

Clinical Observation on the Treatment of Laryngogenic Cough by Combining Sai Gan and Ephedra Soup with Zi Cough San

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Abstract: ***Objective:** To investigate the clinical therapeutic efficacy of the combination of Sagan Ephedra Soup and Zi Couch San in the treatment of laryngogenic cough. **Methods:** 88 patients with laryngogenic cough who came to the hospital from January 2023 to December 2023 were randomly divided into 2 groups, including 44 patients in the experimental group and 44 patients in the control group. The experimental group was treated with only Sai Gan Ma Huang Tang and Zi Cough San, while the control group was treated with oral medication such as Roxithromycin and Pentoxyverine, both groups were treated with the medication for 10 days, and the total effective rate of the patients in the two groups was compared. **Experimental results:** through the drug treatment found that compared with the control group, the symptoms of the patients in the treatment group have obvious improvement, the difference between the two groups is statistically significant ($P < 0.05$). The total effective rate of the treatment group after treatment was 93.18%, and the total effective rate of the patients in the control group was 81.82%, and the difference between the two groups was statistically significant ($P < 0.05$). **Conclusion:** According to the above data, it is found that the combination of Sai Gan Ephedra Soup and Zi Couch San has good effect in the treatment of laryngogenic cough, which can achieve better efficacy in the clinical treatment of laryngogenic cough and is worth to be widely promoted in the clinic.*

Keywords: Cough of laryngeal origin, Sagittarius and ephedra soup, Stopping coughing powder.

1. Introduction

Laryngeal cough is a reflex cough caused by pharyngeal discomfort, similar to that caused by acute and chronic pharyngitis and allergic laryngitis, etc. It is common and frequent in clinical practice, with paroxysmal laryngeal tickling and coughing. In the clinic, there is a common and frequent situation, with paroxysmal throat tickling, coughing, and coughing, rarely sputum as the main performance, often repeated episodes, prolonged, or even coughing and nausea, some patients can be accompanied by pharyngeal foreign body obstruction and other symptoms. Clinical treatment of this disease is mostly based on the patient's throat disease for targeted Western medical treatment, usually using anti-inflammatory, anti-allergy, anti-virus, as well as the treatment of its symptoms, the therapeutic effect is general. Most of the patients' symptoms can be significantly relieved after the administration of drugs, but after a period of continuous treatment, can not be completely cured or after stopping the drug will be recurrence of the disease, so the conventional Western medical treatment efficacy can not achieve the desired efficacy, and can not meet the needs of patients for the treatment of this disease. Based on the hospital in recent years about the use of wind dispersal, pharyngeal itching treatment, shot dry ephedra soup combined with stopping cough powder combined treatment of laryngeal cough 88 patients, achieved a better therapeutic effect, the present report is summarised as follows:

2. Information and Methodology

2.1 Clinical Information

2.1.1 A total of 88 patients with laryngogenic cough were admitted to the hospital during the period of January

2023-December 2023 and were randomly grouped into a treatment group and a control group, with 44 patients in both groups. The minimum age of the patients in the control group was 14 years old and the maximum age was 60 years old, with an average age of (35.14 ± 6.67) years old; there were 23 male patients and 21 female patients; the shortest duration of the disease was 3 weeks, and the longest duration of the disease was 17 weeks, with an average duration of the disease of (8.11 ± 2.17) weeks. In the treatment group, the youngest patient was 15 years old and the oldest patient was 62 years old, with an average age of (35.93 ± 6.89) years; there were 20 male patients and 24 female patients; the shortest duration of the disease was 4 weeks and the longest was 18 weeks, with an average duration of the disease of (8.09 ± 2.57) weeks. The basic data of gender, age, disease duration and main symptoms of all patients in the control group and treatment group before treatment were statistically processed and found to be not significantly different ($P > 0.05$), so the data are comparable.

