World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-31, February 2024
ISSN: 2749-3644

PERSISTENT INFECTIONS IN PEDIATRICS

Akbarova Rano Mirzarabovna
Assistant of the Department of Pediatrics, Faculty of Medicine
ASMI

Article history:

Received: December 24th 2023
Accepted: January 22th 2024
Published: February 26th 2024

Abstract:

The clinical and social significance of persistent infections remains relevant. The main aspects of this pediatric problem are: epidemiology and pathogenesis of persistent infections, clinical manifestations, possibilities of treatment and prevention, predictions of active reproduction of infectious agents

Keywords: children, herpes simplex virus, human immunodeficiency virus, cytomegalovirus, persistent infections, hepatitis B virus.

INTRODUCTION

Important issues of this medical, in particular pediatric problem are the epidemiology and pathogenesis of persistent infections, their clinical manifestations, diagnostic capabilities and features, therapeutic tactics and prevention of diseases caused by them.

The risk of infection contamination is determined by various factors, including the nature of the pathogen, age, the state of immunity of the child and his mother, and the social environment. Thus, a child can become infected with herpes viruses in utero or during the first years of life [1].

MATERIALS AND METHODS

Currently, the etiological role of persistent infections in the development of a wide range of chronic diseases, the exacerbation of which coincides with the period of active reproduction of microorganisms or immediately follows it, has been proven. Almost each of the persistent infections can, under certain conditions, cause from one to several serious diseases.

In children, especially at an early age, diseases can occur in an acute form, which is more often observed during primary infection [2]. Clinical manifestations caused by persistent infections can be considered a marker of immune dysfunction. Thus, due to the imperfection of the immune system in infancy, children more often develop diseases associated with persistent viruses and intracellular parasites.

RESULTS AND DISCUSSION

Thanks to the modern high level of diagnostics, it has become possible to detect infections already in the latent period of the biological cycle. Essentially, this is a preclinical diagnosis that opens up prospects for the prognosis of a disease caused by a persistent infection [1].

Indirect signs of the condition that provide grounds for preclinical examination of the child are:

- the presence in the child's immediate environment of people with latent or clinical forms of intracellular persistent infection;
- unmotivated transient fever;
- lymphadenopathy;
- the child has indolent diseases of the digestive organs, respiratory system, nervous system, chronic abdominal pain, inflammatory diseases of the urinary system, genital organs, joints of unknown origin;
- the presence of chronic inflammatory diseases and their frequent exacerbations.

Solving the problems of treatment, prevention and prediction of active reproduction of infection is currently not as successful as in the field of diagnosis.

Despite a wide range of antiviral, antibacterial, immunotropic drugs, a full therapeutic effect is not always achieved, especially when treating children. There are several reasons. The main ones are: a) toxicity and side effects of many medications, which limits their use in pediatrics, especially in young children; b) lack of a targeted effect; c) the pointlessness of using drugs in the latent period of the biological cycle of the infectious process; d) the high cost of some of them, for example, antiviral drugs; e) the need for long-term use of medications and the complexity of the course of treatment; f) lack of possibility of professional observation and dynamic laboratory control.

The most important condition for the prevention of active persistent infections, including cytomegalovirus infection, in pregnant women is qualified and systematic medical care. Preventive measures, in addition to hygiene products and skills, should include maximum awareness of the population, training in the use of available preventive means, such as contraceptives, especially in high school and adolescence. Doctors of all specialties should be aware of the possible impact of this infection on the body of a pregnant woman, the impact of cytomegalovirus on the immune system, and the main directions of prevention and treatment of cytomegalovirus infection.

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-31, February 2024
ISSN: 2749-3644

Currently, work is being completed on the introduction of active vaccination against cytomegalovirus infection, which is the optimal way to prevent primary infection: two vaccines have been developed and evaluated in phases 1 and 2 of clinical trials - attenuated live HCMV-Towne 125 vaccine and subunit glycoprotein B vaccine [3]. However, in general, the problem of preventing persistent infections at the present stage requires a serious solution.

