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Features Of The Clinical And Laboratory Course Of Tuberculosis Lymphadenopathy In Patients Without And With HIV Infection

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ABSTRACT

Tuberculous lymphadenopathy without HIV infection, in comparison with those with HIV infection, was characterized by a more favorable clinical course, limited lesion and, especially important, limited caseous-necrotic changes. Analysis of the histological picture of the removed lymph nodes in patients with HIV-i made it possible to distinguish three activities of tuberculous lymphadenopathy: an inactive phase (with a predominance of a productive cellular reaction) - in 3 patients (5.3%), an active (with a predominantly productive-necrotic tissue reaction) - in 11 patients (19.3%), the phase of progression of the pathological process (mainly necrotic lesions, suppuration and formation of fistulas) - in 43 patients (75.4%). It was found that the inactive phase is 5.5 times more common in patients without HIV than in patients with HIV (29.3% and 5.3%, respectively, P<0.001), while the active phase and the progression phase was 1.5 and 1.3 times more frequent in patients with HIV than in patients without HIV (19.3% and 13.1, respectively, P>0.5; 75.4% and 57, 6%, respectively, P<0.02).

KEYWORDS

Tuberculosis, HIV, Tuberculous lymphadenopathy, inflammatory process, pathomorphological picture.

INTRODUCTION

The course of tuberculosis against the background of progressive immunodeficiency in a large percentage of cases becomes aggressive with generalization of the process [3,8]. Tuberculosis in patients with acquired immunodeficiency syndrome (AIDS) is the most common opportunistic infection and accounts for 50-78% of the total number of all

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cases of pulmonary infection [6]. Tuberculosis developing at the AIDS stage is extrapulmonary in 50–70% of cases [1, 2, 9]. For HIV infection (HIV-i), the so-called persistent generalized lymphadenopathy is characteristic. Tuberculous lymphadenopathy (TL) with the highest frequency (73.5%) was recorded in patients at stage 4B HIV-and, about 3 times less often (23.5%) - at stage 4B and in the form of isolated cases at 3 stages of this disease [5, 7].

PURPOSE OF THE RESEARCH

To study the features of the clinical and laboratory course of tuberculous lymphadenopathy without and with HIV infection.

MATERIAL AND RESEARCH METHODS

At the bases of the Republican Specialized Scientific and Practical Medical Center for Phthisiology and Pulmonology, 156 patients with tuberculous lymphadenopathy were examined: 99 - without HIV infection (group 1), 57 - with HIV infection (group 2). The diagnosis of tuberculous lymphadenopathy was established on the basis of a characteristic clinical and radiological, echographic picture, data from bacteriological and cytological examinations of the lymph node punctate, the results of a histological examination of biopsy samples of the lymph node, the presence of pulmonary tuberculosis or other organs. The presence of mycobacterium tuberculosis was determined by microscopic methods with staining the preparation according to Ziehl - Nielsen, Gene Expert and inoculations on standard Lowenstein - Jensen medium. HIV infection was confirmed by the detection of specific antibodies to HIV by ELISA and immune blotting to HIV-1 proteins. The clinical stages of HIV infection were determined according to the classification of V.I. Pokrovsky, approved by order of the Ministry of Health of the Russian Federation No. 166 of March 17, 2006, AIDS was diagnosed with positive HIV tests and the number of CD4 + lymphocytes below 200 cells / μl.

Statistical analysis was performed using the MS Excell-97 and MedStat programs, and the STATISTICA-99 Edition package. To assess quantitative features, the arithmetic mean and standard error of the arithmetic mean were determined, in the case of qualitative features - the indicator of the frequency of manifestation. In the case of a normal distribution, the presence of differences in the mean values in the comparison groups was assessed using the Student's test. If the distribution deviated from the normal, the obtained data were presented as a median; the significance of differences was assessed using the Wilcoxon - Mann - Whitney nonparametric test.

