation between AR and TCM constitution. The results show that TCM constitution is an intrinsic factor affecting the pathogenesis of AR. The use of TCM constitution theory in the treatment of AR has a positive effect and should be popularized in application.

Keywords: Constitution; Traditional Chinese medicine; Allergic rhinitis

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1. Introduction

Allergic rhinitis (AR) is a chronic non-infectious inflammatory disease of the nasal mucosa that is mainly caused by immunoglobulin E (IgE)^[1]. The main clinical symptoms are persistent nasal congestion, nasal itching, runny nose, and sneezing, and may also be accompanied by other symptoms, such as watery and itchy eyes, and hyposmia^[2]. With the acceleration of modernization and industrialization, environmental pollution has worsened, the air quality has deteriorated, and the incidence of AR is also increasing annually^[3]. In the Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines, epidemiological data show that AR affects 10–40% of the global population^[4]. AR occurs in repeated episodes and is difficult to cure. It has negatively affected people's quality of life and increased the burden on medical resources and society^[5]. Modern clinical studies have shown that an allergic constitution is the premise of allergic diseases. The term "allergic constitution" was first proposed by Professor Wang Qi^[6]. He mentioned that the human body can be divided into nine types of constitutions, among which the special constitution includes an allergic constitution, and he proposed that there is a close connection between allergic constitution and allergic

diseases. In the process of disease development, the physical constitution is an internal factor that determines the strength of the human body's vital-qi ^[7]. Climatic pathogens (wind, cold, heat, wetness, dryness, and fire) are external factors. It can be seen that the constitution affects many aspects, such as the occurrence and development of AR ^[8]. Therefore, based on the theory of TCM constitution, exploring the relationship between AR and constitution can play an important role in the prevention, diagnosis, and treatment of AR.

2. TCM etiology and pathogenesis of AR

In TCM, AR belongs to the category of “mucous snivel” in TCM and has been recorded in ancient books. It was first recorded in the “Book of Rites, Yueling,” ^[9] and it was believed that the occurrence of mucous snivel was related to the abnormal changes in seasonal seasons and climates ^[10]. However, the “Book of Rites” only mentioned the mucous snivel from the perspective of Yun-Qi theory (the ancient study of climate terms and the pathogenesis), and did not elaborate on the name of mucous snivel specifically ^[11]. It was not until the Jin and Yuan dynasties that Liu Wansu (around 1100-1200) made a clear description of the mucous snivel ^[12]. AR mainly involves the three internal organs of the lungs, spleen, and kidney, especially those related to the lungs ^[13]. It is believed in TCM that “the nose is the orifice of the lungs,” indicating that the nose and lungs are closely connected ^[14]. Climate pathogens invade the human body, first entering from the mouth and nose, invading the nasal orifices, impairing the dispersing and descending functions of the lung, causing the body fluid to be imbalanced, turning into phlegm and mucus in the body, and leading to the formation of AR ^[15]. TCM's understanding of the causes of AR includes both external and internal factors ^[16]. External factors include abnormal climate, changes in the environment, and changes in living habits ^[17]. Internal factors suggest that the occurrence and development of AR are closely related to the body's constitution ^[18]. TCM believes that the pathogenesis of AR can be mainly summarized as follows: asthenia-cold of the lung-qi, weakness of the spleen and stomach, kidney-yang deficiency, and lung meridian latent heat ^[19].

