

# Traditional Chinese Medicine Experience in Recognizing and Treating Air-conditioning Syndrom (Air-conditioning Disease)

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**Abstract:** *Air conditioning syndrome, as a high incidence disease in summer, is categorized as “summer dampness” and “dryness” in traditional Chinese medicine. Based on the theory of Ying and Wei in the Huangdi Neijing, this study proposes that the core pathogenesis of the disease is the imbalance of Ying and Wei, which leads to the internal invasion of wind-cold, summer-dampness and dryness. It is suggested that in addition to evidence-based treatment, special attention should be paid to the care of the middle jiao.*

**Keywords:** Air conditioning syndrome (air-conditioning disease), Traditional Chinese medicine, Diagnosis and treatment experience.

## 1. Introduction

Air-conditioning syndrome, also known as air-conditioning disease, is a collective term for a group of clinical manifestations that occur when the human body is in an air-conditioned environment for a long time, such as dizziness, headache, loss of appetite, fever, nasal congestion, running nose, unfavorable joints, and limb soreness, etc., which is characterized by the intersection syndrome of environmental disease and lifestyle disease [1]. It is one of the most common summer illnesses. It can occur at any age and is especially common in the elderly and children. According to the different clinical manifestations of air-conditioning disease, it can be categorized into different illnesses in Chinese medicine, such as “fever”, “febrile diseases”, “summer-heat and dampness”, “dampness and warmth”.

## 2. The Etiology of Air-conditioning Syndrome

The essence of this syndrome is due to the air-conditioning environment cause the external evil invasion to the human body. Human sweat should flow out but not. Defensive qi was curbed, thus affecting the regulation of the defensive qi and wei qi. The etiology of the disease, is no more than wind-cold, summer dampness and dryness.

### 2.1 Wind-cold Attack Surface

Air-conditioning temperature is too low, and the outdoor temperature difference is too large, inhibit secretion of sweat glands, resulting in skin vasoconstriction, affecting the normal heat dissipation, disturbing the thermoregulatory center, cold stimulation leads to vasospasm, slow blood flow, affecting tissue oxygen supply and metabolic waste removal. Research [2] shows that low temperature environment (<25°C) can activate TRPM8 cold receptors, inhibit the hypothalamic thermoregulatory center leading to a decrease in cortisol secretion, inhibit immune cell activity.

Defensive qi is curbed, resulting in the decline of human immunity, wind-cold evil invasion of the human body, the coupling closed, tendons and veins constricted, so the

emergence of cold, fever, asthma, body pain, joints are not conducive to the absence of sweating and other clinical manifestations, the pulse is stringy, or floating tight, the moss is white and moist and not dry, similar to Empirical evidence of typhoid fever in Treatise on Febrile Diseases [3].

### 2.2 Summer Dampness Invasion

The doors and windows inside the air-conditioned room are tightly closed, and the air humidity is higher than outside. The summer-heat and dampness can invade the human body and easily lead to dysfunction of the spleen and stomach. It is easy to lead to the spleen and stomach dysfunction of the function of transportation and digestion, can be seen body heat, coughing and sputum, no sweat or less sweat, headache or body pain. So it can be seen as body heat, cough and phlegm, no sweat or little sweat, headache or body pain, headache, chest tightness, poor appetite, loose stools, or fatigue, joint pain, pale red tongue, thin white moss or white greasy, slippery pulse and other symptoms [4]. The clinical manifestations include body heat, cough and phlegm, lack of sweat or sweating, headache or body pain, heavy head, chest tightness, poor appetite, loose stools, or fatigue, joint pain, pale red tongue, thin white or greasy coating and smooth pulse can be seen in this syndrome.

### 2.3 Dryness and Evil Invasion

Studies have shown that the air-conditioned environment can lead to: contraction of the body's sweat glands and sebaceous glands, extreme dryness of the skin mucous membranes, a decrease in skin temperature of 3.2°C, a decrease in salivary SIgA secretion of 37% [5], a down-regulation of respiratory mucus protein mRNA expression by a factor of 2.8 and a decrease in tear lysozyme activity by a factor of 43.6% [6], which can cause dryness in the eyes, soreness of dry and itchy throat, as well as dryness of the skin Itchy. These symptoms are similar to the symptoms of dryness injury, so this disease can be treated from the perspective of dryness invasion. The main type of injury caused by dryness and evil is pulmonary disease. Wenbing Tiaobian, the main content of detailed analysis of epidemic warm diseases, said that Dryness is easy

to turn into fire. There may cause fever and malignant cold, dry cough with no sputum, and dryness of the mouth, nose, and throat [7]. This may be one of the reasons for acute attacks of pharyngitis and rhinitis.

## 2.4 Plague

In addition, the air-conditioning cold air can also be regarded as a special kind of evil. Air conditioning is a non temporal and non positional evil, characterized by three characteristics: its nature is cold, its quality is turbid, and its damage lies in the meridians. Uncleaned air conditioning can spread a large number of flora. Air -conditioning filter flora testing shows *Legionella pneumophila* [8], *Aspergillus* and *Staphylococcus* [9], which can cause corresponding infectious diseases.