RESEARCH RESULTS

It was revealed that among patients with tuberculous lymphadenopathy without and with HIV infection, there were mainly women. So, among the patients of the 1st group, women were 63.6 ± 4.8%, respectively ($P<0.001$) and in the second - 57.9 ± 6.5%, respectively ($P>0.5$). Among the studied patients without and with HIV infection, persons of young and mature age prevailed. In the 1st group, among patients aged 21-30 years, they were found 2.7 times more often than in patients of the 2nd group (37.4 ± 4.8% and 14.0 ± 4.5%, respectively, $P< 0.001$). On the contrary,

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in the 2nd group, patients of mature and elderly age prevailed. So, in the 2nd group, persons aged 31-40 years were detected 2.1 times more often, at the age of 41 and older - 1.3 times more often than patients in the 1st group (50.9 ± 6.6 % and 24.2 ± 4.3%, respectively, P<0.001; 35.1 ± 6.3% and 26.3 ± 4.4%, respectively, P>0.5).

Table 1.

Age structure of patients with tuberculous lymphadenopathy without and with HIV infection, n (%).

Age, years	Patients without HIV infection	Patients with HIV infection	Significance of differences, P
Up to 20	12 (12,1 ± 10,7)	-	-
21 – 30	37 (37,4 ± 4,8)	8 (14,0 ± 4,5)	P <0,001
31 – 40	24 (24,2 ± 4,3)	29 (50,9 ± 6,6)	P <0,001
41 and older	26 26,3 ± 4,4)	20 (35,1 ± 6,3)	P >0,5
Total	99 (100,0)	57 (100,0)	-

At the time of inclusion of patients in the study with HIV, the following clinical forms of pulmonary tuberculosis were diagnosed: focal (7.0%, n = 4), infiltrative (8.8%, n = 5). In the study of patients without HIV and the following clinical forms of pulmonary tuberculosis were diagnosed: focal (8.1%, n = 8), infiltrative (4.0%, n = 4) and disseminated (4.0%, n = 4) ... In the structure of clinical forms of tuberculosis, disseminated pulmonary tuberculosis did not occur in patients with HIV infection.

When studying the clinical manifestations of patients with HIV and patients complained of weakness in 63.2% of cases (n = 36), torrential sweats - 75.4% (n = 43), fever - 73.7% (n = 42), weight loss by 10 kg or more - 87.7% (n = 50), diarrhea - 22.8% (n = 13). Clinical manifestations of patients without HIV and were less pronounced, patients complained of weakness in 34.3% of cases (n = 34), heavy sweats - 10.0% (n = 10), fever - 40.4% (n = 23), weight loss by 10 kg or more - 18.2% (n = 18), no diarrhea was noted. Among concomitant diseases, chronic viral hepatitis C prevailed in patients with HIV - 24.6% (n = 14), against patients without HIV - 3.0 (n = 3).

Localization of tuberculous lymphadenopathy is shown in Fig. 1. The figure shows that in patients without HIV and cervical lymph nodes were affected 5.5 times more often than in patients with HIV (67.7% and 12.3%, respectively, P<0.001). Concomitant lesions of the lymph nodes were 7.7 times more common in patients with HIV than in those without HIV (70.1% and 9.1%, respectively, P<0.001).

