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Application Value of Lung-Fire-Clearing, Phlegm-Resolving, and Bowels-Relaxing Decoction in Treating Lung Cancer of Phlegm-Heat Pattern

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Abstract: ***Objective:*** This article explores the clinical effects of lung-fire-clearing, phlegm-resolving and bowels-relaxing decoction in the treatment of lung cancer of phlegm-heat pattern. ***Methods:*** A total of 6 cases of lung cancer patients with phlegm-heat pattern were randomly selected from Inner Mongolia Baicaotang Qin's Zhong Meng Medical Hospital from March 2018 to December 2020 to conduct the study. They were divided into the reference group and the study group by using the digital table method. The patients in the reference group were treated with conventional Western medicine whereas the patients in the study group were treated with lung-fire-clearing, phlegm-resolving, and bowels-relaxing decoction to observe the curative effect. ***Results:*** There were no significant differences in the levels of the tumor markers between the two groups before treatment ($P > 0.05$). However, after treatment, the levels of cytokeratin 19 soluble fragments (CYFRA21-1), carbohydrate antigen 125 (CA125), and carcinoembryonic antigen (CEA) in the study group were lower than those in the control group ($P < 0.05$). The effective rate and the quality of life score of the study group were higher than those of the reference group while the incidence of adverse reactions was lower than that of the reference group, $P < 0.05$. ***Conclusion:*** Lung-fire-clearing, phlegm-resolving, and bowels-relaxing decoction can effectively improve the symptoms of patients with lung cancer and improve their quality of life.

Keywords: Lung-fire-clearing, phlegm-resolving, and bowels-relaxing decoction; Lung cancer of phlegm-heat pattern; Clinical effect

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1. Introduction

Lung cancer is one of the most common malignant tumors in clinic. Once a patient suffers from the disease, there will be a series of symptoms such as cough, chest tightness, and fever. Early surgical treatment is the main way to improve the disease, however, the radical cure rate is usually low. With the continuous development of the disease, chemotherapy is needed. Although chemotherapy can inhibit the metastasis and proliferation of cancer cells to a certain extent, it is easy for adverse reactions to occur during treatment which would affect the treatment compliance of patients. In recent years, clinical research has gradually found that the combination of traditional Chinese medicine (TCM) oral treatment can improve the symptoms and enhance the patients' immunity. Based on this, this article explored the effect of lung-fire-clearing, phlegm-resolving, and bowels-relaxing decoction in the treatment of lung cancer.

2. Materials and methods

2.1. General information

The subjects of this study were 6 cases of patients with lung cancer of phlegm-heat pattern in Inner Mongolia Baicaotang Qin's Zhong Meng Medical Hospital (hereafter, referred as "our hospital"). The study period was from March 2018 to December 2020. The inclusion criteria were patients with confirmed clinicopathological diagnosis in meeting the criteria of lung cancer, patients of phlegm-heat pattern according to the clinical diagnosis of traditional Chinese and Western medicine, and patients that voluntarily signed the research informed consent form. The exclusion criteria were patients with serious mental illnesses, severe active infection or other tumor diseases, drug allergies or intolerance to treatment, liver and kidney dysfunctions, heart failure, or immune system diseases. The patients were divided into the reference group and the study group with 3 cases in each group. The ratio of male to female in the reference group was 2:1 where the youngest was 46 years old and the oldest was 75 years old with an average age of 62.37 ± 2.56 years old and the course of the disease was 2-12 months with an average of 7.12 ± 0.25 months. In the study group, the proportion of male to female was 2:1 where the youngest was 45 years old and the oldest was 74 years old with an average age of 62.45 ± 2.47 years old and the course of the disease was 3-11 months with an average of 7.05 ± 0.35 months. There were no significant differences between the two groups ($P > 0.05$).

2.2. Method

The reference group was treated with conventional chemotherapy where the patients with adenosquamous cell carcinoma were treated with paclitaxel (135 mg/m^2) combined with cisplatin (30 mg/m^2) whereas in patients with squamous cell carcinoma, gemcitabine was given at a dose of 1000 mg/m^2 and cisplatin was administered on the first and eighth day.

