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FEATURES OF THE CLINICAL COURSE OF CHRONIC OBSTRUCTIVE LUNG DISEASES IN THE BACKGROUND HIV INFECTION

Abstract: *The increase in the incidence of chronic obstructive pulmonary disease (COPD) in HIV infection is due to an increase in the life expectancy of patients on the background of antiretroviral therapy. The article is devoted to COPD - the most common non-infectious lung disease, the prevalence of which is higher among HIV-infected patients. The article presents the features of the clinical course of COPD in HIV infection, as well as the incidence of extrapulmonary and pulmonary manifestations of COPD among the HIV-infected population.*

The socio-economic significance of both nosologies justifies a broader informing of pulmonologists, therapists and infectious disease specialists about the peculiarities of the course and therapy of COPD in HIV infection.

Key words: *chronic obstructive pulmonary disease, COPD, HIV infection, AIDS, clinical features.*

Language: *English*

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Introduction

Today, chronic obstructive pulmonary disease (COPD) is considered a serious medical and social problem that remains unresolved. COPD morbidity and mortality continue to increase globally. The reason for this, first of all, is the widespread smoking. It has been shown that 4-6% of men and 1-3% of women over 40 suffer from this disease [2; 4; 6].

An increase in the frequency of registration of non-opportunistic respiratory diseases in HIV infection is due to an increase in the life expectancy of patients on the background of antiretroviral therapy [1].

COPD tends to grow, rejuvenate, spread to various groups of the population, including the population of HIV-infected individuals, previously less susceptible to the development of this pathology, and the features of the clinical course against the background of HIV infection are poorly understood [7; 8].

As a result, difficulties arise in the diagnosis, treatment and prevention of chronic heart failure, the probability of error increases, and the quality of medical care for patients with COPD with HIV infection decreases [3; 5].

The aim of work was to study the clinical features of the course of COPD in the HIV-infected population - the first step in the development and implementation of population-based clinical programs for the prevention of COPD, aimed at reducing the incidence and, subsequently, mortality from COPD among this population.

Materials and methods.

In the conditions of the city of Andijan, 507 patients with HIV / AIDS who were registered and

monitored at the regional center for the prevention and control of AIDS were examined using a comprehensive selection method. Of these, 244 are women (48.1%), 263 (51.9%) are men. Among them there were 101 patients with newly diagnosed COPD, 97 with a long history of COPD. The average age of the examined was 34.6 years. 197 (38.9%) patients were 20-29 years old, 235 (46.4%) - from 30 to 39 years old, 65 (12.8%) - 40-49 years old, 8 (1.6%) - at 50-59 years old and 2 (0.4%) - at 60-69 years old. Almost all surveyed persons (503 people, 99.2%) were representatives of the indigenous nationality. Epidemiological monitoring of COPD and their RF was carried out using generally accepted and standardized methods recommended by WHO (2016): questionnaires, instrumental and biochemical ones.

Results and discussion.

Upon acquaintance with the patients, it turned out that out of 507 HIV-infected persons, only in 6 (1.2%) cases attempts were made to optimize treatment (prescribing antibacterial or specific therapy, increasing the dose of certain drugs for respiratory disorders). Almost 98.8% of patients required intensification of therapy, including for COPD.

HIV with COPD was associated with a significant increase in depressive symptoms, cases of influenza and catarrh of the upper respiratory tract (two to four times a year) persistent cough (during the day or night or in the morning) with sputum production, shortness of breath, sweating (day and night), seizures choking and symptoms of associated competing diseases.

It has been noted and approved that the presence of HIV infection has a significant impact on the clinical course of COPD. So, before moving on to illustrative evidence-based scientific facts in this regard, it should be emphasized that in patients with COPD against the background of HIV infection, symptoms of such classic autoimmune diseases as pneumonia (in 61.6% of patients), acute allergies often prevailed or were observed. (urticaria) and drug allergies (in 23.7% of cases), hepatitis and glomerulopathies (in 75.8% of cases), shingles (in 10.0% of patients) and dermatitis (in 25.3% of patients).

In the overwhelming majority of cases (in 8.1% of patients), episodes of cases of colds increased more than 4-6 times a year, there was no temperature (in 28.9% of patients) and prolonged subfebrile fever (in 36.4% of patients) ...

Features of the clinical manifestations of COPD against the background of HIV infection are presented in table 1.