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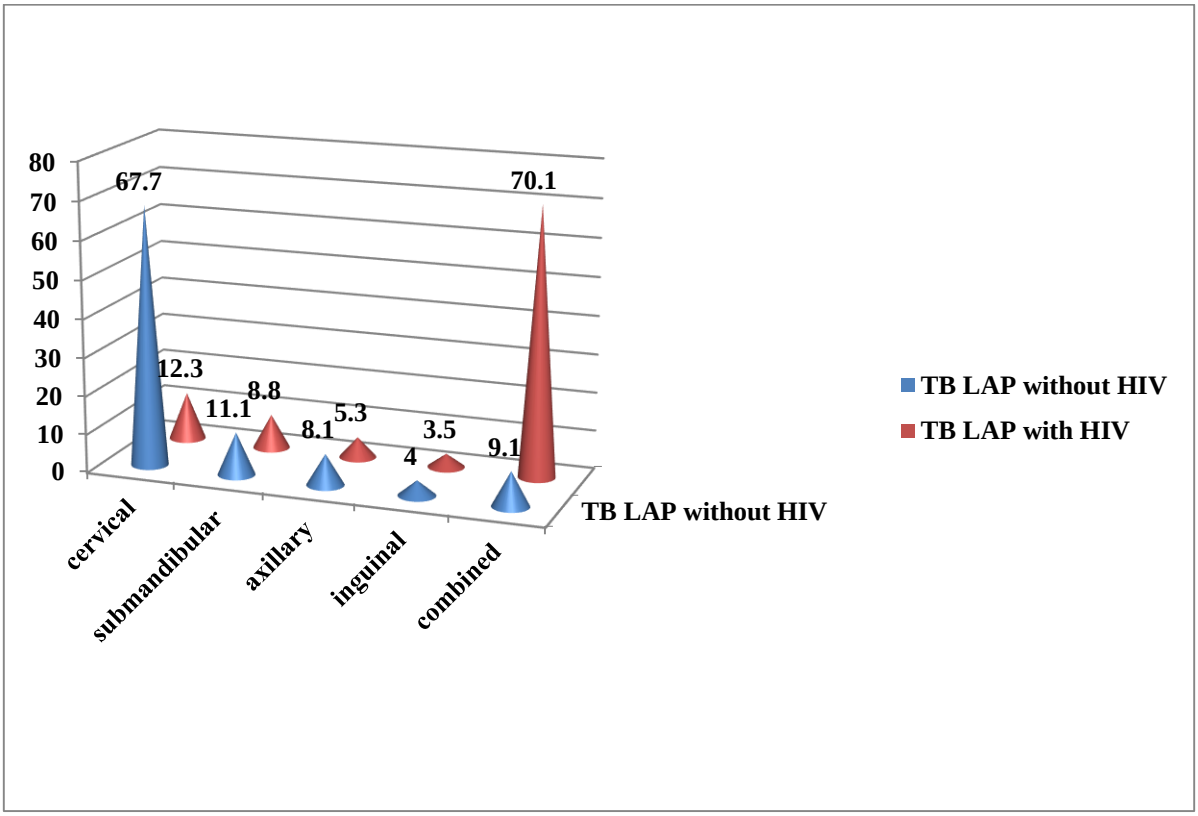

Figure 1. Distribution by prevalence of patients with tuberculous lymphadenopathy without and with HIV infection, n (%).

Revision of histological preparations showed that the features of the pathomorphological picture in tuberculous lymphadenopathy are determined, first of all, by the phase of activity of the inflammatory process in the lymph node. M.V. Chulochnikova (2005), on the basis of morphological signs, distinguishes three phases of active inflammation with tuberculous lymphadenopathy. We identified 3 phases of active inflammation in patients without and with HIV infection (Fig. 2). The figure shows that the inactive phase is 5.5 times more common in patients without HIV than in patients with HIV (29.3% and 5.3%, respectively, P<0.001). On the contrary, the active phase and the progression phase are 1.5 and 1.3 times more common in patients with HIV than in patients without HIV (19.3% and 13.1, respectively, P>0.5; 75 , 4% and 57.6%, respectively, P<0.02).

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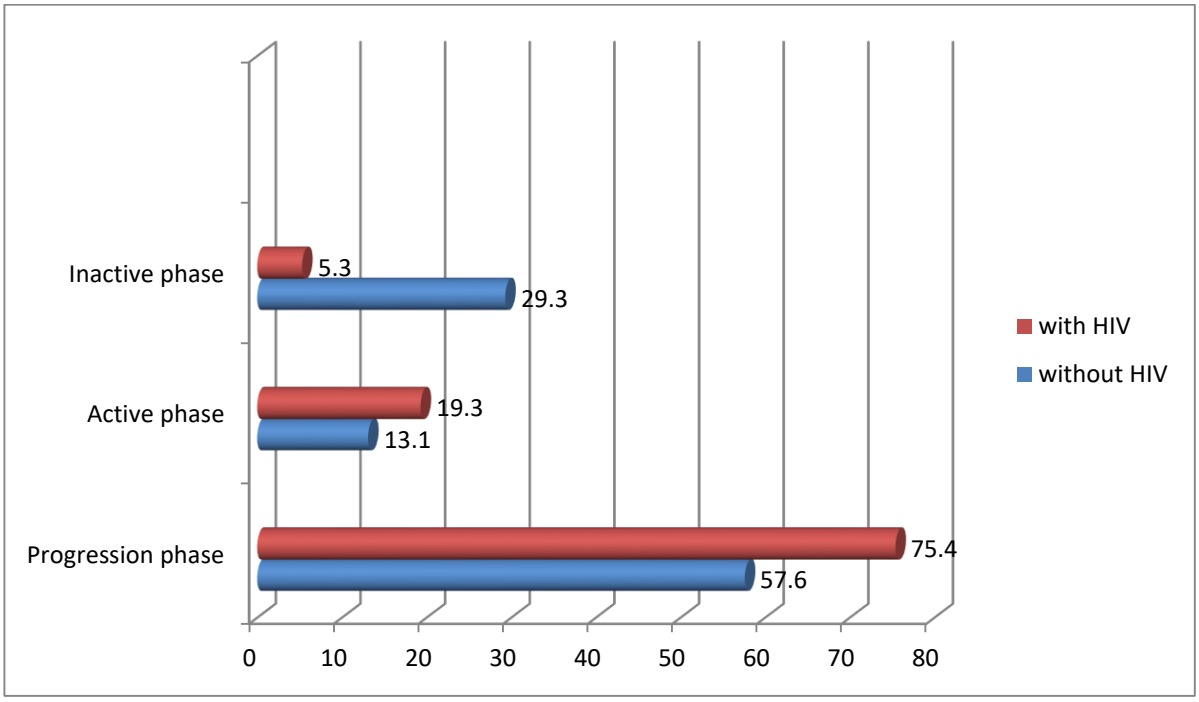

