



The Clinic-Epidemiological Characteristic of the Sharp Average Otitis at a HIV-Infected of Children

1. Narzullayev N. U.

2. Gaziev K. U.

Received 18th Mar 2022,

Accepted 26th Apr 2022,

Online 28th May 2022

^{1,2} Bukhara State Medical Institute

Abstract: Average otitis concern the most frequent bacterial infections at children with normal immune system, however features of a current of these diseases at immunodeficiencies are studied poorly. Meanwhile our private experience and that few data of clinical researches which are available for today, say that this of diseases, in sharp, chronic and relapse forms, often meets at a HIV-infected of children. Children were surveyed without dependence from presence of complaints. Except standard methods of research (the general analysis of blood, urine, bacteriological and biochemical researches) by us it has been spent to all children careful otolaryngologists (otoscopy, rhinoscopy and pharyngoscopy) inspection, and at 28 (46.6 %)-radiological research. At studying of results of research it is revealed that the catarrhal form of a sharp average otitis at children were observed at 22 (36.6 %), during too time the purulent form of a sharp average otitis aged observed at 38 (63.4 %) cases. Hence, frequency of a sharp average otitis accurately depended from clinical HIV-infection stages. At heavy severity level it is possible to explain the greatest quantity of a purulent average otitis with joining opportunical to infections.

Key words: HIV-infected, children, average otitis, opportunical to infections, immune system.

The problem of infection caused by the human immunodeficiency virus (HIV) has been studied in otorhinolaryngology in our country since the early 1990s. Identified and described diseases that are an indicator of acquired immunodeficiency syndrome (AIDS), studied the symptoms of lesions of the ear, throat and nose in HIV-infected and AIDS patients. (1,3,5)

Due to a significant increase in the number of cases of HIV infection, the likelihood of contact between an otorhinolaryngologist and HIV-infected patients is increasing. With HIV infection, various manifestations of the disease often occur with damage to the upper respiratory tract. Otorhinolaryngologists, as well as other specialists, already have to take an active part in the diagnosis,

treatment of HIV-infected persons, preventive work, which, of course, will require knowledge of the pathology of the ear, throat and nose in HIV infection (AIDS). (2,8,9)

The variety of clinical manifestations of HIV infection is due to the addition of opportunistic infections, among which fungal, bacterial and viral infections are of the greatest importance. The classic manifestation of HIV infection that an otorhinolaryngologist may encounter is the development of acute otitis media.

Otitis media are among the most common bacterial infections in children with a normal immune system, but the features of the course of these diseases in immunodeficiencies are poorly understood. Meanwhile, our own experience and the few data from clinical studies that are available today suggest that this disease, in acute, chronic and recurrent forms, is common in HIV-infected children.

And although in most cases the etiology, symptoms and course of these diseases in HIV-infected children and in children with a normal immune system are the same, nevertheless, a prolonged, severe or unusual course of these infections, with frequent relapses, or the isolation of atypical pathogens (including pathogens of opportunistic infections) should alert the physician to possible HIV infection.

This disease has long attracted the attention of otorhinolaryngologists and pediatricians, especially since observations and studies have appeared that indicate a connection between acute otitis media and HIV infection. (6,7,10)

Purpose of the study: Clinical and epidemiological characteristics of acute otitis media in HIV-infected children at various stages of the disease.

Materials and methods of research: For the period from 2016 to 2021. under our supervision there were 60 children with acute otitis media under the age of 14 years. There were 28 (48%) boys, 32 (52%) girls. All of them were registered with the Bukhara Regional AIDS Center.

The diagnosis of HIV was based on the detection of specific antibodies in standard serological tests (enzyme immunoassay, Western-blot modification) and comparison of epidemiological and serological data. Membrane markers of lymphocyte subpopulations were determined by the method of indirect rosette formation using monoclonal antibodies; quantitative determination of serum immunoglobulins was carried out by simple radial immunodiffusion in a gel according to G. Mancini (1965) using monospecific sera against human immunoglobulins and standard blood serum.

The main manifestations of acute otitis media, in addition to anxiety, poor sleep, are the Pinz symptom (a sick child prefers to suck on the breast opposite to the diseased ear - in right-sided otitis media he sucks the left breast, and vice versa) in 10 (16.6%), and the Wache symptom in 14 (23.3%), pendulum movement of the head in 8 (13.3%), fever in 16 (26.6%), as well as in advanced cases, neurological signs; darkening of consciousness in 8 (13.3%) patients, convulsive syndrome in 4 (6.6%) patients. Children were examined regardless of the presence of complaints. In addition to standard research methods (general blood count, urine, bacteriological and biochemical studies), we conducted a thorough otorhinolaryngological examination (otoscopy, rhinoscopy and pharyngoscopy) in all children, and X-ray examination in 28 (46.6%) children. At the same time, attention was paid to their complaints, past and concomitant diseases, premorbid background, the cause of the disease, duration, and the effect of previous therapeutic measures. If necessary, sick children were consulted by neuropathologists, pediatricians and other specialists. During otoscopy, the condition of the tympanic membrane (hyperemia, swelling or smoothness of the contours of the tympanic membrane), the shape, localizations of perforation on it, color, nature of purulent discharge from the ear, and the condition of the mucous membrane of the tympanic cavity were assessed. If necessary, for diagnostic and therapeutic purposes, tympanopuncture was performed for non-perforated otitis media.

