

OPPORTUNISTIC INFECTIONS IN HIV INFECTION

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Abstract: An analysis of 76 medical records of patients with stage 4 HIV infection was conducted, and the frequency and spectrum of diseases caused by opportunistic pathogens were studied.

Keywords: HIV infection, opportunistic diseases, comorbidity.

INTRODUCTION

The HIV epidemic continues in most regions of the world, exerting a great influence on the world community. This nosology is currently one of the main causes of death of young patients. At the same time, along with the increase in the duration of the disease, the number of patients with comorbid conditions increases [2]. The cause of the progression of HIV infection is the development of opportunistic diseases with a decrease in immunity. The causative agents of opportunistic infections are both bacterial and viral, fungal and parasitic pathogens [3]. Among viral opportunistic infections, herpes viruses occupy one of the leading places [4]. One of the most common bacterial infections among HIV-infected people is tuberculosis, simultaneous infection with mycobacteria and human immunodeficiency virus significantly worsens the quality of life and prognosis of the disease [1].

MATERIALS AND METHODS

A retrospective analysis and processing of data from case histories of 76 patients with stage 4 HIV infection were performed using the continuous sampling method. The work performed did not violate the rules of confidentiality in relation to patients. The study analyzed the presence and frequency of opportunistic diseases in HIV-infected patients. The diagnosis of HIV infection was made taking into account the results of studies using the ELISA and immunoblot methods, the diagnosis of concomitant pathology was established based on the results of clinical, laboratory, and instrumental studies. Statistical analysis and processing of the obtained data were carried out using the standard BioStat program with the determination of average values.

RESULTS AND DISCUSSION

The observation group (76 people) was dominated by unemployed men - 45 (59.2%), residents of cities in the region. Most patients were diagnosed with HIV infection at the age of 20 to 35 years - 42 (55.3%) people. The duration of HIV infection (from the moment of registration) was 7.8 ± 3.9 years. When studying immunological parameters, it was found that the average level of CD4 lymphocytes was 143.7 ± 123.9 cells / μ l, the average viral load was $479,271.1 \pm 167,098.0$ copies / ml. At the time of the study, 68 (89.5%) patients did not receive antiretroviral therapy or received it extremely irregularly. HIV-infected patients were admitted to hospital due to deterioration of their condition with a diagnosis of "HIV infection with secondary diseases". Since the study included only patients with stage 4

HIV infection, all patients had opportunistic diseases at the time of admission. The progression of the process in most cases was associated with the addition of comorbid diseases caused by various pathogens and the development of oncopathology. A group of patients was identified who were diagnosed with opportunistic diseases of various etiologies, but due to their severe course were assessed as competing nosologies (12 patients, 15.8%). In this group of patients, individuals with mycobacterial infection predominated (9 cases, 11.8%). The following combinations of opportunistic competing diseases were identified: generalized mycobacterial infection combined with *Pneumocystis pneumonia* (three cases), toxoplasmosis of the brain (one patient), generalized cytomegalovirus infection (two patients); with generalized candidal infection (two cases), cryptococcal meningitis (one patient). In addition, three patients had a combined course of progressive multifocal leukoencephalopathy with candidal esophagitis, cryptosporidiosis with severe bacterial pneumonia, and Kaposi's sarcoma with septic endocarditis. In addition to generalized forms of mycobacterial infection, disseminated pulmonary tuberculosis was diagnosed in two patients, focal tuberculosis – one case (in the anamnesis), fibrous-cavernous tuberculosis – one patient. Thus, mycobacterial infection was detected in 13 patients of the observed group. Also, as a competing pathology in 16 cases (21.1%) there were severe diseases that are not pathogenetically related to opportunistic ones: sepsis (three patients), purulent meningoencephalitis (three cases); one case each: pancreatic abscess, lung cancer, traumatic brain injury, combined injury, poisoning with alcohol and an unknown poison, carbon monoxide poisoning, myocardial infarction, stroke, pancreatic necrosis. Lymphomas were detected in 3 (3.9%) patients admitted with a diagnosis of “fever of unspecified genesis”.

Thus, candidal infection is one of the most common in HIV-infected patients with severe immunodeficiency; mucosal candidiasis debuts at stage 4A, often becoming recurrent (in 35 patients in the observed group), visceral and generalized forms are recorded at stages 4B-C. Herpetic infections were detected in 100% of HIV-infected patients. The latent form of infection caused by herpes types 1-2 was detected in 73 people (96.1%), herpetic encephalitis – in two (2.6%) patients, herpetic hepatitis – in 1 (1.3%) person; infection caused by Varicella-zoster virus – in five (6.6%) patients. Latent cytomegalovirus infection (CMVI) was detected in 69 (90.8%) patients, generalized form - in two patients. Parasitic infections in HIV-infected patients are represented by toxoplasmosis: in 61 (80.3%) people the disease was latent, one patient was diagnosed with toxoplasmosis encephalitis.

CONCLUSION

1. All patients with stage 4 HIV infection have multiple pathologies, which significantly complicates timely diagnosis, worsens treatment results and prognosis of the disease.
2. Among opportunistic diseases, herpes infections and toxoplasmosis, which occur in a latent form, are most often detected. With the progression of immunodeficiency, generalization of processes is observed.
3. Mycobacterial infection was diagnosed in 17.1% of patients with stage 4 HIV infection.
4. Candidal infection was detected in 51.3% of patients; 76.9% of patients had candidiasis of the mucous membranes, 23.1% of patients had visceral and generalized forms of infection.

5. Low adherence to antiretroviral therapy was noted: 89.5% of patients in the observed group did not receive treatment or were treated extremely irregularly.

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