

# Curative effect of Maimendong decoction in treating advanced lung cancer with Qi-Yin deficiency cough

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**Abstract:** The objective of this paper is to analyze the curative effect of Maimendong Decoction in treating advanced lung cancer with Qi-Yin deficiency cough. 60 patients with advanced lung cancer with Qi-Yin deficiency cough admitted to our hospital were selected and randomly divided into two groups, among which 30 cases treated with Maimendong Decoction were experimental group, and another 30 cases treated with ambroxol hydrochloride oral solution were control group. After treatment, the clinical therapeutic effects of the two groups were compared and analyzed. After 40 d treatment, the total effective rate of the treatment group was significantly higher than that of control group, with statistical significance ( $P < 0.05$ ). There is a definitive therapeutic effect of Maimendong Decoction in the treatment of advanced lung cancer with Qi-Yin deficiency cough, which is worthy of application and promotion in clinic.

**Keywords:** Qi-Yin deficiency cough; advanced lung cancer; Maimendong Decoction; curative effect.

## INTRODUCTION

Lung cancer is a common cancer with a high incidence in the clinic. With the progress of disease, there will be cough symptoms in the late stage of lung cancer, which will have a serious impact on the quality of life of patients, as well as the patient's survival time and the development of the disease to a certain extent (Wang and Ji, 2016). Western medicine treatment is not satisfactory in clinic, and there is no specific treatment plan (Chen and Zhou, 2016). In *Jinkui Yaolue*, Maimendong Decoction has the effect of clearing the heat and reinforcing qi-yin. In the process of modernization of traditional Chinese medicine, compounded Chinese medicinal prescription has unique advantages in the prevention and treatment of lung cancer. The classical prescription, Maimendong Decoction, has been used in clinical treatment of lung cancer for its efficacy of nourishing the lung and stomach, clearing heat and reducing adverse effects (Song *et al.*, 2013; Li *et al.*, 2010). Modern research shows that Maimendong Decoction can improve the immune function of patients, and improve the quality of survival. The extraction of Maimendong Decoction and Qianjinweijing Decoction can effectively inhibit the growth of lung cancer cells (Xiao *et al.*, 2011). Our hospital has found that there is an ideal curative effect of Maimendong Decoction in the treatment of advanced lung cancer with Qi-Yin deficiency cough. In this study, the clinical treatment effect was further analyzed.

## MATERIALS AND METHODS

### *Clinical data*

60 patients with advanced lung cancer with Qi-Yin deficiency cough admitted to our hospital from March

2014 to March 2016 were selected and randomly divided into two groups, among which 30 cases treated with Maimendong Decoction were experimental group, and another 30 cases treated with ambroxol hydrochloride oral solution were control group. Experimental group: 19 male cases and 11 female cases, aged between 5-12 years old, median aged ( $8.45 \pm 1.28$ ) years old, disease course between 3 month to 2 years, median course ( $1.03 \pm 0.2$ ) years, 16 cases in III stage and 14 cases in IV stage. Control group: 20 male cases and 10 female cases, aged between 6-12 years old, median aged ( $8.76 \pm 1.36$ ) years old, disease course between 3 month-6 years, median course ( $1.12 \pm 0.2$ ) years, 19 cases in III stage and 11 cases in IV stage. Statistical analysis results showed that the difference of the clinical information between the two groups were  $P > 0.05$ , enhancing the comparability of comparative data.

The study had received written approval from the Baoji Hospital of Traditional Chinese Medicine Ethics Committee for Clinical Research. All of the patients participated in the study had signed the informed consent form.

### *Diagnostic criteria*

All patients were expected to survive for more than 3 months, without radiotherapy or chemotherapy in a short term. All the involved patients had clear consciousness, stable vital signs, main symptoms of cough and expectoration. According to the *diagnostic criteria of TCM syndrome*, patients in both groups were Qi-Yin Deficiency, that was, lung qi deficiency and lung yin deficiency (Huang *et al.*, 2015).

