

# The study of long term curative effect of chronic obstructive pulmonary disease in remission stage treated with TCM

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**Abstract:** In this study of long term curative effect of chronic obstructive pulmonary disease in remission stage treated with TCM, we have selected 79 patients from January 2013 to January 2015 in our hospital with chronic obstructive pulmonary disease as the research object, we have divided into observation group (40 cases) and control group (39 cases) randomly, the control group received routine treatment, observation group received TCM pulmonary rehabilitation therapy, compare pulmonary function and clinical curative effect of 2 groups of patients, and dyspnea index (Brog index), blood oxygen saturation after 6 and 12 months' treatment. The lung function of the observation group was better than that of control group, the difference was significant ( $P < 0.05$ ). The effective rate of observation group was 97.50%, which was better than that of control group (84.62%), the difference was significant ( $P < 0.05$ ). Brog score, blood oxygen saturation of 2 groups of patients before treatment was not statistically significant ( $P > 0.05$ ); observation group's Brog scores after 6 and 12 months' treatment were  $(2.96 \pm 0.87)$ ,  $(1.61 \pm 0.49)$ , oxygen saturation were 94%, 99%, the control group's Brog scores were  $(4.65 \pm 0.54)$ ,  $(2.97 \pm 0.91)$ , oxygen saturation were 86%, 93%, the observation group's indicators were better than that of control group after treatment, the difference was significant ( $P < 0.05$ ). TCM lung rehabilitation treatment of chronic obstructive pulmonary disease has obvious curative effect, it can improve the function of lung, reduce the occurrence of dyspnea, improve patients' tolerance and have obvious long-term curative effect.

**Keywords:** Remission stage, chronic obstructive pulmonary disease, traditional Chinese medicine pulmonary rehabilitation, pulmonary function.

## INTRODUCTION

Chronic obstructive pulmonary disease damages alveoli, pulmonary vessels and airway, at the same time, it does harm to skeleton, skeletal muscle, heart and other organs. Chronic obstructive pulmonary disease is a polygenic systemic disease (Lixiu Zhang, Tan Wang, Li Shi, Chengbo Yuan, Bo Yang, Tonggang Zhu, Quan Zou, 2012, pp.1610-1611), it poses huge threat to the living quality and physical and mental health of the patients. With the continuous deepening and development of Chinese medicine, in clinical practice, that treating the internal diseases by Chinese medicine is more and more used. To explore the long-term curative effect of Traditional Chinese medicine pulmonary rehabilitation on chronic obstructive pulmonary disease in remission stage, we chose 79 patients with chronic obstructive pulmonary disease in our hospital from January 2013 ~2015 year in January as objects. Summarized as follows. The research has get approval from the Hospital Ethics Association. Prior to treatment, all the patients were informed regarding the treatment and benefits and risks of the procedure. They all signed an informed consent form.

## MATERIALS AND METHODS

### General information

79 patients were chosen with chronic obstructive pulmonary disease in our hospital from January 2013 to January 2015 as study objects. Divided them into observation group (40 cases) and control group (39 cases) randomly. The control group received routine treatment, which included 24 men and 16 women, aged from 45 to 69, the average age was  $(51.68 \pm 1.06)$ , the course was 3~7 years, the average course was  $(5.95 \pm 0.34)$  years. The comparison between basic information of the two groups was not statistically significant ( $P > 0.05$ ). Inclusion criteria: (1) All the patients meet the Chronic obstructive pulmonary disease criteria of *Expert consensus on application of Chronic obstructive pulmonary disease severity assessment system in China* which is published by Expert Panel on Evaluation Forums of Chronic obstructive pulmonary disease (Expert Group on Evaluation of Chronic Obstructive Pulmonary Disease, 2013, pp.476-478); (2) Patients aged between 40 and 70; (3) Patients with no other organic diseases. Exclusion criteria included: Patients with mental illness; patients whose lungs with tumor or infectious diseases; patients who suffer from allergies.