3. Understanding of allergic constitution in modern medicine

At present, it is believed that the pathogenesis of AR is not clear, but it is generally believed that allergens and allergic constitution are the main factors contributing to the occurrence of AR ^[20]. Professor Li Huabin ^[21] suggests allergic diseases are manifestations of atopy and needs to be treated. He believes that atopy is a genetic condition that produces a specific increase in IgE and an abnormal immune response to environmental allergens. Atopy proposed by Professor Li Huabin is very similar to the allergic constitution in the TCM constitution theory. As Professor Wang Qi says, the allergic constitution is the basis and congenital type of AR ^[22]. An allergic constitution refers to a special constitution of a hereditary nature. According to relevant literature, both parents have an allergic constitution, and 70% of their children are also allergic, indicating that the allergic constitution of AR patients are usually hereditary ^[23]. Gong Shaokang ^[24] conducted a TCM constitution analysis of 1197 AR patients and found that allergic constitution is the common type of constitution in AR patients, indicating that patients with an allergic constitution are more likely to develop AR. Aside from congenital heredity, acquired geographical factors, living environment, eating habits, emotional factors, gender also affect the physiological function and morphological structure of the human body, leading to the formation of an allergic constitution ^[25]. AR patients develop an allergic constitution due to obstruction of the nasal passages and obstruction of lung-qi, and they are easily attacked by external pathogens, leading to the onset of the disease ^[26,27]. Wang Yaqi ^[28] conducted constitution identification of 246 AR patients, and found that allergic constitution is the main constitution type of the disease, and the distribution of TCM constitution in patients of different genders has obvious differences.

4. The relationship between AR and TCM constitution distribution

Guo Xiaoqing^[29] conducted a statistical analysis of the data of 308 patients with AR through a questionnaire survey and found that allergic constitution was the common type of constitution in patients with AR. The essence is mainly manifested in the reactivity to different allergens. This is precisely because of the imbalance of qi and blood, yin and yang, and visceral functions such that the patient's constitution is in an unbalanced and biased state, which leads to the occurrence of AR when attacked by exogenous pathogens^[30]. Gong Shaokang^[24] summarized the constitutions of 1197 AR patients and believed that the proportion of qi-deficiency constitution was the highest among the nine constitutions, indicating that there is a close relationship between qi-deficiency constitutions and AR. He found that yin-deficient constitutions and blood-stasis constitutions are positively correlated with the age of patients. The correlation between the two indicates that age is an important factor affecting constitution type and that different body mass indices of patients also affect constitution type^[31]. Overweight AR patients are dominated by qi-deficiency and damp-heat constitutions, whereas underweight AR patients are dominated by yin-deficiency constitution. Yu Yunzhi^[32] investigated 200 patients with AR and found that a single constitution type is rare in the clinical diagnosis and treatment process, and most patients have a combination of constitutions, mainly yang-deficiency constitution, qi-deficiency constitution, yin-deficiency constitution, and special constitution. Jiang Feng^[33] collected data from 230 outpatient AR patients and found that there were 140 AR patients with qi-deficiency constitutions, accounting for 60.87% of the total number of patients. It can be seen that qi-deficiency constitution is the common in AR, with only six cases of normal constitution, implying that the physical constitution distribution of AR patients is primarily caused by yin and yang imbalance^[34].

5. The relationship between TCM constitution and syndrome type of AR

AR is a class of allergic diseases. Allergic constitution and family genetic history are both important factors in the pathogenesis of AR.^[35] In the treatment of allergic diseases, Professor Wang Qi^[36] often includes patients with AR in the category of allergic constitution and proposes the diagnosis and treatment mode of body constitution differentiation, disease differentiation, and syndrome differentiation. He believes that constitution identification of AR patients should be carried out first. Then, diagnosis of principal is given disease followed by principal prescription or “desensitization and body conditioning recipes” are created to regulate patients' constitution^[37]. At the same time, Professor Wang Qi also pointed out that the diagnosis of syndrome type is based on the patient's constitution, and the manifestation of the syndrome also depends on the type of constitutions. If the symptoms of AR patients are not typical enough to clearly identify the syndromes, doctors can start with identifying the constitution. Then, based on the correlation between AR and constitution, make a pre-judgment of the patient's syndrome and apply corresponding prescriptions for diagnosis and treatment^[38]. Guo Xiaoqing^[26] found that the TCM syndrome types of AR mainly include four types: lung-qi deficiency and cold type, kidney-yang deficiency type, lung meridian latent heat type, and spleen-qi deficiency type. They analyzed the correlation between TCM constitution and syndrome type of 283 AR patients using statistical methods and obtained the rule of internal correlation between TCM constitution and syndrome type. AR patients with a yin-deficiency constitution often have latent heat syndrome in the lung meridian. AR patients with a phlegm-dampness constitution often have spleen-qi deficiency. Patients with AR with a damp-heat constitution have symptoms closely related to the syndrome of heat accumulation in the lung meridian. AR patients with special constitution often present with pulmonary latent heat syndrome, and there is no obvious correlation between the distribution of syndrome types in AR patients with blood-stasis constitution and qi-stagnation constitution. Zou Lianqiang^[39] analyzed the constitutions of 220 patients with allergic rhinitis and found that the constitution types of AR patients were mainly yang-deficiency constitutions and qi-deficiency constitutions. He believed that the

