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Tips Complicating Extra-Pulmonary Tuberculosis in HIV-Infected

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Abstract

In HIV-infected patients, along with pulmonary tuberculosis, extrapulmonary forms of tuberculosis are often observed, most often from extrapulmonary tuberculosis, peripheral lymph nodes are affected in males, young people up to 40 years of age. When the level of CD-4 cells is less than 200 cells / μL, in this study, complications in the form of congestions were observed in 24, bacterioscopic mycobacteria were not detected in any patient; mycobacteria, and 3 patients showed resistance to the first line of anti-tuberculosis drugs. The most informative methods for establishing the tuberculous etiology of congestions is Diaskintest, PCR and histological examination, the material was obtained by biopsy of the congested.

Keywords: Tuberculosis and HIV; Complications of Extrapulmonary Tuberculosis; Diagnostics of Congestion by Real-Time PCR Genexpert Rif; Diaskintest and Histological Examination

Introduction

Tuberculosis, as the most common opportunistic disease in HIV infection, has become the main cause of the worsening course of the disease and mortality in these patients [1-4]. The detection rate of tuberculosis among HIV patients in Europe is 5-15%, and in developing countries - 30-50% [2,4,5].

Before the HIV / AIDS pandemic, tuberculosis of the lymph nodes was rare - in the structure of the incidence of tuberculosis it was 0.25%. Currently, tuberculous lesion of the lymph nodes is a marker of HIV infection and occurs in about 10% of patients [1,3,6,7]. Often, caseous-necrotic peripheral lymph nodes significantly increase in size - swellings appear in the subcutaneous tissue, surrounding soft tissues, and subsequently the nodes are opened and ligaments are formed, undoubtedly in such situations, the skin also suffers-scrofuloderma appears. When hypodermic congestion occurs, establishing the etiology is a difficult task if the patient first visits the clinic. In the process of collecting anamnesis, complaints, features of the course of the disease, it is possible to suspect HIV infection or tuberculosis. Establishing the etiology of congestion in the absence of bacterial excretion is a rather difficult problem. The lack of reliable criteria very often led to errors, when patients with tuberculosis were treated unreasonably in medical institutions of the general network, and a patient with a different etiology received unreasonably anti-tuberculosis therapy. In this regard, the use of new innovative research methods to identify mycobacteria is relevant for establishing the etiology of congestions.

Objective

To study the incidence of complications of extrapulmonary forms of tuberculosis in patients with HIV infection.

Materials and Research Methods

We analyzed 98 case histories of patients with tuberculosis and HIV coinfection who were treated at the regional TB dispensary. 53 patients were diagnosed with

pulmonary tuberculosis, 45 extrapulmonary forms of tuberculosis.

To confirm the diagnosis of tuberculosis, all patients included in this study underwent: examination of pathological material by bacterioscopy, culture on nutrient media, real-time PCR GeneXert Rif, X-ray examination including: general radiograph and computed tomography, Mantoux and Diaskintest tests. For tuberculosis of peripheral lymph nodes or spondylitis in the presence of congestion, in addition to the above, a biopsy was used with subsequent histological examination.

Results of the Study and Discussion

Analysis of the age-sex structure established that men over 40 years of age prevailed (Table 1).

Floor	Total	Age				Residents	
		16- 25	26- 35	36- 40	Older than 41 years old	town	village
Men	67	7	20	22	18	19	48
Women	31	8	6	10	7	9	22
	98	15	26	32	25	28	70

Table 1: Age and sex structure of the studied patients.

An alarming fact is the increase in patients with coinfection at a young age (from 15 to 40 years). In the study group, 70 patients are those who came for treatment from the countryside. In identifying ways of HIV infection, the sexual route of infection prevailed in 73 (from the history: in men, HIV infection was observed mainly in those who had been working outside the republic for a long time). The remaining patients became infected with HIV through various medical procedures, intravenous injections and plasma transfusions. Pulmonary tuberculosis was diagnosed in 53 patients, and 32 patients were diagnosed with pulmonary tuberculosis simultaneously with HIV infection, after establishing the status verified by immunoblot. For the rest, the duration of HIV infection was 2 and 3 years. The analysis of clinical forms of pulmonary tuberculosis established in 42 infiltrative tuberculosis (in 15 with disintegration and in 20 with bacterial excretion), in 6 disseminated tuberculosis (CD + in 2); in 2 fibro-cavernous and in 3-exudative pleurisy. In total, 24 mycobacteria were detected by microscopy, the PCR method revealed mycobacteria in 40, and 3 showed primary resistance to first-line drugs.

Extrapulmonary forms of tuberculosis - in the first place was tuberculosis of peripheral lymph nodes - 28 patients; osteoarticular tuberculosis: tuberculous spondylitis - 19; tuberculous coxitis-3; and in the last place is renal tuberculosis - 3.

When comparing the dependence of the severity of the course of extrapulmonary tuberculosis in HIV-infected patients with the number of CD-4 cells, it was established: the content of CD-4 cells up to 500 in 1 μL - these patients had cases of tuberculosis of peripheral lymph nodes and tuberculous spondylitis without complications, although some of the process was and common. Thus, with tuberculosis of peripheral lymph nodes, lesions were observed in 2, 3 or 4 groups, densely elastic consistency measuring 1-2 cm, not welded to the surrounding tissue. In tuberculous spondylitis, the most common involvement of 3-5 vertebrae and more often in the thoracic spine.

With a CD-4 cell count of less than 200 cells/μL, in this study, complications in the form of congestions were observed in 24. This complication was most common in patients with peripheral lymph node tuberculosis 16 and in 8 with tuberculous spondylitis.

In all 45 patients with extrapulmonary forms, the study of pathological material by the method of bacterioscopy - mycobacteria were not detected. In the study of pathological discharge from the fistulous passages by the GeneXpert Rif method, DNA of highly virulent mycobacteria was detected in 5 patients, resistance to isoniazid and rifampicin was revealed in 2 patients, i.e. multidrug resistance, these patients were recruited for MDR treatment in accordance with national treatment protocols for drug-resistant tuberculosis. All patients with extrapulmonary tuberculosis underwent an X-ray examination; 7 patients were diagnosed with infiltrative tuberculosis without decay and bacterial excretion. 11 patients with lymphadenopathy underwent a puncture of the congestion with histological examination, in the punctate when caseous necrosis was detected, the giant cells of Pirogov-Lankhans - the tuberculous etiology of the congestion was verified.

The Mantoux test of 45 patients was only weakly positive in 12, and in 9 doubtful, in 24 patients the result was negative. Diaskintest was performed on the opposite forearm, a negative result was found in 19 patients, a weakly positive result in 23, and a hyperergic response in 3 patients.

Based on the above, the following conclusions can be drawn: in HIV-infected patients, along with pulmonary tuberculosis, extrapulmonary forms of tuberculosis are often observed, most often from extrapulmonary tuberculosis, peripheral lymph nodes are affected in males, young people up to 40 years of age. When the content of CD-4 cells is less than 200 cells / μL, in this study, complications in the form of congestions were observed in 24, bacterioscopic mycobacteria were not detected in any patient, however, the real-time PCR method in discharge from the congestions in 5 patients DNA of highly virulent mycobacteria, and 3 patients were found to be resistant to the first line of anti-tuberculosis drugs. The most informative methods for establishing the tuberculosis etiology of congestions is Diaskin test, PCR and histological examination, the material was obtained by biopsy of the congestions.

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