### Methods

To control the group on routine treatment. Treat the

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patients with 0.2g oral *Doxofylline Tablets* (produced by Ningbo Tianheng pharmaceutical co., LTD, approved by H20000076 , 0.2g) twice a day. Observation group get traditional Chinese medicine pulmonary rehabilitation based on the control group: (1) Use the traditional Chinese medicine that nourishes the lung and spleen: 6g *Licorice*, 15g *Ophiopogon japonicus*, 12g *Poria cocos*, 15g *Morus alba*, 20g *Codonopsis pilosula*, 15g *Atractylodes*, boiled by warm water three times a day. (2) Rehabilitation by qigong and manipulation. Do the Intrinsic-nourishing exercise through the guidance of physicians. Once mastered, practice every 30 minutes, three times a week, and then focus on counseling weekly. The patients can combine the rhythm of the Intrinsic-nourishing exercise song to maintain the rhythm of breathing; Patients lies on the back, physicians massage abdomen and elixir field clockwise, including single-finger meditation pushing Jian li point, Lan Men point, Zhong Wan point, Guan Yuan point, Ju Que point, pressing Yun Men point and Zhong Fu point, pressing Pectoralis Major muscle with hand, pushing it with fingers. (3) Point application. Use herbs for replenishing yang (including *Psoralea corylifolia* L, *Aconitum carmichaelii* Debx, *Ephedra*, *Morinda officinalis*, *Cloves*, *Cinnamon*, *Evodia rutaecarpa*, *Herba Epimedii*, *Mistletoe*). Ground the drug into powder, mix with ginger ale into a paste, shape it into a tapered patty about 2cm in diameter, then fix it on Da Zhui point and Tian Tu point with Musk Balm. Pasting for 4 to 6 hours per time until the skin turns red. (4) Acupuncture rehabilitation. Prick point like Tai Yuan, Tai Xi, Chi Ze, Ding Chuan, Shen Yu, Fei Yu, Ge Yu, Tan Zhong, Feng Long, Qi Hai, Tai Chong and Sanyinjiao. (5) Sports rehabilitation. Do the breathing exercise every day, use training apparatus and limb rehabilitation instrument for 15 minutes per session. Do the treatment for 3 months.

#### **Evaluation criterion**

Record the lung function and clinical effects of the two groups after the treatment. Observe Brog scores and blood oxygen saturation after the treatment in 6 and 12 months. And then follow up for 3 years to see if the lung function get worse.

Clinical effects: effectual means that symptoms such as polypnea and expectoration have disappeared, moist rales in lung practically vanish; Effective means that clinical symptoms have improved, moist rales have no change. Effective rate=[(effectual + effective)/ NNT]\*100%.

MMRC (Brog scores): Total score is 0~10, score zero means that breathe well and normal while score ten means that dyspnea is critical.

#### **STATISTICAL ANALYSIS**

All the result data of the study is statistically treated by SPSS 16.0 for Windows, the Brog scores and lung function of two groups use ( $\bar{x}\pm s$ ) to display and are tested by t. clinical effects and blood oxygen saturation shows with % and is tested by  $\chi^2$ . The differences are statistically significant when  $P<0.05$ .

#### **RESULTS**

##### **Comparison of two groups' lung function after treatment**

Compare the two groups' lung function after treatment, we found that lung function of observation group was better than that of control group ( $P<0.05$ ), there were significant differences (table 1)

##### **Comparison of two groups' clinical effects after treatment**

Compare the two groups' clinical effects after treatment, the effective rate of observation group was 97.50%, which was better than that of control group (84.62%), there were significant differences ( $P<0.05$ ) (table 2).

##### **Comparison of the Brog scores and oxygen saturation after the 6 months' and 12 months' treatment**

Comparison of the Brog scores and oxygen saturation before the treatment was not statistically significant ( $P>0.05$ ), every index of observation group was better than that of control group, there were significant differences ( $P<0.05$ ) (table 3).

#### **DISCUSSION**

Chronic obstructive pulmonary disease features incompletely reversible airflow obstruction, it's clinical symptoms grow progressively. It triggers an abnormal inflammation response due to influence that noxious gas and particles cause to the lungs (Zhenwei Wang, Peilan Yang, Jie Tang, 2013, pp.23-24&58) However, lungs are often implicated because of chronic obstructive pulmonary disease, which can induce systemic reactions (Laiheng Luo, 2015 & Li *et al*, 2013). The Main clinical manifestations are long-term repeated cough, polypnea, expectoration, panting, chest tightness, dyspnea and so on. However, expectoration and cough exist before airflow limitation. It has the characteristics of multiple, common, long-course and high disability. The main content of treatment for chronic obstructive pulmonary disease is to improve life quality and increase sport ability. Patients who have chronic obstructive pulmonary disease in Remission stage often with symptoms like emaciation and delicate constitution, there will be muscle, fat consumption changes, coupled with airway obstruction, so that the energy consumption increases, patients are prone to experience symptoms of hypoxia and gastrointestinal disorders, it is more likely to cause patients with malnutrition (Cao *et al.*, 2012 & Yaohui *et al.*, Li, Xianyang Wang, 2014). While the long-term

**Table 1:** Comparison of two groups' lung function after treatment (n;  $\bar{x}\pm s$ )

Groups	NNT	PEF (L/min)	Pulmonary (L)
observation group	40	258.63±19.98	2.78±0.54
control group	39	229.65±18.67	1.26±0.26
t	-	6.6571	15.8740
P	-	0.0000	0.0000

Note: Compared with the two groups,  $P<0.05$ .