constitution of qi-deficiency in AR patients is closely related to the syndrome of lung-qi deficiency and cold, and the constitution of yang-deficiency is closely related to the syndrome of kidney-yang deficiency. Patients with AR who have a qi-deficiency constitution have congenital deficiencies or due to an acquired diet, which results in insufficient vital-qi of the human body and a weak resistance to external environmental changes ^[40]. Most AR patients' syndromes are lung-qi deficiency cold syndromes. AR patients with yang-deficiency constitutions have a deficiency of kidney-yang in their bodies. Since kidney-yang is the root of the body's yang-qi generation, the phlegm retention produced by patients with AR after the onset of the disease further damages the body's yang-qi. Therefore, AR patients with a yang-deficiency constitution are more likely to have kidney-yang deficiency syndrome.

6. Discussion

This study suggests that constitution is an intrinsic factor in the pathogenesis of AR, and to a certain extent, constitution reflects the strength of the human body's vital-qi, and the rise and fall of vital-qi directly affects the body's ability to resist pathogens ^[41]. Therefore, the constitution often determines susceptibility to a certain disease and the type of lesion. TCM emphasizes that, "when there is sufficient vital-qi inside, pathogenic factors cannot be done," which is the theoretical interpretation of the correlation between AR and TCM constitution ^[42]. The use of TCM constitution theory to guide the treatment of AR is also a concrete embodiment of the idea of "the preventive measures before the occurrence of disease" in TCM. The physical constitution can affect the degree of the human body's response to allergens and determine the severity of allergic diseases. People with an allergic constitution have a significantly higher probability of allergic reactions when encountering external allergens than those with a normal constitution ^[43]. Due to the external environment, lifestyle, and other factors, the physiological function and self-regulation ability of AR patients are reduced, and their reactivity to the outside world is enhanced, which sensitizes the patients and causes them to develop the disease when they encounter allergens again ^[44]. Professor Wang Qi points out that an allergic constitution is a specific constitution formed on the basis of endowment and inheritance, and it is also an internal condition for the occurrence of AR. Therefore, when treating AR, the combination of body constitution differentiation and syndrome differentiation should be prioritized, and the identification of constitution types in AR patients can guide us in choosing appropriate treatment measures ^[45]. Although a constitution is a relatively stable trait formed based on innate endowment and acquired conditioning, it is not immutable. Although congenital heredity cannot be changed artificially, the formation of a constitution is also closely related to dietary habits, geographic environment, and life rhythm. We can regulate the constitution of the human body through the intervention of acquired factors and finally achieve the purpose of effectively treating AR ^[46]. Exploring the correlation between AR and constitution will provide a strong theoretical basis and new treatment ideas for the clinical treatment of AR and also provide theoretical feasibility for the precise management of AR in TCM constitution regulation ^[47, 48]. AR and allergic constitutions still lack systematic discussion and exploration of TCM classics. The uncertainties of allergic diseases in the TCM theory can be resolved by further studies. However, the current study lacks a constitution evaluation and observation of the long-term efficacy in AR patients. According to the relevant literature, the observation of the long-term efficacy of AR should be continued for one year after treatment ^[49]. Long-term constitution follow-up observation can ensure the therapeutic effect on AR patients, which will be a new direction for the next stage of AR treatment ^[50].

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The authors declare no conflict of interest.

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