### *Methods*

The patients in the experimental group were treated with Maimendong decoction. The prescription were:

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**Table 1:** The comparison of the clinical therapeutic effect of the two groups

Groups	Cases	Excellence	Effect	Non-effect	Total effective rate
Experimental group	30	3 (10.0%)	23 (76.67%)	4 (13.33%)	86.67%
Control group	30	0 (0.00%)	17 (56.67%)	13 (43.33%)	56.67%
X <sup>2</sup>					6.6484
P					< 0.05

Ophiopogonis 15~35g, Codonopsis 8g, japonica rice 5g, Pinellia 5g, jujube 5g, yam 8g, raw Astragalus 10g, Zhigancao 5g, combined with modified treatment based on the clinical symptoms. For patients with blood stasis and phlegm coagulation, Prunella, shancigu, Scutellaria barbata, earthworm were added; for patients with pain, Shixiaosan, peony and licorice decoction, or jinlingzi powder were given based on the pain site; Dayuan Decoction were given to patients with fever; raw oysters and light wheat were added to the patients with night sweat or spontaneous perspiration; Poria cocos were added to the patients with abdominal distension, hiccup, or constipation; Tingli Dazao Xiefei Decoction and Jijiao Lihuang pills were added to the patients with a larger amount of pleural effusion, severe wheezing and constipation; Rhizoma imperatae was given to hemoptysis patients (Li and LiZ, 2014). In experimental group, prescription with 500mL water was boiled for 30min with slow fire. 150mL boiled solution was taken for oral treatment 60min after breakfast and dinner, 150 mL/time/day. 1 time of prescription addition and subtraction treatment were performed with symptom changes and condition as a basis every one time (Chen *et al.*, 2016). Patients in control group were treated with 10 mL ambroxol hydrochloride oral solution and 20mg Benproperin for oral treatment, 3 times/day, 1 courses of 20 d. After 2 courses of treatment, the clinical efficacy of the two groups was observed and compared (Zhang and Zhang, 2015).

#### Criterion of curative effect

The clinical therapeutic effect of two groups of patients was determined based on the *diagnostic criteria of TCM Syndrome*. The disappearance of cough and other clinical symptoms was determined as Excellence; the remission of cough and other clinical symptoms was determined as Effect; the clinical symptoms of patients before and after treatment with no change or even worse was determined as non-effect.

#### STATISTICAL ANALYSIS

In this study, SPSS19.0 statistical software was used for the comparative data analysis both in the experimental group and the control group. Mean  $\pm$  standard deviation and T value were used to the expression method and verification method of measurement data. The representing method and verification method of count data were % and chi-square values, respectively. The criteria for determining the statistical significance were  $P < 0.05$ .

#### RESULTS

After 40 d treatment, the total effective rate of the treatment group was significantly higher than that of control group, with statistical significance ( $P < 0.05$ ). As shown in table 1.

#### DISCUSSION

In Chinese medicine, lung cancer is attributed to “lung paralysis”, “lung amassment”, “lung accumulation” and other areas (Li *et al.*, 2015). With the continuous development of the disease, there will be cough and expectoration symptoms in many patients in the late stage of lung cancer, which will cause a serious impact on the quality of life and survival time. In view of Chinese medicine, the nosogenesis of lung cancer are mainly visceral dysfunction and Qi deficiency, combined with the adverse psychological state during the illness, so that the immune function is reduced. Therefore, phlegm and pathogen are easily to combine in the airway, resulting in cough, sputum and other disease (Sun and Zhang, 2015). It is also associated with taking a large number of drugs, causing damage to the spleen and stomach, and affecting lung function, resulting in the chest tightness and cough. Advanced lung cancer with Qi-Yin deficiency cough is the most common, and the principle treatment are mainly supplementing qi and nourishing yin, combined with removing phlegm and resolving mass. In this study, patients are treated with modified Maimendong decoction, which plays an important role in relieving cough and benefiting lung and stomach. The principal drug is Maidong, which can relieve cough, clear heat and purge lung, produce saliva and embellish dryness, and nourish the Yin of lung and stomach. While other drugs are minister drug, which can benefit and nourish lungs and stomachs. According to modern pharmacology, Maidong has a better effect on anti-tumor and anti-hypoxia, which can enhance the function of immune system of patients; Codonopsis can promote the humoral immunity and cell immunity, and protect the alveolar epithelium; Pinellia can inhibit tumor proliferation and occurrence; Astragalus can regulate the immune system and cytokines indirectly or directly, regulate the body’s immune system and kill the cancer cells (LiM *et al.*, 2015). All of them are combined into Maimendong decoction to inhibit the hypersensitivity of respiratory tract, promote the secretion of alveolar surfactant and mucociliary movement, enhance immunity, etc.

## CONCLUSION

This study analyzed the curative effect of Maimendong Decoction in treating advanced lung cancer with Qi-Yin deficiency cough. there is definitive therapeutic effect of Maimendong Decoction in the treatment of advanced lung cancer with Qi-Yin deficiency cough, which is worthy of application and promotion in clinic.

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