**Table 2:** Comparison of two groups' lung function after treatment [n:(%)]

Groups	NNT	Significant effect	Effective	invalid	effective rate (%)
observation group	40	21	18	1	39(97.50)*
control group	39	18	15	6	33(84.62)
$\chi^2$	-	4.0594			
P	-	0.0439			

Note: \*Compared with the control group,  $P<0.05$ .

**Table 3:** Comparison of the Brog scores and oxygen saturation after the 6 months' and 12 months' treatment

Groups	NNT	Brog scores			Oxygen saturation (%)		
		Before treatment	6 months after treatment	12months after treatment	Before treatment	6 months after treatment	12 months after treatment
observation group	40	6.51±0.48*	2.96±0.87*#	1.61±0.49*#	87*	94*#	99*#
control group	39	6.61±0.64	4.65±0.54	2.97±0.91	85	86	93
$t/\chi^2$	-	0.7870	10.3423	8.2992	0.0428	3.5556	4.6875
P	-	0.4337	0.0000	0.0000	0.8361	0.0593	0.0304

Note: \*Compared with the control group,  $P>0.05$ ; \*#Compared with the control group,  $P<0.05$ .

insufficient lung ventilation, obstructed air flow, that the body is in a state of low oxygen makes the body's internal organs by varying degrees of damage, reduces the quality of life of patients greatly. And poses significant threat to the life and health (Yanxia *et al.*, 2016). TCM holds that patients with chronic obstructive pulmonary disease have deficiencies in the lung, dysfunction of spleen in transportation, patients have exhalation more than inhalation, short pants, soreness of waist and knees, and other kidney deficiency symptoms. We should use the method of reinforcing earth to strengthen metal when treating to reinforce kidney and prevent asthma (Shian 2014). Cough, sputum and other symptoms of chronic obstructive pulmonary disease belong to TCM for the category of phlegm retention lung distension. Patients who have chronic obstructive pulmonary disease in Remission stage have deficient root with overdo superficial and Phlegm and Blood Stasis Syndrome. The treatment of pulmonary rehabilitation in TCM can strengthen spleen and lung, nourish vital energy, and point application have effect on invigorating kidney and lung, radical treatment by stimulating of point and the adjust, transmission, absorption function of meridian. Qi-gong therapy is able to regulate mentality, body and breath, it combines all three to relax the body, expedite Qi-blood, eliminate distractions, dredge the channel, reconcile viscera. Traditional Chinese comprehensive Pulmonary

Rehabilitation has complementary relations, and plays a role in a tight system, makes the patients improve hypoxia condition and the ventilation function, strengthen the function of respiratory, it has a positive role in promoting good quality of life later of patients.

In this study, 79 patients with chronic obstructive pulmonary disease were selected as the research object, we treated those patients from January 2013 to January 2015, randomly divided them into observation group (40 cases) and control group (39 cases) as the research object, the control group received routine treatment and the observation group received lung rehabilitation treatment. The study found that PEF and Vital capacity of patients in observation group were (258.63±19.98) L/min, (2.78±0.54) L, which were higher than that of control group (229.65±18.67) L/min, (1.26±0.26) L, there were significant differences ( $P<0.05$ ). That treating patients with chronic obstructive pulmonary disease in Remission stage by Traditional Chinese medicine pulmonary rehabilitation can improve the lung function and ventilation effectively. The effective rate of observation group was 97.50%, which was higher than the index of control group (84.62%), the differences were significant ( $P<0.05$ ). It means that Traditional Chinese medicine pulmonary rehabilitation has telling effects, patients' clinical symptoms are improved, it is conducive to

improving the quality of life. The comparison of the Brog scores and oxygen saturation before the treatment was not statistically significant ( $P>0.05$ ). Each index of observation group was better than the control group's after being treated for 6 and 12 months, the differences were significant ( $P<0.05$ ). We learned that patients in observation group kept Traditional Chinese medicine pulmonary rehabilitation at 3 years of follow-up, their lung functions are better than patients in control group. It means that Traditional Chinese medicine pulmonary rehabilitation can reduce the symptom of hypoxia and promote the effective breathing.

## CONCLUSION

Chinese medicine pulmonary rehabilitation has significant long term curative effect for chronic obstructive pulmonary disease in remission stage, it can improve the pulmonary function of patients, promote effective ventilation, increase exercise tolerance and the quality of living, which deserves the clinical expansion.

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