Table 1. Features of the clinical manifestations of COPD against the background of HIV infection

№	Clinical manifestations of COPD	Number of examined patients	Frequency of occurrence of clinical symptoms	
			abs.	%
1	Pulmonary manifestations of COPD:	198	198	100,0
	• Chronic cough		198	100,0
	• Chronic sputum production		186	93,9
	• Shortness of breath		141	71,2
	• Severe cyanosis		183	92,4
	• Respiratory failure		69	34,8
	• Pulmonary heart		198	100,0
	• combination of COPD with asthma		4	2,0
	• Decrease in the FEV1 / VC index		173	87,4
2	Smoker's index> 10 pack - years	198	155	78,2
3	Emphysematous COPD	198	16	8,1
4	Bronchitic COPD	198	182	91,9
5	Extrapulmonary manifestations of COPD:	198	174	88,0
	• Weight loss		144	72,7
	• Headache in the morning		13	6,5
	• Sleep disturbance		17	8,6
6	Infectious syndrome:	198	136	68,7
	• Frequent ARVI		15	8,1
	• Chronic subfebrile condition		72	36,4
	• Stomatitis		49	24,7
7	Allergic syndrome:	198	83	41,9
	• Dermatitis		50	25,3
	• Allergic diseases		14	7,1
	• Shingles		19	10,0
8	Autoimmune Syndrome:	198	164	82,8

	• Hepatitis • Glomerulonephritis • Neurological disorders	3	35 115 14	17,7 58,1 7,1
9	Pathological changes in laboratory parameters (number of CD4 lymphocytes, immunological parameters, complete blood count)	198	157	79,3
Significance of differences (P)	< 0,05	-	1-6, 1-7	-
	< 0,01	-	-	-
	< 0,001	-	-	-

From the data presented in Table 1, it follows that the clinical signs of COPD in HIV-infected people are quite diverse. Not only pulmonary (leading signs stand out among them), but also extrapulmonary symptoms (3), as well as such syndromes as infectious, allergic, autoimmune and very characteristic pathological changes in laboratory parameters.

Pulmonary symptoms were observed in all patients with COPD (100.0%), a significant risk factor for the development of COPD, the smoking index ("pack / years") was observed in 78.2% of cases, emphysematous, the clinical course was detected in 8.1% of patients, bronchitis the form of the disease was established in 91.9% of patients and extrapulmonary manifestations of COPD were found in 88.0%.

Among the symptoms of COPD in HIV-infected individuals, infectious syndrome (68.7%), allergic syndrome (in 41.9% of cases), autoimmune syndrome (in 82.8% of patients) and laboratory parameters such as characteristic changes CD4 lymphocytes, immunological parameters and general blood count (in 79.3% of cases).

The results of the analysis showed that against the background of HIV infection in the examined patients with COPD, in 100.0% of cases, "chronic cough" and cor pulmonale are determined. In 92.4% of cases, the course of COPD with severe cyanosis was established, and in 93.9% of cases, there was "chronic sputum production" in patients. In 87.4% of patients with COPD, there was a significant decrease (less than 70%) in the FEV1 / VC index. In 2.0% of cases, a combination of COPD with bronchial asthma was noted, in 71.2% of patients, progressive dyspnea was detected, and in 34.8% of cases, the disease proceeded with respiratory failure. COPD in HIV-infected persons in 72.7% of cases proceeded against the background of a decrease in body weight, often in patients there were headaches in the morning (6.5%) and sleep disturbances (8.6%).

Frequent ARVI in patients with COPD (4-6 episodes per year) occurred in 8.1% of cases, in 36.4% of cases, COPD was accompanied by chronic subfebrile condition, and almost every fourth patient (24.7%) had stomatitis. Exacerbation of COPD against the background of HIV infection was combined with dermatitis in 25.3% of cases, and in addition, patients often simultaneously had allergic diseases (in 7.1% of cases) and shingles (in 10.0% of cases).

The next feature of the course of COPD, in our opinion, was its frequent combination with hepatitis B and C (in 17.7% of cases), glomerulonephritis (in 58.1% of cases) and neurological disorders, mainly in the form of depression (7.1 %).