The study group was given lung-fire-clearing, phlegm-resolving, and bowels-relaxing decoction on the basis of conventional chemotherapy where 20 g of mirabilite, rhubarb, *Magnolia officinalis*, and *Trichosanthes* each, 30 g of *Polygonum cuspidatum*, 10 g of tangerine peel, *Pinellia ternata*, *Fructus aurantii immaturus*, *Zhinanxing*, almond, and *Scutellaria baicalensis* each were decocted with water and 300 ml of decoction was taken twice: once in the morning and once in the evening for 3 months.

2.3. Evaluation

Cytokeratin 19 soluble fragments (CYFRA21-1), carbohydrate antigen 125 (CA125) and carcinoembryonic antigen (CEA) before and after the treatment were detected by the automated chemical immunoassay analyzer. Adverse reactions including thrombocytopenia, leucopenia, nausea, and vomiting were observed. The evaluation criteria of clinical efficacy included the gradual subside of the patient's clinical symptoms after treatment and a significant reduction in the number of bacteria under etiological examination. If the patient's symptoms significantly improved without any obvious discomfort, the curative effect was considered effective. If the patients did not meet the above criteria, it was then invalid. The total effective rate = (markedly effective + effective) / total number of cases × 100%.

SF-36 was used to evaluate the quality of life of the patients. The contents of SF-36 included physiological function, psychiatric health, physical function, and mental health. The full score was 100 in which the higher the score was, the higher the quality of life.

2.4. Statistical analysis

The data were processed and analyzed by Statistical Package for the Social Sciences (SPSS) version 23.0 software, tested using chi-square (X^2), and expressed in (n/%). $P < 0.05$ in the results of the processing and analysis indicated differences in the statistical data.

3. Results

3.1. Tumor markers

There was no significant difference between the two groups before treatment ($P > 0.05$). However, after treatment, the tumor markers in the study group were lower than those in the control group, $P < 0.05$.

Table 1. Statistics of tumor markers ($\overline{x} \pm s$)

Group	CYFRA21-1 (ng/ml)		CA125 (U/ml)		CEA (ng/ml)	
	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Reference group	3.62±0.85	2.68±0.55	257.54±5.88	138.25±5.17	122.52±5.67	75.34±4.66
Study group	3.65±0.91	1.61±0.47	259.67±6.12	92.57±4.88	123.46±5.85	33.17±3.59
t	0.0417	2.5617	0.4347	11.1290	0.1998	12.4166
P	0.9687	0.0625	0.6862	0.0004	0.8513	0.0002

3.2. Clinical efficacy

After evaluation and statistics, the effective rate of the study group was higher than that of the reference group, $P < 0.05$.

Table 2. Efficacy statistics (n/%)

Group	N (example)	Remarkable effect	Effective	Invalid	Total effective rate
Reference group	3	0	2	1	66.66
Study group	3	1	2	0	100.00
X^2					4.0231
P					0.0495

3.3. Adverse reactions

The incidence of adverse reactions in the study group was lower than that in the control group, $P < 0.05$.

Table 3. Incidence of adverse reactions (n/%)

Group	N (example)	Thrombocytopenia	Leukopenia	Nausea and vomiting	Total incidence
Reference group	3	0	0	1	33.34
Study group	3	0	0	0	0.00
X^2					4.0231
P					0.0495

3.4. Quality of life

As shown in **Table 4**, the quality of life scores in the study group were higher than those in the reference group, $P < 0.05$.

Table 4. Statistical quality of life scores ($\overline{x} \pm s$)

Group	N (example)	Physiological function	Psychiatric health	Physical function	Mental health
Reference group	3	69.52±3.51	68.17±2.59	70.24±3.11	71.35±3.26
Study group	3	78.12±2.51	75.34±1.67	78.25±1.67	76.34±1.05
t		3.4520	4.0298	3.9302	2.5235
P		0.0260	0.0157	0.0171	0.0651

4. Discussion

Chemotherapy is a common method in the treatment of lung cancer. Although it can inhibit the bone marrow hematopoietic system, adverse reactions such as nausea, loss of appetite, and pain may occur during the treatment, so it needs to be combined with other methods.

