

# Research progress of traditional Chinese medicine in the treatment of allergic rhinitis

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# Introduction

- Allergic rhinitis (AR) has an increasing global prevalence, affecting **10-40%** worldwide and over **10%** in China.
- Western medicine treats AR mainly with drugs but has issues of **symptom relapse** and **side effects**.

# Introduction : TCM Perspective on Pathogenesis

- **Core zang-fu dysfunction:**
  - Lung qi deficiency
  - Spleen qi deficiency
  - Kidney yang deficiency
- **External pathogenic factors invade:**
  - wind-cold
  - damp-heat
- **Treatment principle:** simultaneously address symptoms and root causes via pattern differentiation

# Decoctions(Ximin Jian 息敏煎)

- **Number of Cases** : 50
- **Syndrome Type** : Lung and Kidney Deficiency-Cold Syndrome(肺腎虛寒證).
- **Key Ingredients** : 麻黃、桂枝、白芍、附子、細辛、柴胡、辛夷、炙甘草

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• 临床研究 •

## 息敏煎治疗肺肾虚寒型变应性鼻炎的临床疗效

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## **Decoctions(Ximin Jian 息敏煎)**

- **Treatment group** : Ximin decoction
- **Control group** : **Flixonase** nasal spray , oral administration of **loratadine** tablets.
- **Therapeutic Effect** : Regulates **immune balance**; significantly improves **nasal** and **systemic symptoms**.

Outcome	Treatment group	Control group	Statistical significance
<b>Total effective rate</b>	96.0%	98.0%	$P > 0.05$
<b>Clinical control + marked improvement rate</b>	84.0%	80.0%	$P > 0.05$
<b>TNSS</b>	Significant reduction	Significant reduction	$t = 1.232, P > 0.05$
<b>RQLQ</b>	Significant reduction before vs. after ( $t = 52.43, P < 0.01$ )	Significant reduction before vs. after ( $t = 37.41, P < 0.01$ )	$P < 0.01$
<b>Nasal resistance</b>	No significant difference	No significant difference	$P > 0.05$
<b>Nasal cavity volume &amp; minimal cross-sectional area</b>	No significant difference	No significant difference	$P > 0.05$
<b>Cytokines</b>	$\uparrow$ IFN- $\gamma$ , $\uparrow$ IL-2, $\uparrow$ TGF- $\beta$ ; $\downarrow$ IL-4, $\downarrow$ IL-5, $\downarrow$ IL-17	Significant differences in IFN- $\gamma$ , IL-2, IL-4, IL-5, TGF- $\beta$ , IL-17 before vs. after treatment	$P < 0.01$

# Decoctions(Yiqi Wenyang Fang 益氣溫陽方)

- **Key Ingredients** : 黃耆、黨參、乾薑、桂枝、麻黃、五味子、地龍、辛夷、甘草等
- **Number of Cases** : 388
- **Syndrome Type** : Lung and Spleen Deficiency-Cold Syndrome(肺脾虛寒證).
- **Therapeutic Effect** : Significantly improves symptoms such as nasal itch, sneezing, nasal discharge, nasal congestion, and swollen turbinates.

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• 临床研究 •

## 益气温阳方治疗变应性鼻炎肺脾虚寒证的临床研究

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# Decoctions(Jianpi Tongqiao Decoction健脾通竅湯)

- **Key Ingredients** : 黃耆、黨參、甘草、蒼耳子、辛夷、細辛、荊芥、桔梗、浮石、升麻、柴胡
- **Number of Cases** : 90
- **Syndrome Type** : Spleen Qi Deficiency Syndrome (脾氣虛證).
- **Therapeutic Effect** : Regulates and enhances immunity

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## 健脾通窍方治疗脾气虚弱型变应性鼻炎的临床疗效观察

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# Decoctions(Yifei Tiaoxue Decoction and Qingre Tongyang Decoction 益肺調血湯、清熱通陽湯)

- **Number of Cases** : 90
- **Syndrome Type** : Yang Qi Deficiency Syndrome and Yang Qi Stagnation Syndrome(陽氣虛證、陽氣鬱證)
- **Therapeutic Effect** : **Reduces swelling of nasal mucosa**, improves nasal ventilation, promotes recovery of nasal mucosal function.