In general, it was found that among HIV-infected persons the bronchitic form of COPD predominates (91.9%) with moderate and severe course, a high smoking index> 10 pack-years (78.2%), with early development of symptoms of severe hypoxia (92 , 4%) and cor pulmonale (100.0%). HIV-infected with emphysematous form of COPD, patients with "pink puffs", were observed relatively rarely and only in 8.1% of patients (Fig. 1).

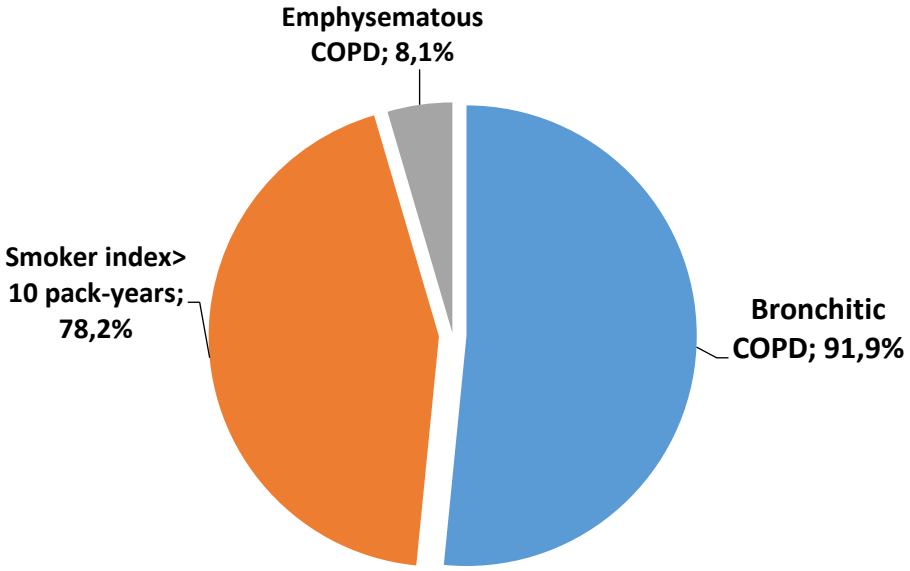

Fig. 1. The incidence of bronchopulmonary symptoms of COPD among the HIV-infected general population

Noteworthy is the high incidence of extrapulmonary manifestations (88.0%), autoimmune syndrome (82.8%), infectious syndrome (68.7%), allergic syndrome (41.9%) and immunological disorders (79.3%)) in patients with COPD on the background of HIV infection. Apparently, these factors are determining the course and prognosis of COPD in HIV-infected. These data are illustrated in Figures 2, 3, 4 and 5.

The incidence of clinical symptoms and syndromes in women and men varies significantly, a relatively severe course and a high frequency of detection of signs of COPD are observed among HIV-infected men.

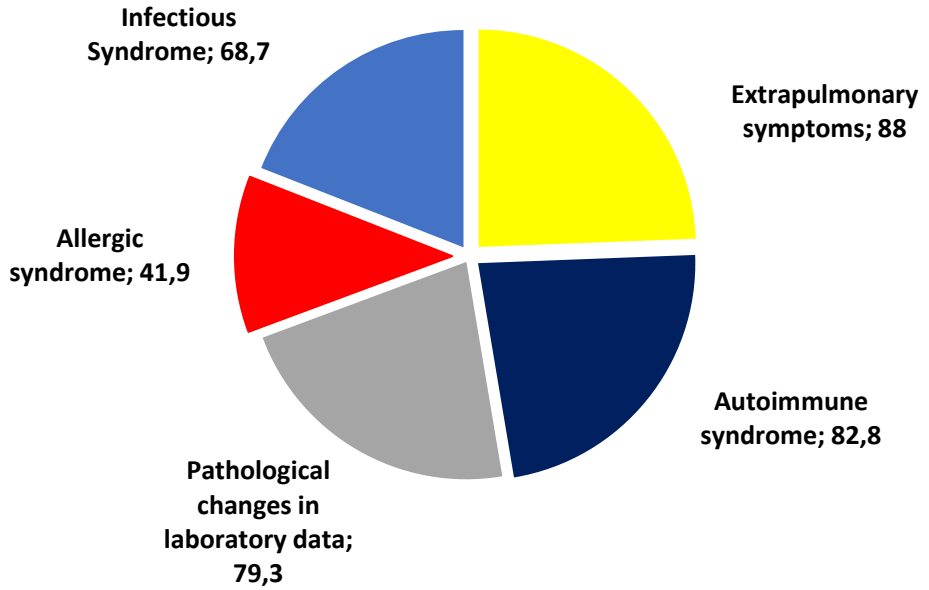

Fig. 2. The incidence of extrapulmonary manifestations of COPD among the HIV-infected general population