The study of thematic literature showed which aspects of the problem of persistent infections are the subject of modern scientific research. The attention of specialists is most attracted to the issues of vaccination against cytomegalovirus, the study of the pathogenetic role of herpes simplex virus type 1 in diseases of the central nervous system and the association of cytomegalovirus with attention deficit hyperactivity disorder in children. The study of the epidemiology, prevention and treatment of perinatal infections associated with cytomegalovirus and herpes zoster virus is still relevant [2]. Modern scientists are looking for "diagnostic clues" to solving encephalitis associated with human herpes virus type 6, Wernicke's encephalopathy and encephalopathy after bone marrow transplantation in children [3]; The pathogenetic role of persistent viruses (cytomegalovirus, human immunodeficiency virus, hepatitis B virus, parvovirus) in the development of steroid-resistant nephrotic syndrome in children is being studied [4]. An analysis of the characteristics of the course of atypical pneumonia associated with Mycoplasma pneumonia is underway; With this disease, issues of resistance to macrolides and methods of treating children are being studied, and inflammatory factors during infection with Mycoplasma pneumonia are being studied [4].

It is known that most intracellular infections are epitheliotropic, which increases the likelihood of contamination during contacts between people, since it is mainly epithelial cells that leave the body as part of secretions and feces. At the same time, contamination with persistent infections that are transmitted predominantly parenterally (for example, hepatitis B, HIV) is difficult; Such pathogens, as a rule, are more aggressive towards the host organism, and the pathogenicity of these infections is more pronounced.

It is known that the hereditary material of persistent herpes viruses after contamination is localized in the nucleus of the infected cell, but it is not entirely clear what its interaction with the host genome is. After all, if a cell dies, then the genome of the virus is lost along with it. From a biological point of view, the possibility of non-viable cells isolated along with secretions and feces becoming a source of contamination of another person is justified.

The mechanisms of interaction between persistent infections and the host organism have not been studied in detail to date. In particular, it is still unclear what their participation is in intercellular cooperation, which is the integrating basis not only for the functioning, but also for the very existence of the human body. In this regard, the question arises of how ancient the interaction of the human-infection system is from an evolutionary point of view

CONCLUSION

In conclusion, it must be emphasized that, despite the extremely close, lifelong contacts of a person with persistent infections, many important for medicine and pediatrics, in particular the phenomena associated with their vital activity, still remain a mystery to us. The amount of knowledge accumulated over the past two decades is extremely large, but there is still no consensus on a long list of issues. The team of authors hopes that, thanks to the continued interest in the problem of persistent infections and continued research by employees of a number of research institutions, the answer to some of them will be found

REFERENCES

1. Adieva A.A. The role of cytomegalovirus infection in the pathology of the fetus and newborn. Search for new antiviral agents. Author's abstract. diss...d.b.s. M 2019; 49. [Adieva A.A. The role of cytomegalovirus infection in the pathology of the fetus and newborn. The search for new antiviral agents. Autoref. diss. ... doctor boil. Sci. Moscow, 2019; 38. (in Russ)]
2. Kisteneva L.B. The role of cytomegalovirus infection in the formation of perinatal pathology. Children's infections 2013; (12): 44–47. [Kisteneva L.B. The role of cyto-megalovirus infection in the formation of perinatal pathology. Detskie infectii 2013; 12: (3): 44–47. (in Russ)]
3. Pereyre S., Goret J., Bebear C. Mycoplasma pneumoniae: Current Knowledge on Macrolide Resistance and Treatment. Front Microbiol 2016; 7: 974. DOI: 10.3389/fmicb.2016.00974.
4. Kravchenko L.V. The state of the immune system in children in the first months of life with herpes virus infection. Pediatrics 2018; 87:(1):52–58. [Kravchenko L.V. The im- mune system in children of the first months of life with

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-31, February 2024
ISSN: 2749-3644

herpes. Pediatriya 2018; 87:(1):52–58. (in Russ)]