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## 和利阳气法治疗变应性鼻炎临床疗效观察

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## Differences between the four Decotions

	Primary Symptoms	Clinical Effects
<b>Ximin Jian</b>	Nasal itching, frequent sneezing, clear watery discharge, nasal congestion; cold limbs, curled-up posture, pale complexion, <b>aversion to cold</b> , long clear urine, loose stools; pale or swollen tender tongue with white/slippery coating	Regulates immune balance; improves nasal and systemic symptoms
<b>Yiqi Wenyang Fang</b>	Nasal itching, repeated sneezing, clear discharge, <b>nasal congestion; pale nasal mucosa, enlarged turbinates</b> ; aversion to cold, poor appetite, fatigue, loose stools; pale-red tongue	Relieves nasal itching, sneezing, congestion, reduces turbinate swelling
<b>Jianpi Tongqiao Decoction</b>	Nasal itching, frequent sneezing; clear discharge, nasal congestion; pale, <b>swollen tongue with tooth marks</b>	Strengthens spleen, <b>resolves dampness</b> , opens nasal orifices, enhances immunity
<b>Yifei Tiaoxue Decoction &amp; Qingre Tongyang Decoction</b>	<b>Yang Qi Deficiency</b> : clear watery discharge, nasal congestion, aversion to wind, spontaneous sweating, shortness of breath, pale tongue with thin white coating. <b>Yang Qi Stagnation</b> : thick nasal discharge, nasal dryness, worse in hot/stuffy weather, dry mouth/throat, irritability, thirst, red tongue with white or yellow coating	Reduces nasal mucosal swelling, improves nasal ventilation, promotes mucosal repair

單味藥	成分	作用機轉	功效	文章
麻黃	麻黃多醣	調節巨噬細胞、嗜中性球、DCs、NK、Thc、Treg、Th17細胞	減輕肺組織病理損傷，抑制發炎、細胞凋亡和氧化壓力	Ephedrae Herba polysaccharides inhibit the inflammation of ovalbumin induced asthma by regulating Th1/Th2 and Th17/Treg cell immune imbalance, Mol Immunol, 2022
柴胡	柴胡萃取物 (BCE)	調節Th1/Th2/Treg細胞分化的平衡。	鼻黏膜腫脹、上皮屏障破壞及黏液增生均明顯改善	Preventive Effect of Bupleurum chinense on Nasal Inflammation via Suppressing T Helper Type 2, Eosinophil and Mast Cell Activation, Am J Chin Med, 2019
甘草	異甘草素、7, 4'-DHF、甘草素	降低血清IgE水平、IL-4和IL-13水平，增加肺細胞培養物在抗原刺激下IFN- $\gamma$ 產生	甘草及其天然化合物具有抗發炎活性	Glycyrrhiza uralensis flavonoids present in anti-asthma formula, ASHMI™, inhibit memory Th2 responses in vitro and in vivo, Phytother Res . 2013 Sep
細辛	細辛精油 (ASO)	抑制促發炎細胞因子 (TNF- $\alpha$ 、IL-4和IL-13) 以及與MAPK/NF- $\kappa$ B訊號通路相關的發炎介質的產生。	減輕打噴嚏、搓揉等過敏症狀，並降低血清IgE水平	The essential oils from Asarum sieboldii Miq. Alleviate allergic rhinitis by regulating tight junction and inflammation; Network analysis and preclinical validation, J Ethnopharmacol . 2025 Feb 10
五味子	$\alpha$ -華茛菪酸甲酯 ( $\alpha$ -cubebenoate)	在mRNA和蛋白質層面抑制肺組織和免疫細胞中的Th2細胞因子 (IL-4和IL-13) 和TGF- $\beta$ 1	抑制過敏性發炎的作用，可作為治療氣喘的藥物	Anti-allergic effect of $\alpha$ -cubebenoate isolated from Schisandra chinensis using in vivo and in vitro experiments, J Ethnopharmacol . 2015 Sep
黃耆	黃耆萃取物	抑制受刺激的 J774 和腹膜巨噬細胞中前列腺素 E 2和白三烯 C 4	抑制氣道高反應性、氣道重塑和纖維化來改善肺功能	Beneficial Effects of Astragalus membranaceus (Fisch.) Bunge Extract in Controlling Inflammatory Response and Preventing Asthma Features, Int J Mol Sci . 2023 Jun 30
地龍	earthworm ethanolic extract	抑制趨化因子調控活化的正常T細胞表現和分泌(RANTES)的分泌。也抑制了活化的MC/9肥大細胞中組織胺的釋放。	治療過敏性呼吸道發炎的傳統藥物。異位性皮膚炎	Effects of Earthworm (Pheretima communisima) extract on atopic dermatitis: An in vitro and in vivo study, Heliyon . 2024 Dec 11