To summarize, wind-cold attack on the surface, summer dampness invasion, dryness is the main cause of this syndrome. The three evils invade the human body, resulting in the human body when human sweat is not out, Defensive qi is curbed, thus affecting the regulation of Defensive qi and Wei qi. The Spiritual Pivot pointed out: "Defensive qi is in the pulse, Wei qi is outside". The record in the "Treatise on the Origins of Various Diseases" states: "Frequent exposure to coolness and drinking cold can lead to the stagnation and suppression of yang qi", indicating the key pathogenesis of this syndrome. The *Su Wen* mentioned that "Yang, is the key to external defense and stability." Defensive qi is not solid, the body Defensive Wei gas is out of tune, so caused a series of symptom, such as dizziness, headache, loss of appetite, fever, nasal congestion, runny nose, joints are not favorable, limb aches and pains.

## 3. Identification and Treatment of Air-conditioning Disease

Identification of accurate evidence is an important prerequisite for the treatment of traditional Chinese medicine. According to the patient's different physical and clinical manifestations, air-conditioning disease can be identified and selected accordingly prescription. For cases of wind and cold invasion, Ma Huang Tang can be used in empirical evidence; for superficial deficiency, Gui Zhi Tang can be used [10]; for dampness, Jing Fang Du San can be used [11]; for yang deficiency, Ma Huang Fu Zi Xi Xin Tang can be used [12]; for qi deficiency, Shen Su Yin can be used in the wind cold attack syndrome. For cases of summer dampness invasion, those with endogenous dampness and turbidity can use Huoxiang Zhengqi Pills [13], while those with severe summer heat can choose modified Xiangru Yin [14]; For those with heavy dampness and turbidity, Huopu Xialing Tang can be modified. For the invasion syndrome of dryness and evil, Xingsu San can be used for cold dryness, and Sangxing Tang can be used for warm dryness. Due to the different physique of the patients, the combination of the evidence is common, and should be combined to select the prescription.

Moreover, when treating this disease, attention should be paid to the care of the middle jiao based on the treatment of different syndromes. The spleen and stomach are the foundation of the human body. The spleen and stomach transport and transform water, grain and essence to generate the qi of Ying and Wei. Only by taking good care of the

middle jiao, the qi of Ying and Wei can be enriched, so that Ying and Wei can be harmonized and the human body can resist the evil normally, then the air-conditioning disease be cured completely. We can addition and subtraction above dialectical treatment. For wind cold syndrome, ginger, jujube, and licorice can be used to protect the stomach. For the syndrome of summer dampness, the use of aromatic dampness dispelling, bitter warm and dry dampness herbs in treatment can easily damage spleen's yang. Sand kernels and white cardamom kernels can be added to refresh the spleen, fried *Atractylodes macrocephala* and *Poria cocos* can be used to tonify the spleen. For dryness syndrome, the application of nourishing yin and moistening dryness medicine can be used to treat excessive greasiness, and dried tangerine peel and fried malt can be selected to regulate qi and help with transportation. In all prescriptions, be careful to avoid excessively bitter and cold, greasy, and harsh foods that can harm the spleen. There are also those who apply external treatments, such as the use of stabbing and cupping method [15] with infrared lamp irradiation for the treatment of this disease. They also have remarkable clinical efficacy.

## 4. Prevention

This disease should especially focus on prevention.

### 4.1 Living Regimen

Attention should be paid to the air conditioning temperature settings, to avoid the temperature setting is too low, and the difference between the outdoor temperature is too large, clear recommendations (26-28 °C), to explain the hazards of too high and too low (especially with the outdoor temperature difference of > 7-10 °C). Avoid cold wind blowing directly, use wind blocker, adjust wind direction. Ventilate regularly: It is recommended to open windows for 10-15 minutes every 2-3 hours to ensure fresh air. Pay attention to warmth: Focus on protecting the areas (neck, shoulders and back, waist and abdomen, knees and feet), and it is recommended to have a thin jacket, shawl, socks, etc. in the air-conditioned room. Follow the weather: Encourage a moderate amount of outdoor activities in the morning and evening when it is cooler to get in touch with natural air and sunlight.

### 4.2 Dietary Modification

Summer dietary principles: light and easy to digest, appropriate pungent and warm dispersing (ginger, onion, garlic, perilla), aromatic and dampness (patchouli, pellitory, peppermint), spleen and dampness (Job's tear grains, adzuki beans, winter melon, lotus leaves), and promote the production of fluids and moistening of dryness (lily, silver fungus, pears, lotus root). Drink a cup of warm ginger water (or brown sugar ginger tea) in the morning to invigorate yang qi. Drink aromatic tea (e.g. Patchouli Peiran Tea, Lotus Leaf Winter Melon Tea). Take congee that strengthens the spleen (e.g. barley and yam congee, lentil congee) in moderation. Avoid excessive craving for cold: ice-cold drinks, cold fruits and melons (e.g. watermelon, melon) should be consumed in moderation, especially on an empty stomach or after exercise. Ensure adequate water intake (warm boiled water or light tea mainly).