2.1.2 Inclusion and exclusion criteria

2.1.2.1 Inclusion criteria

Clinical diagnostic criteria for laryngogenic cough are formulated with reference to the national planning textbook for colleges and universities of traditional Chinese medicine (the ninth edition) 'Otorhinolaryngology of Traditional Chinese Medicine'[1] and the State Administration of Traditional Chinese Medicine (SATCM) 'Diagnostic Efficacy Standards for Traditional Chinese Medicine', and are in accordance with the following conditions: (1) history of exogenous diseases; (2) clinical symptoms mainly manifested as paroxysmal pharyngeal itchiness and dry cough with little sputum, nausea with coughing and recurrent episodes, and

part of the patients are accompanied by a sense of pharyngeal blockage with a foreign body Sensation; (3) Specialist examination: no obvious abnormal manifestations in the pharynx, mild congestion or swelling of the mucous membrane of the pharynx and vocal cords; (4) Auxiliary examination: no obvious abnormality in the nasal cavity and pharynx through nasopharyngoscopy, which can exclude chronic inflammation in the nasal cavity, sinuses or postnasal drip symptoms, etc., and no obvious abnormality in the pulmonary affective examination, which can exclude parenchymal lung lesions; (5) All patients met the tolerance profile for this medication; (6) All patients were informed of the details of the study and volunteered to participate in the study, which was approved by the relevant audits.

2.1.2.2 Exclusion Criteria

(1) Nursing and pregnant women; (2) Patients with cough symptoms caused by acute and chronic bronchitis or other lung diseases; (3) Patients with pharyngeal tumours or other related lung diseases; (4) Patients taking angiotensin-converting enzyme inhibitors or other drugs that cause cough. ; (5) Patients with systemic conditions that affect observational judgement, such as cardiac, hepatic, or renal insufficiency; (6) Patients with psychiatric disorders that prevent them from completing communication.

3. Treatment

Control group: conventional western medical treatment, roxithromycin capsule (manufacturer: Yangzijiang Pharmaceutical Group Co., Ltd.; State Pharmaceutical Approval Character: H10970292) 15 mg/times, 2 times/d, 10 d of continuous medication; Pentoxyverine citrate tablets (manufacturer: Sinopharm Group Rongsheng Pharmaceutical Co., Ltd.; State Pharmaceutical Approval Character: H41022458) 25 mg/times, 3 times/d, 10 days of continuous medication. The drug was administered continuously for 10 d.

Experimental group: the combined formula of Sagan Ephedra Soup and Cough Stopper was selected for treatment. Containing Chinese herbal medicines: fried bitter almonds 10g, honey loquat leaf 10g, honey aster 10g, honey winterflower 10g, roasted lily of the valley 10g, Platycodon grandiflorus 10g, fried silkworms 10g, liquorice 6g, fried burdock 10g, zhebeimu 10g, shotgan 10g, roasted ephedra 10g, schisandra 10g. Add and subtract according to the symptom: if the itchy pharynx is serious, add umeboshi 10g, cicadas 10g, silkworms 12g, antifungal 9g; wind-heat with sore throat need to add forsythia 10g, honeysuckle 10g, burdock seed 12g. Fengfeng 9g; wind-heat with sore throat add forsythia 10g, honeysuckle 10g, burdock 10g; wind-cold add fengfeng 9g, suye 9g; hoarseness add fat sea sea 6g, wood

butterfly 9g; headache, nasal congestion, runny nose, add xinyi 9g, qiangwu 10g, cangdongzi 9g; sore throat obvious add shotgun 9g, burdock 10g; wind-heat cough add mulberry leaves 12g, chrysanthemums 12g, baicalin 10g; dry throat, throat 10g; baked mace 10g. 10g; dry pharynx and pharyngeal dryness add XuanShen 10g, ShaShen 10g; pharyngeal wall follicular hyperplasia obvious add Danshen 9g; cough phlegm yellow, gua gua gua 10g, add zhe bei 10g. daily dose, water fried 400ml, morning and evening each time 1 warm service, continuous treatment 10d after observing the efficacy of the treatment. Fat Tian powder typhoon typhoon typhoon him forever and ever and ever and ever and ever breasts

The two groups of patients 10d for a course of treatment, during the medication patients need to avoid spicy cold and hot food, after 1 course of treatment statistical efficacy, and then conditioning 1 month, statistics after 1 month laryngogenic cough recurrence rate.

4. Criteria for Determining Efficacy

4.1 Therapeutic Efficacy Standard

The therapeutic efficacy criteria were referred to the Diagnostic and Therapeutic Efficacy Criteria for Traditional Chinese Medicine [2]. Cured symptoms: disappearance of pharyngeal itching and coughing symptoms, disappearance of lymphoid follicles in the posterior pharyngeal wall in specialist examination, and pharyngeal congestion is not obvious. Obvious effect: the symptoms of pharyngeal itching and cough basically disappeared, the lymphoid follicles in the posterior pharyngeal wall were significantly reduced by specialist examination, and the symptoms of pharyngeal congestion were significantly reduced. Effective: itchy throat, cough symptoms reduced, specialist examination of the posterior wall of the pharynx lymphoid follicles reduced, congestion symptoms reduced. Ineffective: There was no significant improvement in the patient's physical signs and clinical symptoms.