# Acupuncture

## Acupuncture for moderate to severe allergic rhinitis: A non-randomized controlled trial

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Volume 22, pages 518–524, (2016) [Cite this article](#)

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- **Mechanism :**
  - Balances yin–yang.
  - Unblocks meridians.
  - **Modulates neuro-immune responses.**
  - Reduces nasal **mucosa swelling** and serum **IgE**.
- **Key Acupoints :**
  - Yingxiang (LI20), Yintang (EX-HN3), Hegu (LI4)Feishu (BL13), Zusanli (ST36), Fengchi (GB20)Shenshu (BL23), Pishu (BL20)
- **Evidence:** included in **American clinical guidelines** since 2015; several RCTs support efficacy

## Acupuncture: Special techniques

- Fire needle combined with catgut embedding:
  - high efficacy (96.97%), low relapse (9.3%),  $P < 0.05$
- Sphenopalatine ganglion needling:
  - rapid symptom relief, improves quality of life

### A Meta-analysis of the Therapeutic Effects of Acupuncture Sphenopalatine Ganglion on Allergic Rhinitis

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**[Abstract] Objective** To systematically evaluate the clinical efficacy of acupuncture of the pterygopalatine ganglion in the treatment of allergic rhinitis. **Methods** Computer search of randomized controlled literature on allergic rhinitis treated by acupuncture of the pterygopalatine ganglion, excluding low-quality literature, using the Rev Man 5.4 software for Meta-analysis, was conducted in China National Knowledge Internet (CNKI), Wan Fang, VIP China Science and Technology Journal Database (VIP), Chinese BioMedical Literature Database (CBM), PubMed, Web of Science and Cochrane Library. **Results** A total of 733 patients in 9 RCTs were collected. Meta-analysis suggested that acupuncture of the pterygopalatine ganglion improved patients' quality of life ( $P=0.04$ , MD=5.62, 95% CI= [0.24,10.99]), and reduced the four main symptoms of allergic rhinitis ( $P=0.02$ , MD=1.24, 95% CI= [0.23,2.25]). The total therapeutic efficiency was better than conventional treatment ( $P=0.002$ , RR=1.15, 95% CI= [1.05,1.26]), and especially better than conventional acupuncture. **Conclusion** The treatment of allergic rhinitis by acupuncture of the pterygopalatine ganglion is simple and easy, with definite efficacy, which can significantly improve patients' symptoms and quality of life, and is recommended for clinical application.

**[Key words]** allergic rhinitis; sphenopalatine ganglion; acupuncture; nasal snort; meta-analysis

# Moxibustion

- Moxibustion techniques like ginger-insulated and **heat-sensitive** moxibustion **improve circulation** and **immune function**.
- Clinical response rates exceed **83-91%**, especially when targeting **back-shu points**.

# Moxibustion

Group	method	Sample size (n)	Total efficacy rate (%)	Statistical difference
Treatment	Heat-sensitive moxibustion	36	83.33%	$P < 0.05$
Control	Ephedrine nasal drops	36	66.67%	

## Acupoint Application

- Applying herbal patches to key acupoints shows overall clinical response rates of **80–97%** across different deficiency syndromes
- **Enhancing body constitution** and **immune regulation**, with potential as **antihistamine alternatives**.



