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Clinical Analysis of Chronic Obstructive Lung Disease Complicated with Pulmonary Interstitial Fibrosis

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ABSTRACT

Objective: investigate the clinical characteristics of chronic obstructive lung disease complicated with pulmonary interstitial fibrosis. **Method:** Choose these 240 patients with chronic obstructive lung disease who were diagnosed and treated in the hospital from 2014 to 2016, and 80 patients were checked with chronic obstructive lung disease complicated with pulmonary interstitial fibrosis; these patients were underwent with CT examination, lung function examination and blood gas examination. **Result:** through the CT examination, it indicates that the patients with c chronic obstructive lung disease with pulmonary interstitial fibrosis show excessive lung permeability and bullae of lung, etc. It has the statistical difference compared with these patients with chronic obstructive lung disease ($P < 0.05$). The difference of lung function and blood gas indicator between the two groups is statistically significant, which is of statistical significance ($P<0.05$). **Conclusion:** The clinical characteristics of chronic obstructive lung disease complicated with pulmonary interstitial fibrosis are excessive lung permeability and bullae of lung, and the lung function and blood gas indicator of these patients are significantly different from those patients' indicator with chronic obstructive pulmonary disease, so it can be regarded as an important way to diagnose patients.

Introduction

The chronic obstructive lung disease is a disease with main clinical features of patients with airflow limitation. Pulmonary interstitial fibrosis is a kind of diffuse interstitial lung disease [1]. According to clinical studies, it will gradually develop into the pulmonary interstitial fibrosis with the development of chronic obstructive lung disease [2-6]. Therefore, the clinical characteristics of chronic obstructive lung disease complicated with pulmonary interstitial fibrosis are investigated with these 240 patients treated in the hospital in the text. Now, related reports are as follows:

1 Data and Method

1.1 Patient Data

Choose these 240 patients with chronic obstructive lung disease who were diagnosed and treated in the hospital from 2014 to 2016; these patients' age shall be among 35 to 72 and the average age shall be (58.1 ± 3.0); there are 158 male patients and 82 female patients. 80 patients were checked with chronic obstructive lung disease complicated with pulmonary interstitial fibrosis, and 160 patients were checked with chronic obstructive lung disease.

1.2 Study Method

CT examination, blood gas analysis and lung function examination were performed for the patients. The patients' clinical manifestations were observed, and the patients' examination results were compared and analyzed at the same time.

1.3 Observation Indicator

The CT diagnosis results of patients with chronic obstructive lung disease and pulmonary interstitial fibrosis were observed, and the lung function and blood gas analysis results were compared at the same time.

1.4 Statistical Treatment

In this research, SPSS 17.0 software is adopted to process data, n (%) and ($\bar{x} \pm s$) are adopted for enumeration and measurement data respectively, X^2 and t are adopted to examine group data comparison, and $P < 0.05$ stands for the statistical significance.

2 Results

2.1 CT Detection Results in Two Groups of Patients

In this research, through the CT examination, it indicates that the patients with c chronic obstructive lung disease with pulmonary interstitial fibrosis show excessive lung permeability and bullae of lung, etc. It has the statistical difference compared with these patients with chronic obstructive lung disease ($P < 0.05$). See Table 1.

Table 1 CT Detection Results Analysis in Two Groups of Patients [n (%)]

Group	Excessive lung permeability	Bullae of lung	Alveolar wall damage	Honeycomb lung change
Combination group (n=80)	16(20.00)	10(12.50)	5(6.25)	8(10.00)
Chronic obstructive lung disease(n=160)	5(3.13)	2(1.25)	6(3.75)	10(6.25)
X^2	10.220	9.681	4.124	2.280
P	0.001	0.012	0.094	0.926

2.2 Analysis Results of Lung Function and Blood Gas Indicator in Two Groups of Patients

In this research, the difference of lung function and blood gas indicator between the two groups is statistically significant, which is of statistical significance ($P < 0.05$). See Table 2.

Table 2 Analysis of Lung Function and Blood Gas Indicator in Two Groups of Patients ($\bar{x} \pm s$)

Group	FVC	FEV1	PaO_2 (mmHg)	$PaCO_2$ (mmHg)
Combination group	68.25 ± 9.25	50.26 ± 5.58	59.01 ± 8.05	78.24 ± 10.25
Chronic obstructive lung disease	55.41 ± 9.08	69.26 ± 4.85	54.20 ± 12.04	39.64 ± 9.96
t	8.014	9.226	8.002	15.254
P	0.003	0.006	0.012	0.001

3 Discussion

The chronic obstructive lung disease is a kind of respiratory disease with high fatality rate, and according to the data, the incidence of patients is up to 8.2% [7-10]. The character of pulmonary interstitial fibrosis is a development trend of chronic obstructive lung disease; once the patients are attacked, their own fatality rate will rise [11-14]. Therefore, during the clinical treatment research for the patients, it is important to explore the clinical features of the disease, which can provide the basis for the clinical diagnosis and treatment of the patients.

The reason for the diagnosis of chronic obstructive lung disease complicated with pulmonary interstitial fibrosis is not clear; some studies have suggested that recurrent episodes of chronic airway inflammation causing deposition of immune complexes is the major disease cause [15-17], the airway-lung is repeatedly infected and is caused by smoking and air pollution during the attack of chronic obstructive lung disease.

In this research, through the CT examination, it indicates that the patients with c chronic obstructive lung disease with pulmonary interstitial fibrosis show excessive lung permeability and bullae of lung, etc. It has the statistical difference compared with these patients with chronic obstructive lung disease ($P < 0.05$). It indicates that the main clinical manifestations are excessive lung permeability and bullae of lung during the attack of disease; the patients' disease can be better diagnosed through the CT examination, and the main reason is some pathological changes occurred in the lungs of the patients after the attack of disease, including alveolar and permeability; the patients' clinical pathological changes can be diagnosed through the CT examination, which will provide the basis for patients' clinical diagnosis. The researchers point out that the patients' lung changes can be diagnosed through CT and HRCT diagnosis, and excessive lung permeability and bullae of lung phenomena are detected, so that the CT examination will be regarded as an important indicator of patients' clinical diagnosis [18-19].

In this research, the difference of lung function and blood gas indicator between the two groups is statistically significant, which is of statistical significance ($P < 0.05$). It indicates that the lung function and blood gas indicator of the patients are significantly different from those of chronic obstructive lung disease during the attack of disease; in addition, the hypoxemia occurs in the patients and FEV1 decreases after the attack of the disease, and it is mainly due to ventilation disorders, and the diffusion function of patients shows a downward trend. Therefore, the patients' condition can be diagnosed through the lung function and blood gas indicator examination, which will provide the basis for patients' clinical diagnosis. The researchers point out that the lung function test performed on the patients is helpful to distinguish the difference between chronic obstructive lung disease and pulmonary interstitial fibrosis [20]. Many studies conform to the results in this study.

In short, the clinical characteristics of chronic obstructive lung disease complicated with pulmonary interstitial fibrosis are excessive lung permeability and bullae of lung, and the lung function and blood gas indicator of these patients are significantly different from those patients' indicator with chronic obstructive pulmonary disease, so it can be regarded as an important way to diagnose patients.

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