Figure 2. Comparative characteristics of the phase of the process in patients with tuberculous lymphadenopathy without and with HIV infection, n (%).

During the observation period, among patients with HIV infection, 9 (15.8%) patients died. There were no deceased patients in the 1st group. Comparing patients with a fatal outcome and other patients treated in the department, differences in the activity of the inflammatory process were established. So, in all the deceased patients the progression phase was established. The lethal outcome occurred as a result of multiple organ failure, with symptoms of severe intoxication. It should be noted that pulmonary tuberculosis was diagnosed in 5 (55.6%) patients, and viral hepatitis C in 3 (33.3%) patients.

Thus, the results obtained allowed us to speak about a pronounced aggravation of the course of TB LAP in the case of HIV-i. At the same time, not only the symptomatology changed, but also the rate of development of the final stage of HIV-i. The clinical manifestation of tuberculous lymphadenopathy in patients with HIV infection was characterized by a wide variety of local and general symptoms. Its course, in comparison with tuberculous lymphadenopathy without HIV infection, is more severe, especially during the progression phase and contributes to an increase in the mortality rate of patients with this type of combined pathology. Features of the clinical picture of the combined course of TB LAP with HIV-i were associated with the progressive formation of the infectious-toxic syndrome.

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DISCUSSION

A significant difference was revealed in terms of clinical and laboratory signs and phases of tuberculous lymphadenopathy in patients with HIV infection. Tuberculous lymphadenopathy in patients with HIV infection is much more severe and with concomitant diseases, which are much more common and aggravate the underlying disease than in patients without HIV infection.

REFERENCES

1. Erokhin V.V. and other Features of detection, clinical manifestations and treatment of tuberculosis in HIV-infected // Probl. Tub. - 2005. - No. 10. - S. 20-27.
2. Zimina V.N., Batyrov F.A., Kravchenko A.V. et al. Clinical and radiological features of the course of newly diagnosed tuberculosis in patients with HIV infection, depending on the initial number of CD4 + lymphocytes // Tub. - 2011. - No. 12. - S. 35-41.
3. Frolova O.P. Features of the course of tuberculosis in HIV-infected and measures of its prevention: Author's abstract. dis. ... Dr. med. sciences. - SPb., 1998.
4. Chulochnikova M.V. Clinical and morphological characteristics of tuberculosis of peripheral lymph nodes in different phases of the process activity: Author's abstract. dis. ... Cand. honey. sciences. - M., 2005.
5. Demisse M. et al. // Int. J. Tuberc. And Lung Dis. – 2001. – Vol. 5, N 11. – P. 85.
6. Mu A. // Zhonghua Jie He He Hu Xi Za Zhi. – 1998. Sep; - Vol. 21, N 9. – P. 526 – 527.
7. Richter C. et al. // Intern. J. Tuberc. And Lung Dis. – 1995. – Vol. 77, N 6. – P. 510-517.
8. Sepkowitz K. A. et al. Tuberculosis in the AIDS era // Clin. Microbiol. Rev. – 1995. Vol. 8, N 2. – P. 180-199.
9. Sharma S. K. Mohan A. Extrapulmonary tuberculosis // Indian J. Med. Res. – 2004. Vol. 120. – P. 316-353.