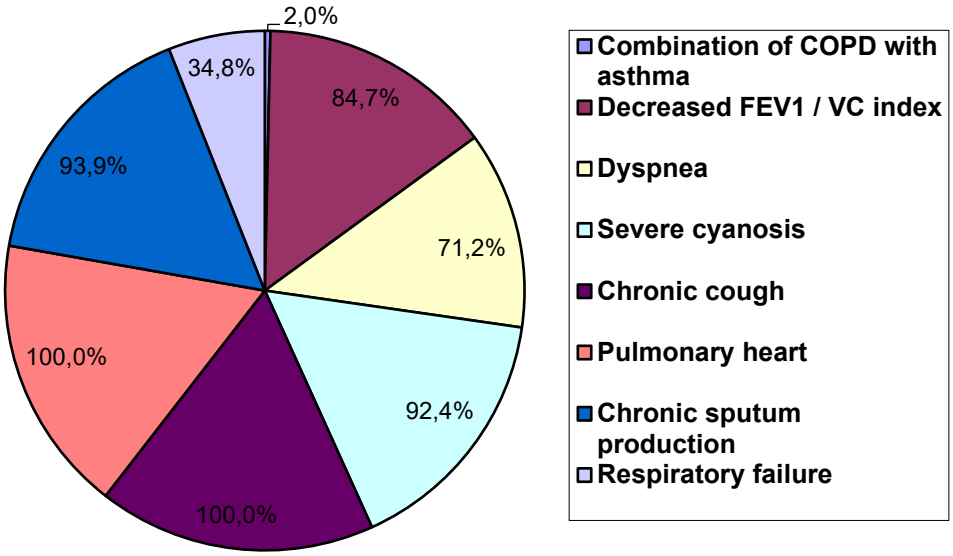

Fig. 3. Frequency of detection of pulmonary manifestations of COPD among the HIV-infected general population

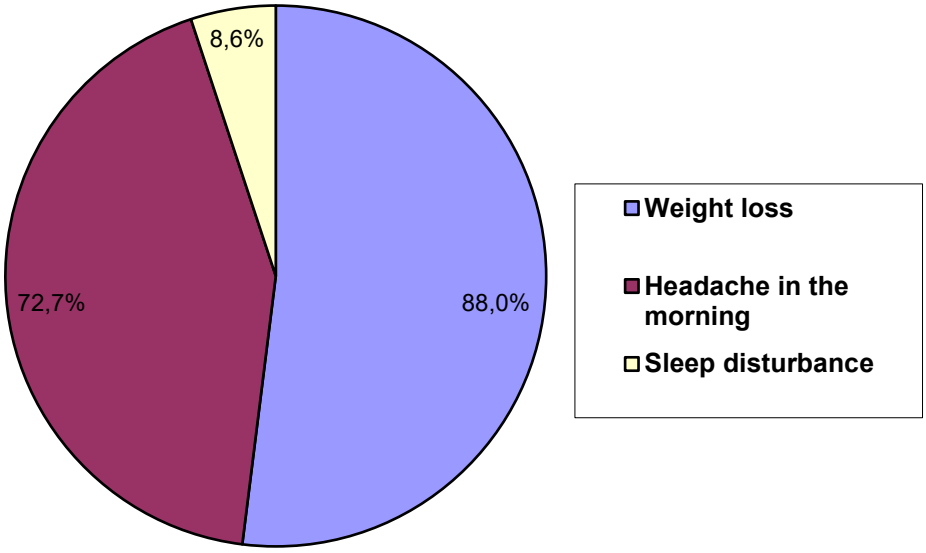

Fig. 4. The incidence of common extrapulmonary symptoms of COPD in the presence of HIV infection