4.2 Statistical Methods

Statistical methods were analysed using SPSS17.0 statistical software, and the count data were expressed by the chi-square test ($\bar{x} \pm s$), and comparisons between groups were made using one-way ANOVA and t-test, with $P < 0.05$ as the difference being statistically significant.

5. Results

5.1 Comparison of Therapeutic Efficacy between the Two Groups

Table 1: Comparison of clinical efficacy between the treatment group and the control group after treatment.

Group	Number of cases	Cured	Obvious effect	Effective	Ineffective	Total effective rate
Treatment group	44	30	8	3	3	93.18 %
Control group	44	21	4	11	8	81.82 %

The efficacy of Chinese medicine treatment group is better than that of western medicine control group.

5.2 Comparison of Adverse Reactions between the Two Groups

No adverse reactions were observed in the treatment group. In the control group, one case had dizziness, poor mental health, drowsiness, and two cases of loss of appetite, but the symptoms could be relieved on their own after stopping the drug and resting quietly, so no special treatment was carried

out, and the other patients did not have any adverse reactions.

6. Discussion

Laryngeal cough, also known as 'laryngeal cough' in Chinese medicine, is particularly common and frequent in clinical practice. Laryngeal cough is first described in 'Chinese medicine clinical diagnosis and treatment terminology - disease part' [3]: 'Laryngeal cough (laryngeal cough) due to the attack of external evils, or smoke, oil, spicy and other foreign gas stimulation, smoked burning throat, or laryngeal paralysis, coughing for a long time, phlegm condensation and stagnation of Qi, paralysis and obstruction of the airway, or the lung and kidney yin deficiency, the pharynx and throat loss of nourishment and other causes. Clinical to sudden or long-term recurrence of dry and itchy discomfort in the throat, triggered by cough, sputum or no sputum, may be accompanied by hoarseness, mild congestion of the mucous membrane of the throat, swelling, follicular hyperplasia, etc. as the characteristics of the pharyngeal disease. The classical Chinese medicine books of dry cough, dry cough, wind cough, depression cough, etc. have similarities with this disease, the etiology and mechanism are related. Chinese medicine believes that the cause of throat cough can be internal and external, often due to lung and kidney yin deficiency or lung and spleen qi deficiency in the internal, foreign qi or wind evil attack on the body in the external, the evil qi stagnation of the throat, can not be outside and caused. In addition, climate, environment, diet, emotions and so on are all triggered by this disease. In recent years, the gradual increase of dust in the air and the change of climate have led to a significant increase in the incidence of laryngeal cough. Jingyue quanquan - cough' cloud: 'lung bitter in dry, lung dry is itchy, itchy cough can not be.' Luo's will about the medical mirror: 'Where dry cough, stormy is the fire in the lungs, long time the Department of internal injury loss, lung and kidney do not communicate, fluid dry and so on.' 'The throat is the system of the lungs, so the Division of respiration,' the pharynx and the lungs are connected, and the throat is connected to the airway, which belongs to the lungs. The wind-heat evil invades the throat, triggering the liver fire against the lungs, resulting in the lung meridian heat, declaring and descending dysfunction, the lung qi upward reversal and cough. This is one of the important causes of cough, phlegm and gas junction, lung qi propagation, purging and descending restricted, due to the wind and evil contraction and lead to air closed throat itching, coughing frequently, the condition of the prolonged and difficult to cure, but also patients with mixed symptoms, so the treatment should be preferred to stop the cough and relieve the pharynx, dispel wind and stop itching. At present, Chinese medicine will be laryngeal origin cough more identification for wind evil offending lung, lung guard not solid, spleen deficiency phlegm condensation, Yin deficiency fire and other types of evidence, the corresponding treatment selection of wind dispersal of evil, declaring the lung to stop coughing; benefit the qi solid surface, dispel wind cough; strengthen the spleen to resolve phlegm, pharyngeal cough; nourishing Yin and lowering fire, lubricate the throat to stop the cough of cough and so on the four methods of cough, all are not far from the 'stop coughing' two words, with a deeper understanding of the condition of With in-depth understanding of this disease and attention, a variety of treatment methods have emerged in the clinic, including Luo

body acupuncture, moxibustion, auricular acupuncture, Chinese medicine acupoints, nebulised inhalation, gargling, etc., the general method is still based on the overall concept of traditional Chinese medicine and identification of the evidence-based treatment.

