AJPMHS GLOBAL RESEARCH NETWORK

AMERICAN Journal of Pediatric Medicine and Health Sciences
Volume 2, Issue 6, 2024 ISSN (E): 2993-2149

Optimizing the Diagnosis and Prevention of Tuberculosis in Children

Ashurov Otabek Shavkatovich
Bukhara State Medical Institute

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 enormous economic and biological damage. If 20' years ago there was a decrease in morbidity and mortality from tuberculosis in the world, now 1/3 j' 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 movements, the number and distribution of tuberculosis patients , 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, excretion, clinical manifestations, biological damage.

According to a number of authors, the increase in the incidence of the population indicates defects in the implementation of health-improving work in the foci of tuberculosis (Khudushina T.A., 2002, Aksenova K.I., 2002, Sirenko I.A., 2004). A decrease in the effectiveness of treatment of patients who are bacteria- excreting 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). The insufficient level of isolation of children from tuberculosis foci is the reason for the high incidence of children living in the environment of bacteria-transmitters (Novikova N.M., 2003). Methods of specific prevention of tuberculosis, in particular BCG vaccination, have a limited impact on the epidemic process (Mäher D., Chaulet R., 1998; Korol O.Y., 1999). The opinion of scientists about the necessity and harmlessness of prescribing specific preventive treatment for contacts in foci of tuberculosis is ambiguous (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 and their impact on the incidence of tuberculosis is urgent.

It cannot be ruled out that the ongoing epidemiological changes are associated with general trends in the development of the epidemic process. The ongoing changes in the ecology of humans have significantly affected the ethnological structure of infections, the properties of pathogens and have adversely affected 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 quality [308]. Using the example of tuberculosis, 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.

mycobacteria pose a particular danger in society. tuberculosis. WHO in 997 issued a warning: “If an epidemic of MDR (multidrug-resistant) tuberculosis begins, we may never be able to stop it. WHO estimates that about 50 million people are already infected with MDT strains that are resistant to anti-tuberculosis drugs” that in At the moment, this is just the “tip of the iceberg.” It should be noted that the list of “hot spots” where the circulation of resistant MVT is recorded includes “Uzbekistan.”

The purpose of the study is to increase the effectiveness of specific prevention and diagnosis of tuberculosis in children and adolescents through the development and implementation of a set of preventive and diagnostic measures.

Research objectives:

1. Conduct a correlation analysis of epidemiological indicators for 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 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. Study the epidemiology, structure and causes of complications due to tuberculosis vaccination.

6. Develop an algorithm for the differential diagnosis of tuberculosis and BCG complications including modern, more informative diagnostic methods in vivo and ex vivo (diaskin test and real-time PCR).

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, clinical and immunological features of the manifestation of tuberculosis in children and adolescents in modern conditions of epidemiological troubles were determined.

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

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

For the first time, selective second revaccination with BCG at 14 years of age was justified and introduced. In children's clinics, for the first time, to prevent BCG complications in immunocompromised children, immunocorrection with lycopid before BCG vaccination was scientifically substantiated and recommended.

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

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

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