### 4.3 Exercise and Health Care

Recommend gentle exercises such as taijiquan, Ba Duan Jin, and walking to promote the circulation of qi and blood and to enhance the function of guarding against external aggressions. Avoid direct blowing of cold air-conditioning during exercise, dry the sweat in time after exercise, and do not immediately take a cold shower or enter a low-temperature air-conditioned room.

### 4.4 Smooth Emotions

Keep a relaxed mood, avoid irritability. Summer heat is easy to disturb the mind, and cause liver fire, liver depression. You can relax your mood by listening to music, meditation and reading.

### 4.5 Regularly Clean the Air Conditioner

Clean the air conditioner, especially the filter, can prevent microorganisms from breeding and spreading, and avoid causing related infectious diseases.

## 5. Typical Case

Ms. Zhang, 55 years old, presented July 2, 2025, with “self-awareness of cold left limb for 2 weeks” as the main symptom. She presented to the clinic with an unspecified symptom of “coldness of the left limb for 2 weeks”. The patient had a history of hypertension and was taking oral medication to control her blood pressure. The patient complained that he had been living in an air-conditioned indoor environment since this summer, and felt that his left upper and lower limbs were cold in the past 2 weeks, so he visited our outpatient clinic.

Symptoms: cold left upper and lower limbs, double lower limbs, fatigue, dizziness, loose stools, poor night rest, and difficulty in falling asleep. The tongue was dark red, the moss was white and greasy, and the pulse was dull and smooth.

TCM diagnosis: Dampness stagnation, and the meridians were impassable.

Treatment should be to replenish qi and yang, eliminate stasis and diuresis, remove dampness and pass through the channels.

Modified “Huangqi Guizhi Wuwu Tang” + “Erzhu Tang”: the specific formula is as follows: Huang Qi 30g, Gui Zhi 10g, Chao Bai Shao 30g, Da Zao 10g, Chao Yi Yi Ren 40g, Dang Gui 10g, Chao Bai Zhu 10g, Chao Cang Zhu 10g, Bi Xie 30g, Ji Xue Teng 15g, Chao Tao Ren 10g, Feng Shi Cao 10g, Fang Feng 10g, Gan Cao 10g, a total of 7 doses.

The patient should take 1 dose daily, and take it warmly in the morning and evening. Ask the patient to take a light diet, pay attention to cold protection and warmth, avoid air conditioning temperature is too low, and avoid spicy, greasy and stimulating products.

On July 9, 2025, the second diagnosis: the patient complained that after taking the medicine, all the symptoms were reduced, after taking 3 doses of medicine, the cold feeling in the limbs

was obviously reduced, and after 7 doses, it basically disappeared, and the fatigue and loose stools were obviously improved, and the patient’s condition did not recur after 1 week’s follow up.

Comment: The patient in this case developed in the hot summer, with “coldness of the left upper and lower limbs” as the main symptom, and although the onset of the disease could be treated according to the paralytic syndrome, it was also affected by the air-conditioning environment, so it was more reasonable to consider treating it according to the air-conditioning disease. Astragalus and Gui Zhi Wu Wu Tang is used for treating blood paralysis, with the pulse at the inches of the mouth, the ruler in the middle and the middle tightness, and the external evidence of the body being unsympathetic, such as wind paralysis, with the patient’s self-consciousness of coldness of the body, and the two lower limbs being sleepy and swollen, which is similar to the manifestation of the blood paralysis of the “body being unsympathetic”, which is in accordance with the evidence of “Huangqi Guizhi Wuwu Tang” and “Erzhu Tang”. In this formula, Huang Qi replenishes qi, Gui Zhi promotes yang, and *Paonia lactiflora* nourishes blood to remove paralysis; the use of fried *Paonia lactiflora* reduces the coldness and increases the power of nourishing blood and camping. Considering the summer heat, coupled with the patient’s phlegm-dampness is heavy, so the original formula ginger, plus pellitory aroma to wake up the spleen; two arts soup main treatment of phlegm-drinking blockage of collaterals, pain in the arms, lifting unfavorable, numbness of the fingers, accompanied by obesity, fullness in the chest. The formula of Chao Bai Zhu and Chao Cang Zhu, strengthens the spleen and dries the dampness inside and outside the body, and the use of fried enhances the power of drying dampness and strengthening the spleen. “Stasis can not be adverse to water”, with angelica, chicken blood vine, peach kernel to nourish blood circulation, fried peach kernel can reduce toxicity, but also can be biased in favor of blood auxiliary water; Chao Yi Yi Ren, Bi Xie, Tong Cao promoting urination, Chao Yi Yi Ren can enhance the spleen and stop diarrhea of the force; jujube, baked licorice sweet and moderate, and to harmonize the medicines. The whole formula is used together, the total performance of tonifying qi and yang, resolving blood stasis and diuresis, removing dampness, and the function of the collaterals, but also care for the spleen and stomach, taking into account both the symptoms and the root cause, the use of a comprehensive medicine, closely linked to the disease, so the therapeutic effect is remarkable.

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