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INCREASE IN THE INTENSITY OF CLINICAL SYMPTOMS AND VENTILATORY DISORDERS IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE DEPENDING ON THE SEVERITY OF THE DISEASE

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Abstract

Today, chronic obstructive pulmonary disease is one of the leading causes of morbidity and mortality worldwide, which is constantly growing and represents an important medical and socio-economic problem. At the same time, the relationship between the patient's subjective feelings and objective indicators characterizing the severity of COPD has not been sufficiently studied.

Keywords: chronic obstructive pulmonary disease, clinical symptoms, ventilatory.

Introduction

Chronic obstructive pulmonary disease (COPD) ranks third among the leading causes of mortality worldwide. Among people under the age of 70, almost 90% of COPD-related deaths occur in countries with low and middle socioeconomic levels [1,3,5,6]. The medical significance of this disease is extremely high, primarily because of its prevalence, as it is one of the leading causes of the number of days of disability, disability and mortality [5,6,7]. According to WHO forecasts, by 2025 COPD will occupy the third place in the world among the causes of high mortality

(EPO, 2001). Причем, за последнее десятилетие XX века летальность от осложнений этого заболевания выросла на 28% [2,4,8]. At the same time, the relationship between the patient's subjective feelings and objective indicators characterizing the severity of COPD has not been sufficiently studied.

Objective of the Study: To assess and monitor respiratory function disorders in patients suffering from chronic obstructive pulmonary disease depending on clinical manifestations and disease severity.

Materials and Methods: The study involved 115 chronic obstructive pulmonary disease patients aged 17 to 72 years (mean age 48,6 years) who were undergoing examination and treatment in a hospital. The average disease duration was 15,6 years. Pulmonary function tests (PFTs) were performed using a computerized pneumotachometry device, "Pneumoscope" (Erich Jaeger, Germany). The assessment included pulmonary function indicators such as forced expiratory volume in one second (FEV1), forced vital capacity (FVC), instantaneous maximum expiratory flow rates at 25%, 50%, and 75% (MEF 25, MEF 50, MEF 75) of the forced vital capacity, expressed as percentages of the predicted values, peak expiratory flow rate, and the FEV1/FVC ratio (Tiffno index) in 115 chronic obstructive pulmonary disease patients.

Results:

In chronic obstructive pulmonary disease patients, the intensity of clinical symptoms increases with the progression of disease severity, as evidenced by a significant rise in symptom score assessments (table 1).

Table 1 **Characteristics of clinical symptoms of COPD severity (in points)**

Degree of severity	n	Cough	Sputum	Difficulty breathing	Weakness	Sweating
II	41	2,15±0,05	2,04±0,05	2,20±0,05	2,23±0,07	1,72±0,07
III	27	2,52±0,05	2,47±0,05	2,63±0,05	2,57±0,10	2,03±0,10
IV	50	2,67±0,03	2,64±0,03	2,90±0,03	2,85±0,03	2,20±0,06
p	1-2	<0,001	<0,001	<0,001	<0,01	<0,02
p	1-3	<0,001	<0,001	<0,001	<0,001	<0,001
p	2-3	<0,01	<0,01	<0,001	<0,01	<0,05

The worsening of chronic obstructive pulmonary disease severity is characterized by pronounced cardiological and respiratory impairments. The nature of respiratory disorders indicates that as the condition of patients deteriorates, the severity of both obstructive and restrictive impairments increases. With the progression of bronchial obstruction, there is a sharp increase in both the frequency and severity of respiratory muscle fatigue syndrome (RMFS) in COPD patients (table 2).

Table 2 **Characteristics of the severity of pulmonary ventilation disorders in patients with COPD**

Degree of severity	**FEV1**	**FVC**	**TI**
II степень n=41	62,1±7,6	72,9±6,9	69,2±7,2
III степень n=26	40,9±9,6	52,3±9,8	65,4±9,3
IV степень n=50	30,6±6,5	47,2±7,1	55,9±7,0
p1-2	<0,05	<0,05	>0,5
p1-3	<0,01	<0,01	<0,2
p2-3	>0,2	>0,5	>0,2

The study results demonstrate that in patients with severe bronchial obstruction and FEV1 values below 30% of the predicted level, a severe degree of RMFS (with an index below 21,6, considered diagnostically significant) is diagnosed in 96,3% of cases (table 3).

Table 3 **Comparative indicators of the degree of ventilation disorders with the severity of respiratory muscle fatigue syndrome in COPD patients**

FEV1 degrees in %	**n**	**Degree of severity RMFS**		
		Moderate (65,1 – 43,4)	**Significant** 43,4 – 21,6	**Heavy** < 21,6
≥ 50 < 80	43	3 7,0±3,9	30 69,8±7,0	10 23,2±6,4
> 30 < 50	45	–	5 11,1±4,7	40 88,9±4,7
< 30	27	–	1 3,7±3,6	26 96,3±3,6
P	1-2	–	<0,001	<0,001
P	1-3	–	<0,001	<0,001
P	2-3	–	>0,2	>0,2

Note: *The numerator contains absolute values, and the denominator contains percentages.*

In contrast, among COPD patients with moderate obstructive impairments, only 23,2% exhibit severe RMFS.

Conclusions:

As the severity of chronic obstructive pulmonary disease progresses, not only does the intensity of clinical symptoms worsen, but the degree of cardiological and respiratory impairments also increases. This is particularly evident in the high prevalence of severe respiratory muscle fatigue syndrome, which is observed in 96,3% of patients with critical bronchial obstruction.

Literature:

1. Vostrikova E.A., Bagrova L.O., Osipov A.G. and others. Sensitivity and specificity of spirometric parameters in the screening study of respiratory function. // Pulmonology.- 2004.-№6.-p. 45-50.
2. Guryleva M.E., Vizel A.A., Khozieva L.V. Assessment of the quality of life of patients with respiratory diseases // Tuberculosis problems. 2002 -№5. – p. 55-61.
3. Guryleva M.E., Vizel A.A., Khuzieva L.V., Samerkhanova A.E. Quality of life in patients with chronic obstructive pulmonary diseases. //Medical care. 2002.- №4.- p. 13-15.
4. Chernyak B.A., Trofimenko I.N., Belevsky A.S. Quality of life in patients with COPD. Chuchalin A.G. (ed.). Quality of life in patients with bronchial asthma and chronic obstructive pulmonary disease. //Publishing house "ATMOSPHERE" Moscow. 2004.-p. 219-253.
5. Shmelev E.I. Chronic obstructive pulmonary disease. // Moscow. -2003.-p. 5-108.
6. Salaeva, M. S., Parpibaeva, Dr. A., Tursunova, M. U., Pasinkov, N. S., & Musakova, M. I. Interrelation of the autonomic nervous system and the quality of life of chronic obstructive pulmonary diseases in patients. 2023.

7. Mc Sweeny A.J. Chronic Obstructive Pulmonary Disease. − New York. 1988. − P.59-85.
8. Fan V.S., Curtis J.P., Tu S.P., et al. Using quality of life to predict hospitalization and mortality in patients with obstructive lung diseases. //Chest.- 2002.-Auq. 122. (2). P. 429-36.