Stop Cough San is from Medical Mindfulness, Volume 3: 'Cure all kinds of coughs.' [4] This empirical formula was created by Cheng Zhongling's and is effective in treating coughs caused by a variety of diseases. In the prescription, Platycodon grandiflorum is painful and small and warm, and can promote lung qi, diarrhoea and dispersal of cold, treating phlegm congestion and wheezing, and nasal obstruction and sore throat. The bitter, warm, aromatic and dispersing Jingwu is good at dispersing wind-dampness, clearing the head and eyes, and facilitating the throat, and is good at treating headaches and coughs from colds. Aster pungent and warm lungs, bitter and warm down the gas, tonifying and regulating the middle, eliminating phlegm and quenching thirst, treating cold and heat depression, coughing up gas. Parthenium sweet and bitter, slightly warm, can moisten the lung, lung heat cough choking. Bai Qian Xin sweet and slightly cold, long in the stop coughing phlegm, treatment of lung qi Sheng real cough. Chen Pi regulates the middle fast diaphragm, stagnation and eliminates phlegm. Licorice stir-fried with warmth, tonifying the triple jiao yuan qi and dispersing surface cold. Cheng said, 'The formula is warm, moist and peaceful, not hot and not cold, and there is no danger of over-attacking, but it has a tendency of opening the door to drive away thieves, which makes it easy for the guest evils to dissipate and the lung qi to be at peace, which is why it is the most effective way of treating coughs'. However, when it comes to the deficiency manifestations of Yin deficiency and lung dryness cough, this formula is not suitable, and this must be recognised in the case of symptoms. Sagittarius can still be used in Ephedra Soup, which is from the first volume of Jin Gui Yao Yao: 'Sagittarius, Aster, and Fen Dung subdue rebellious qi; Ephedra, Cimicifuga, and Zingiber officinalis send out evil qi; and Pinellia subdues the qi of drinking. The use of jujube to stabilise the middle and the five flavours to astringe the lungs, fearing that the medicine of robbing and dispersing will also injure its proper qi.' In this formula, lung-expanding drugs are matched with lung-reducing drugs to harmonise the lung qi, and astringent drugs are matched with lung-reducing drugs to disperse and reduce diarrhoea without hurting the lung qi. Modern pharmacological research shows that this formula through the 'multi-component, multi-target and multi-pathway' treatment of asthma material basis and mechanism of action, the system of pro-inflammatory cytokines, tumour necrosis factor, and then prevent and treat inflammatory diseases of the lungs; can counteract histamine-induced contraction of airway smooth muscle; inhibit the proliferation of airway smooth muscle cells, slow down the process of airway remodelling. The process shows obvious cough suppressant, expectorant, asthma, anti-allergic effects [5]. The two prescriptions are used together, and the results are satisfactory because the medicinal evidence is in harmony.

7. Conclusion

In this study, the experimental group treated with the combination of Shai Gan Ma Huang Tang and Zi Cough San

was significantly better than the control group treated with western medicines ($p < 0.05$), which indicates that the treatment of this disease with the prescription 'Shai Gan Ma Huang Tang and Zi Cough San' is ideal. By combining the treatment of Sai Gan Ma Huang Tang and Zi Cough San, the treatment time of patients can be shortened, preventing the emergence of drug resistance, thus improving the efficacy of the drug, increasing the cure rate, and reducing the recurrence rate of cough.

As mentioned above, the combined use of Sagan Ephedra Soup and Cough Relieving Bulk in the treatment of laryngeal cough can improve the symptoms of cough and pharyngeal itching, and reduce the pharyngeal mucosal congestion, oedema and lymphoid follicular hyperplasia of the posterior wall of the pharynx, with precise therapeutic effect and few obvious side effects, which has good clinical application value. The author has used it many times, the effect is quite satisfactory, and the patients also unanimously praise it, it is worth promoting the application.

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