# Acupoint Application(迎香穴和神闕穴)

	Observation group (n=50)	Control group (n=50)	Between-group comparison
<b>Intervention</b>	Acupoint application with <i>Bimin Tong energy patch</i> at Yingxiang & Shenque	<b>Oral loratadine</b> , 1 tablet/day	—
<b>Nasal symptom VAS</b>	Improved at weeks 1–4 and 3-month follow-up ( $P<0.05$ vs pre-treatment). Greater improvement than control at 3 months ( $P<0.05$ )	Improved at weeks 1–4 and 3-month follow-up ( $P<0.05$ vs pre-treatment)	No significant difference at weeks 1–4 ( $P>0.05$ ); Significant difference at 3 months ( $P<0.05$ )
<b>TNSS</b>	Improved at weeks 2 & 4 ( $P<0.05$ )	Improved at weeks 2 & 4 ( $P<0.05$ )	No significant difference ( $P>0.05$ )
<b>TNNSS</b>	Improved at weeks 2 & 4 ( $P<0.05$ )	Slight improvement, not significant ( $P>0.05$ )	Observation group significantly better at weeks 2 & 4 ( $P<0.05$ )
<b>RQLQ</b>	Improved at weeks 2 & 4 ( $P<0.05$ )	Improved at weeks 2 & 4 ( $P<0.05$ )	No significant difference ( $P>0.05$ )
<b>Serum total IgE &amp; EOS</b>	Slight improvement after 4 weeks, not significant ( $P>0.05$ )	Slight improvement after 4 weeks, not significant ( $P>0.05$ )	No significant difference ( $P>0.05$ )

## Catgut-Embedding Therapy

- Medical thread implanted at acupoints provides **prolonged stimulation**, effectively **improving symptoms** and **reducing relapse rates** (overall efficacy **~94%**).
- Combining with Western medicine can further reduce **inflammatory markers** like IL-33.

# Catgut-Embedding Therapy

	Control group (n=32)	Treatment group (n=32)
<b>Intervention</b>	<b>Oral desloratadine citrate tablets</b>	Acupoint catgut embedding + <b>oral desloratadine citrate tablets</b>
<b>TNSS (Total Nasal Symptom Score)</b>	↓ after treatment ( $P<0.05$ )	↓ greater than control ( $P<0.05$ )
<b>TNNS (Total Non-Nasal Symptom Score)</b>	↓ after treatment ( $P<0.05$ )	↓ greater than control ( $P<0.05$ )
<b>Serum IL-33</b>	↓ after treatment ( $P<0.05$ )	↓ greater than control ( $P<0.05$ )
<b>Conclusion</b>	Effective in improving AR symptoms	More effective; mechanism may relate to <b>lowering serum IL-33</b>

## Ear Acupuncture

- **Non-invasive technique** targeting auricular points corresponding to zang-fu organs
- Treatment protocols include **Vaccaria(王不留行)** seed applications and tack needles
- Clinical outcomes show overall response around **95-99%**, significant symptom relief
- Safety, convenience, suitability for **long-term management**

## Combination Treatments

- Combined **acupuncture** and **decoction** better than single therapy
- Significant reductions in **serum IgE, TNF- $\alpha$ , IL-4**; improved nasal breathing and sleep quality
- Also **improves mood** and **emotional regulation** in AR patients

## Conclusion-Advantages of TCM for AR

- **Flexible** and **diverse** therapeutic approaches with considerable potential
- Can partly compensate for limitations of Western medicine
- Helps address issues:
  - **low adherence**
  - **High medical costs**
  - **Multiple toxic or side effects**

## Conclusion-Challenges of TCM for AR

- Need to increase **sample size** for more **high-quality RCTs**.
- Too many acupuncture points selected, possibly causing patient anxiety and reducing therapeutic effect.
- **Lack of uniformity and standardization** in selecting decoctions and acupuncture points.
- **No consensus** despite the existence of many treatment methods.
- Most studies focus on short-term effects, with limited **long-term follow-up**.

# References

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**Thank you for your time and attention.**