

Features of Tuberculosis Infection in Children

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Abstract: The peak of tuberculosis infection activity in the world occurred at the end of the 20th century. Tuberculosis is recognized by WHO as a global problem, causing colossal economic and biological damage. If 20' years ago the world saw a decrease in tuberculosis morbidity and mortality rates, then currently 1/3 of the population is infected with *Mycobacterium tuberculosis*

The epidemiological situation of tuberculosis in different regions of the world is constantly changing as a result of the complex relationship between population movement, the number and distribution of patients with tuberculosis who excrete bacteria, the socio-economic and cultural level of the population, the availability of medical care, and the prevalence of HIV infection.

Keywords: Prevalence, peak activity, mortality, morbidity, migration, secretions, clinical manifestations, biological damage.

Introduction.

According to a number of authors, the increase in the incidence of the population indicates defects in the implementation of health-improving work in tuberculosis foci (Khudushina T.A., 2002, Aksenova K.I., 2002, Sirenko I.A., 2004). A decrease in the effectiveness of treatment of patients who excrete drug-resistant *Mycobacterium tuberculosis* contributes to the spread of strains resistant to anti-tuberculosis drugs among healthy individuals (Krasnov D.V., Andrenko A.A., 2003). Insufficient isolation of children from tuberculosis foci is the cause of the high incidence of children living in the environment of bacteria excretors (Novikova N.M., 2003). Methods of specific tuberculosis prevention, in particular BCG vaccination, have a limited impact on the epidemic process (Mäher D., Chaulet R., 1998; Korol O.I., 1999). Scientists have ambiguous opinions about the necessity and harmlessness of prescribing specific preventive treatment for contacts in tuberculosis foci (Mitinskaya L.A., 2003; Aksenova V.A., 2003).

In connection with the current epidemiological situation in the new socio-economic conditions, the problem of assessing the quality and effectiveness of anti-epidemic and preventive measures against tuberculosis infection, their impact on the incidence of tuberculosis, is relevant.

Materials.

It cannot be ruled out that the epidemiological changes taking place are related to general trends in the development of the epidemic process. The changes taking place in the ecology and the human environment have significantly affected the ethnological structure of infections, the properties of pathogens, and have had an adverse effect on the nature of the diseases they cause. Dozens of new diseases have been discovered, and some of the old ones are returning in a new form [308]. Using tuberculosis as an example, it can be argued that the epidemiological situation is complicated not only by the increase in cases of the disease, but also by changes in its clinical manifestations.

Tuberculosis patients who secrete drug-resistant mycobacteria pose a particular danger to society. tuberculosis. WHO in (1997 G- issued a warning: "If an epidemic of MDR (multi-drug-resistant) tuberculosis begins , we may never be able to stop it. According to WHO estimates, about 50 million people are already infected with MDR (multiple drug-resistant) strains of tuberculosis" that at the moment this is only the "tip of the iceberg". It should be noted that the list of "hot spots" where the circulation of resistant MDR-TB is registered includes "Uzbekistan".

The aim of the study is to increase the effectiveness of specific prevention and diagnosis of tuberculosis in children and adolescents by developing and implementing a set of preventive and diagnostic measures.

Research and methods.

1. Conduct a correlation analysis of epidemiological indicators of tuberculosis among adults, children and adolescents.
2. To study the clinical and immunological characteristics of patients with tuberculosis and the immunological reactivity of children and adolescents infected with *Mycobacterium tuberculosis* in modern conditions.
3. Conduct a clinical and immunological analysis of the effectiveness of complex chemoprophylaxis using immunomodulators in children and adolescents infected with *Mycobacterium tuberculosis*.
4. Optimize the approach to anti-tuberculosis vaccination in children, taking into account their health status and immunological reactivity during the period of BCG vaccination at different stages (maternity hospital, neonatal pathology department, children's clinics).
5. To study the epidemiology, structure and causes of complications from tuberculosis vaccination.
6. Develop an algorithm for differential diagnostics of tuberculosis and BCG complications with the inclusion of modern, more informative diagnostic methods in vivo and ex vivo (diaskin test and PCR in real time).

Scientific novelty

For the first time, a correlation analysis of the relationship between epidemiological indicators of adults, children and adolescents in Uzbekistan was carried out , and clinical and immunological features of the manifestation of tuberculosis in children and adolescents in modern conditions of epidemiological distress were determined.

For the first time, a method of complex chemoprophylaxis using immunomodulators in tuberculosis-infected children and adolescents in contact with tuberculosis patients was used and scientifically substantiated.

Result and discussion.

For the first time in the Republic of Uzbekistan, an assessment of the immune status of children during their BCG vaccination was conducted and a scientific justification was given for the need to optimize anti-tuberculosis vaccination with a wider use of gentle immunization with the BCG-M vaccine in maternity hospitals.

For the first time, selective second BCG revaccination at the age of 14 has been substantiated and introduced. For the first time, in children's clinics, immunocorrection with lycopid before BCG vaccination has been scientifically substantiated and recommended for the prevention of BCG complications in " immunocompromised children ".

Conclusion.

For the first time, the epidemiology, structure and causes of development of BCG complications in Uzbekistan were studied.

For the first time, immunological criteria and an algorithm for differential diagnosis of tuberculosis and BCG complications have been developed using the new Diaskintest® skin test and PCR with hybridization -fluorescence detection in real time.

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