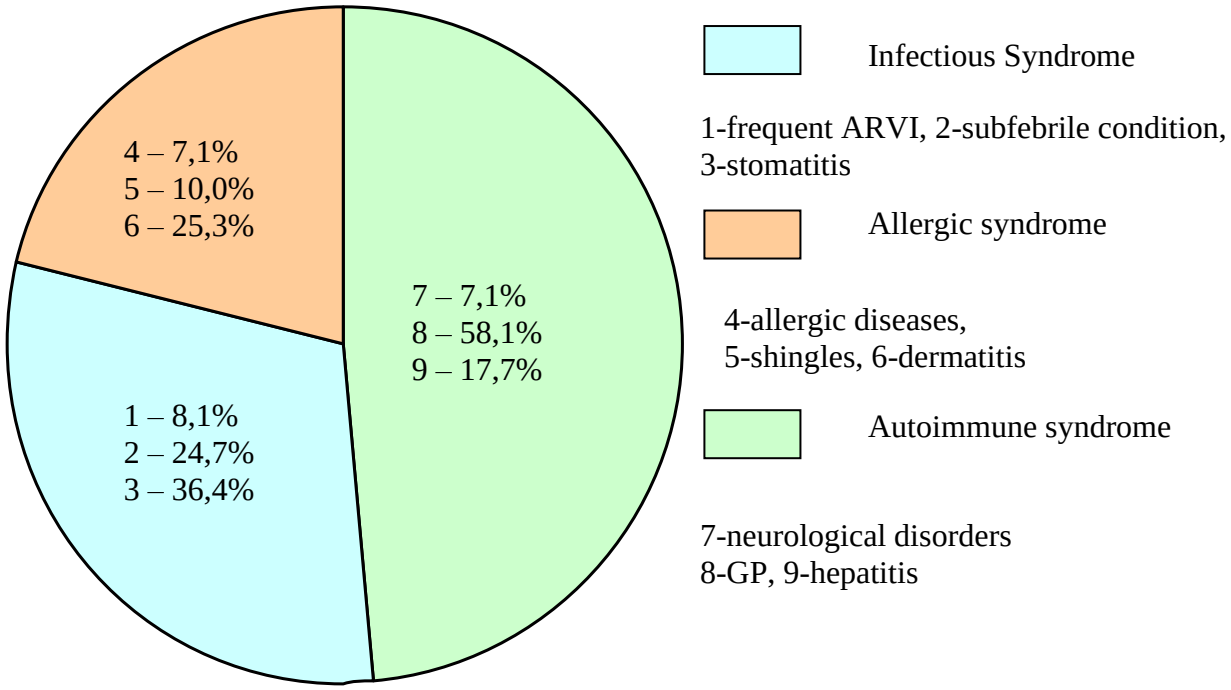

Fig. 5. The incidence of various clinical syndromes of COPD among the HIV-infected population

Thus, the frequency of individual symptoms and syndromes of COPD in women and men HIV-infected 20-69 years old was established as follows, respectively (Fig. 6): chronic cough - 31.3 and 47.5% each (P <0.05), chronic sputum production - 43.4 and 50.5% each (P> 0.05), dyspnea - 32.3 and 38.9% each (P> 0.05), severe cyanosis - 41.4 and 58.5 each% (P <0.05), respiratory failure - 15.2 and 19.6% each (P> 0.05), cor pulmonale - 41.4 and 58.5% each (P <0.05), a combination COPD with BA - 0.5 and 1.5% each and a decrease in FEV1 / VC - 33.4 and 48.1% each (P <0.05). Pulmonary manifestations of COPD are more prevalent in men (58.5%) than in women (41.4%); P <0.05.

In men and women, other major symptoms and syndromes of COPD were also observed with differences in detection rates. The smoking index> 10 pack-years was observed in 2.0% of sick women and 68.2% of men with COPD (P <0.001), emphysematous form of COPD - in 2.5 and 5.6% (P <0.01), bronchitic form of COPD - in 39.8 and 52.0% (P <0.05), weight loss - in 29.1 and 43.4% (P <0.05), headache in the morning - in 2, 5 and 4.0% (P <0.05) and sleep disorders - in 3.5 and 5.1% (P <0.05).

In both women and men, HIV-infected COPD manifested itself in frequent episodes during the year ARVI - 3.0 and 4.5%, respectively (P> 0.05), chronic subfebrile condition - in 15.7 and 26.3% of cases (P <0.05), stomatitis - in 9.6 and 15.2% of cases (P <0.05), dermatitis - in 9.1 and 16.2% (P <0.05), allergic diseases - in 2.5 and 4.5% (P> 0.05), shingles - in 4.0 and 5.6% (P> 0.05), hepatitis B and C - in 8.1 and 9.6 %, glomerulonephritis - in 8.1 and 9.6% (P> 0.05) and neurological disorders - in 24.2 and 33.8% of cases (P <0.05).