From the perspective of traditional Chinese medicine, lung cancer is included in the category of "chest pain" and "hemoptysis." It is believed that the disease is mainly caused by the lack of healthy qi and the invasion of pathogens. At the same time, the patient's congenital deficiency as well as the external and internal injuries aggravate the body's deficiency of healthy qi, leading to serious abnormalities in the operation of fluids in the body and in turn, causing damage to the lung vessels. At this point, the patient's healthy qi is in deficiency and the body's disease resistance function gradually reduces. Eventually, the cancer virus spreads to the brain and liver which causes great difficulties to the treatment. Phlegm-heat obstruction of the lung is a common type of lung cancer in traditional Chinese medicine. Patients would have dry throat and cough with little phlegm. Therefore, the first principle of traditional Chinese medicine treatment is to remove phlegm and dampness. Lung-fire-clearing, phlegm-resolving, and bowels-relaxing decoction can play an important role in this. *Polygonum cuspidatum* functions to clear heat, drain dampness, suppress cough, and resolve phlegm while mirabilite functions to discharge heat, relax bowels, clear fire, and alleviate edema. Rhubarb can clear dampness-heat and dispel phlegm, tangerine peel and *Fructus aurantii immaturus* play roles in fortifying the spleen, replenishing qi, and removing fullness in the spleen and stomach, *Pinellia ternate* can direct qi downwards and dry dampness to resolve phlegm, almond has the effect of suppressing cough and calming panting, *Poria cocos* can fortify the spleen and drain dampness while *Huanglou* and *Huangqin* can clear and resolve phlegm-heat. The combined use of many drugs helps in clearing heat and resolving phlegm, dispel stasis, as well as directing lung qi downwards.

According to modern pharmacological research, mirabilite also helps to accelerate gastrointestinal peristalsis and improve gastrointestinal metabolism whereas *Scutellaria baicalensis Georgi.* can inhibit the proliferation of tumor cells to a certain extent and inhibit angiogenesis; hence, playing an anti-tumor role. *Pinellia ternata* can effectively block cell proliferation signals and regulate the expression of tumor suppressor genes. Almond has high anti-tumor activity and can selectively kill tumor cells whereas *Poria cocos* can improve the immune function.

Disclosure statement

The author declares that there is conflict of interest.

References

[1] He Z, 2019, Application Value Analysis of Lung-Fire-Clearing, Phlegm-Resolving, and Bowels-Relaxing Decoction on Lung Cancer of Phlegm-Heat Pattern. Health Care Guide, 000(014): 281.

[2] Qin J, 2019, Clinical Observation on 39 Cases of Lung Cancer with Phlegm-Heat Pattern Treated by Chemotherapy Combined with Traditional Chinese Medicine. Chinese Folk Medicine, 28(14): 120-2.

[3] Li S, Gu H, Liu X, et al., 2020, Clinical Research of Traditional Chinese Medicine Under the Background of Big Data – Analysis of the Medication Law of Ouyang Chensheng Famous Traditional Chinese Medicine in the Treatment of Lung Cancer based on Data Mining. Chinese Medicine, 9(4): 10.

[4] Qin Y, Hua B, 2020, Application Value Analysis of Circulating Tumor Cell Number in the Treatment of Advanced Non-Small Cell Lung Cancer with Traditional Chinese Medicine. Review of Medicine, (14).

[5] Mao X, Zhao X, 2019, Effect of Lung-Fire-Clearing and Bowels-Relaxing Decoction on Lung Function, TCM Syndrome Score and Inflammatory Factors in Patients with Severe Pneumonia with Phlegm-Heat Obstructing Lung Syndrome. Journal of Practical Clinical Medicine, 023(016): 51-3, 57.

[6] Hu Y, 2019, Detoxify and Phlegm-Resolving Decoction Ultrasonic Atomization Inhalation Treatment of Primary Lung Cancer Cough Curative Effect Analysis and Nursing Experience. New TCM, 51(10): 305-8.

[7] Wu X, 2019, Analysis of Yin-Tonifying and Lung-Replenishing Decoction in Improving the Quality of Life of Patients with Qi and Yin Deficiency Type of Non-Small Cell Lung Cancer Undergoing Chemotherapy. Journal of Practical Cardio Cerebrovascular Diseases, 27(S1): 235-7.

[8] Zhang X, 2019, Clinical Efficiency Analysis of Liujunzi Decoction in the Treatment of Senile Lung Cancer with Qi Deficiency and Phlegm Dampness Syndrome. China Health Nutrition, 029(006): 361.