

SOME IMPORTANT INFECTIOUS ASPECTS OF SOMATIC PATHOLOGY IN CHILDREN

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ABSTRACT

The frequency of infectious pathology is growing every year; opportunistic and viral infections, which are prone to a protracted and recurrent course, come to the fore. There are indications of a connection with the infectious onset of a number of autoimmune diseases, chronic pathologies of the gastrointestinal tract, bronchopulmonary and cardiovascular systems. The role of intrauterine viral infection in the formation of congenital malformations is undeniable. Thus, there is every reason to believe that achieving progress in reducing childhood morbidity and mortality and improving the quality of life of children and adolescents is possible only through the joint efforts of pediatricians and infectious disease specialists.

Keywords: infectious diseases, children, method, somatic diseases.

INTRODUCTION

Children's infectious diseases represent an urgent problem in pediatrics due to their widespread prevalence, high contagiousness, outbreak nature of morbidity, and a wide range of clinical manifestations - from manifest to latent forms, depending on the state of the child's immune defense. Infectious pathology occupies a leading place in the structure of childhood diseases, accounting for about 70% of all morbidity cases.

MATERIALS AND METHODS

There is an increasing role of herpes virus infections, including those caused by Epstein-Barr viruses, herpes types 6 and 8. These infections often take a chronic course due to the persistence of pathogens and the formation of irreversible changes in the central nervous system (CNS), lymphoid tissue, liver and other organs. The role of herpesvirus infections, especially cytomegalovirus, in the formation of perinatal pathology and infant mortality is great. In recent years, urogenital infections (syphilis, chlamydia, ureaplasmosis, etc.) in adolescents and women of fertile age have become of particular importance.

Currently, ideas about the etiology and pathogenesis of various somatic diseases are changing. The role of infectious agents in the emergence and development of a number of them has been proven. There are three known mechanisms for the participation of infectious factors in the formation of somatic pathology [1]:

- 1) an infectious pathogen causes and maintains the course of the disease (pneumonia, bacterial endocarditis, carditis, pericarditis, pyelonephritis, cystitis, hepatitis, cholecystitis, meningitis, encephalitis, etc.);
- 2) the infectious agent is a trigger that initiates the development of immune complex or autoimmune diseases (glomerulonephritis, rheumatoid arthritis, reactive arthritis, etc.);

3) opportunistic infections contribute to the development of immunosuppression, which has an adverse effect on the course of chronic non-infectious somatic pathology (bronchial asthma, hemato-oncological diseases, etc.).

RESULTS AND DISCUSSION

Currently, the role of infection as a trigger factor has been proven in the development or exacerbation of many diseases in such areas of pediatrics as cardiology, pulmonology, gastroenterology, and neurology. For example, peptic ulcer of the stomach and duodenum in most cases is etiologically associated with *H. pylori*, pseudomembranous colitis - with *Cl. difficile*, liver cirrhosis - with the hepatitis C virus. The trigger role of bacteria has been proven in relation to the development of autoimmune and immunopathological lesions of the heart, blood vessels, and joints. Many severe, progressive neuroinfections are associated with herpes viruses, tick-borne encephalitis, enteroviruses and other agents that cause persistent, irreversible changes in the brain, resulting in residual neuropsychic and autonomic disorders. In the formation of chronic somatic pathology of the heart, liver, gastrointestinal tract, lungs and other organs, great importance is currently attached to cytomegaly viruses, Epstein-Barr viruses, herpes types 6 and 7, chlamydia, mycoplasmas. Timely identification of pathogens and targeted treatment of this somatic pathology can significantly affect the reduction of childhood morbidity, disability and mortality.

In recent years, there has been an increase in the number of children with Kawasaki syndrome, the clinical symptom complex of which includes fever, conjunctivitis, exanthema, edema, hyperemia, desquamation of the peripheral parts of the extremities, changes in the mucous membrane of the lips, oropharynx, and thrombocytosis. The variety of clinical symptoms causes difficulties in differential diagnosis with bacterial infections before detection of coronary artery aneurysms, which are pathognomonic for Kawasaki syndrome [2].

It has been established that in case of systemic connective tissue diseases in children, along with genetic predisposition factors, infectious “triggers” play an important role in their development.

— herpesvirus, streptococcal, staphylococcal, tuberculosis, borreliosis, chlamydia and mycoplasma infections [3]. L.M. Belyaeva et al. (2019) found that half of the children with diffuse connective tissue diseases had a chronic nasopharyngeal infection associated with *Staphylococcus aureus* (46.2%) and β -hemolytic streptococcus (32%). Half of the examined children were diagnosed with viral infections such as herpes type 1, cytomegalovirus, which requires a change in the tactics of examination and treatment of patients [4].

The role of bacteria and viruses, taking into account the characteristics of the immune system's response, is discussed in the pathogenesis of hematological diseases. In young children, neutropenia associated with cytomegalovirus, Epstein-Barr virus and herpes virus type 6 is often detected [5]. It has been confirmed that children with immune neutropenia have autoimmune reactions and an inadequate immune response when infected with herpes viruses. This led to the conclusion that children with hematological disorders and asymptomatic infections caused by lymphotropic, oncogenic viruses should be observed by a hematologist, since latent Epstein-Barr infection and, possibly, herpetic type 6 are associated with various variants of mi hemato-oncological diseases [2].

Skripchenko et al. (2018), who made it possible to establish the etiological specificity of the demyelinating process in the central nervous system in children with leukoencephalitis caused by tick-borne encephalitis, herpes simplex, varicella-zoster, and borrelia viruses. Herpesvirus infections can occur under the guise of various demyelinating diseases that require differential diagnosis (including with multiple sclerosis due to its “rejuvenation”) [2]. In the works of N.V. Skripchenko et al. [3] it has been established that in the development of multiple sclerosis syndrome with disseminated encephalitis in children, tick-borne, borreliosis and herpesvirus infections play a key role, which requires unifying the tactics of examining children and conducting adequate and timely etiotropic therapy.

CONCLUSION

Thus, infectious diseases remain one of the main problems of pediatrics, playing an important role in the formation of somatic pathology. This is the subject of discussion at conferences with the participation of leading experts in various fields of pediatrics. Obviously, progress in reducing childhood morbidity and disability will depend both on the depth of scientific research on infection-associated pathology and on the qualifications of pediatricians in the field of infectious diseases of childhood, which is impossible without joint research. The fight against infectious diseases is not only a pressing medical problem, but also an important socio-political task, since outbreaks, epidemics and the emergence of new infectious diseases pose a national threat to children’s health in modern conditions. Stabilization of infectious morbidity rates in children at a low level is the key to reducing overall childhood morbidity and preserving children’s health, which is an important social task of modern pediatrics. Solving pressing current problems of pediatrics and infectology in inextricable unity is a priority direction of domestic medicine at the present stage.

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