Laboratory indicators were characterized by more pronounced pathological changes in 29.8% of women and 49.5% of men HIV-infected with COPD (P <0.05).

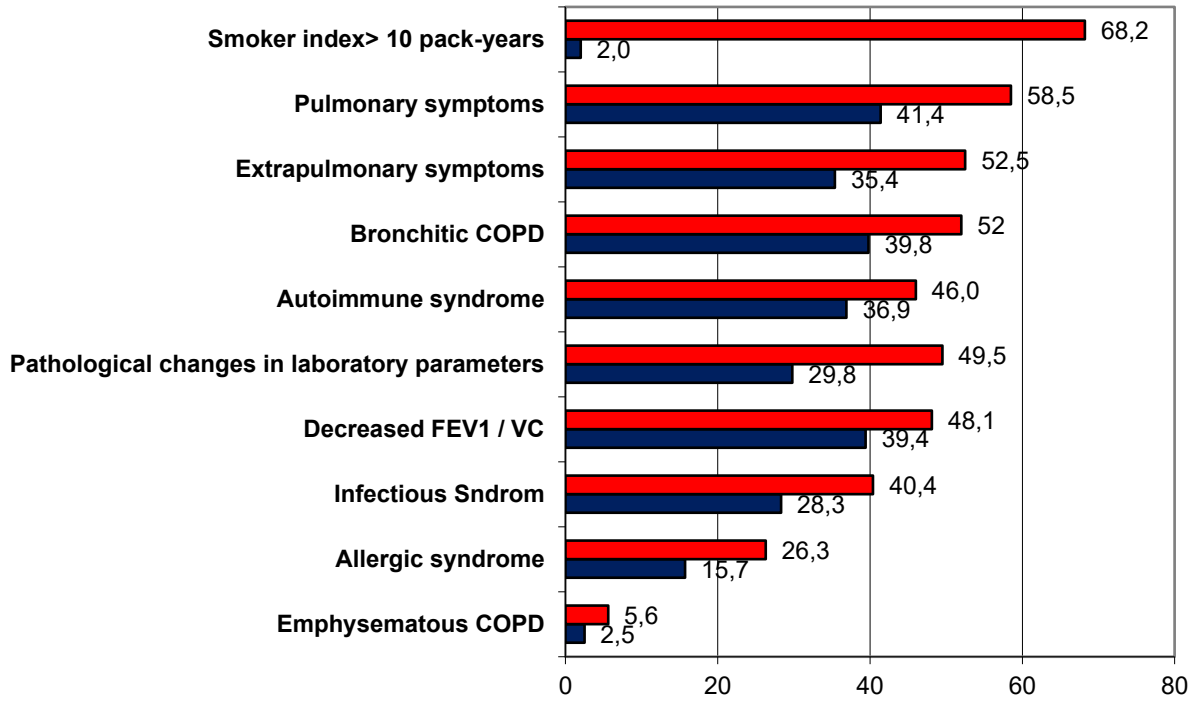

Fig. 6. Frequency of individual symptoms and clinical syndromes of COPD in HIV-infected men and women.

The abscissa shows the frequency of detection of symptoms and syndromes (in%); the ordinate shows the occurrence of symptoms and syndromes in men (light bars) and women (shaded bars).

Conclusions.

Thus, in patients with COPD against the background of HIV infection, there is a significant change in the course of the disease and a high incidence of pulmonary (in 58.5% of men and 41.4% of women) and extrapulmonary symptoms (in 52.5% of men and 35.4% of women).). It should attract the attention of practicing physicians and the noted scientific fact that in more than 2/3 of cases of COPD in HIV-infected persons proceeds or worsens against the background of an infectious syndrome (in 28.3% of women and 40.4% of men, P <0, 05), allergic syndrome (in 15.7% of women and 26.3% of men, P <0.05) and autoimmune syndrome (in 36.9% of women and 46.0% of men, P <0.05).

These data indicate the need for continuous clinical monitoring of these clinical symptoms and syndromes in patients with COPD with HIV infection and the advisability of prescribing appropriate drugs.

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