Results and their discussion: When studying the results of the study, it was revealed that the catarrhal form of acute otitis media in children was observed in 22 (36.6%) cases, while the purulent form of acute otitis media in the age was observed in 38 (63.4%) cases.

By age, the patients were divided into 4 groups:

1st (20 children) up to 1 year;

2nd (16 children) from 1 year to 3 years;

3rd (14 children) from 3 to 7 years old;

4th (10 children) from 7 to 14 years old.

The refore, in HIV-infected children, purulent forms of otitis media are often found, which is apparently associated with the anatomical and physiological characteristics of the child's body, age, and possibly with the severity of the course of the underlying disease.

At the 1st stage of HIV infection, the catarrhal form of otitis media was observed in 3 (13.6%) cases, and acute suppurative otitis media in 3 (7.8%) cases, respectively.

At the 2nd stage of HIV - infection, the catarrhal form of otitis media was observed in 5 (22.7%) children, and acute suppurative otitis media in 7 (18.4%) cases.

At the 3rd stage of HIV - infection, the catarrhal form of otitis media was observed in 6 (27.2%) children, and acute purulent otitis media was predominantly observed in 12 (31.6%) cases.

At the 4th stage of HIV - infection, the catarrhal form of otitis media was observed in 8 (36.5%) children, and acute purulent otitis media was predominantly observed in 16 (42.2%) cases.

The analysis of the above studies shows that there is a relationship between the severity of HIV infection, the incidence of acute otitis media and the age of patients. This is due to damage to the immune and other defense systems in children in different years of their lives.

Consequently, the frequency of acute otitis media clearly depended on the clinical stage of HIV infection. The greatest number of purulent otitis media in severe severity can be explained with the addition of opportunistic infections.

Thus, HIV infection contributes to a violation of the immune system, causing the onset and development of acute otitis media, the severity of which depends on the course of the underlying disease.

Conclusions: HIV infection in children leads to an increase in the occurrence and development of acute otitis media, which is characterized by a peculiar clinical course. It has a clear relationship with the severity of HIV infection and the frequency of acute otitis media in children.

REFERENCES

1. Bessarab T.P. Aspects of a HIV-infection and AIDS in otolaryngology. //The Attending Physician. - 2014. - № 1. - P. 26-30.
2. Bessarab TP, Jushuk ND, Anjutin RG, et all. A HIV-infection in otolaryngological practice. //The Attending Physician. - 2015. - № 3. – P. 12-7.
3. *The defeat of the LOR-organs of HIV infection in children.* // Medical portal EUROLAB. –P. 1-4.
4. *Rakhmanova AG Pediatric aspects of HIV infection. Preventing HIV infection in newborns.* SPb. : Institute of Epidemiology and mikrobiology nm. Pasteur, 2012. – P.80.

5. Mofenson LM, Korelitz J, Pelton S, et al. Sinusitis in children infected with human immunodeficiency virus: clinical characteristics, risk factors, and prophylaxis. *Clin. Infect. Dis.* 21 (2015).-P.1175-81.
6. Chen AY, Ohlms LA, Stewart MG & Kline MW Otolaryngologic disease progression in children with human immunodeficiency virus infection. *Arch. Otolaryngol. Head Neck Surg.* 122 (2016).-P.1360–1363.
7. Mancini G., Carbonara A.O., Heremans J.F. Immunochemical quantitation of antigens by single radial immunodiffusion. *Immunochemistry*, 2013.-P. 235-54.
8. Narzullaev N.U. Clinic-immunological features the current of the chronic tonsillitis at a HIV-infected children depending on infection ways. //International scientific review of the problems and prospects of modern science and education. Boston,USA. 2018. P.- 50-52.
9. Narzullaev .N.U. The characteristic of the immune status at hiv- infected children with acute rhinosinusitis . International scientific and practical conference.ADTI.2019.-P.223-231.
10. Narzullaev .N.U. Frequency of occurrence of the exudative average otitis at the HIV-infected children. International scientific and practical conference.ADTI.2019. -P.232-240.

