

Detection and Course of Intrathoracic Tuberculosis in Children from Large Families

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Abstract: The situation with tuberculosis among children is a kind of indicator of the epidemiological situation among adults. In the Republic of Uzbekistan, thanks to the established practice of large-scale state prevention of tuberculosis, the epidemiological situation has improved, and there is a tendency to reduce the prevalence of tuberculosis among children and adolescents. Particular difficulties are presented by the differential diagnosis of infection with *Mycobacterium tuberculosis* (MBT) as a manifestation of latent tuberculosis infection and tuberculosis of the intrathoracic lymph nodes [8, 9]. These conditions are often accompanied by similar immunological reactivity and manifestations of intoxication syndrome, which is not specific and is caused by tuberculosis infection and concomitant diseases [3, 4, 8, 10].

Tuberculosis in children from large families has a more severe course, determined by the prevalence of the process, the frequency of complicated courses, and forms of tuberculosis, which is due to the later detection of the disease compared to children from small families.

Keywords: Tuberculosis, children, large families, sick.

Introduction: At the present stage of development of society and healthcare, we can state the fact that tuberculosis can potentially affect almost all segments of the population, and all age groups and is especially dangerous for children and adolescents. The situation with tuberculosis among children is a kind of indicator of the epidemiological situation among adults. In the Republic of Uzbekistan, thanks to the established practice of large-scale state prevention of tuberculosis, the epidemiological situation has improved, and there is a tendency to reduce the prevalence of tuberculosis among children and adolescents. The leading form in the structure of childhood tuberculosis is tuberculosis of the intrathoracic lymph nodes [1, 2]. The meager clinical picture is due to a small lesion, deep location inside the thoracic lymph nodes and the absence of bacterial excretion, which complicates the timely diagnosis of tuberculosis [3–7].

Particular difficulties are presented by the differential diagnosis of infection with *Mycobacterium tuberculosis* (MBT) as a manifestation of latent tuberculosis infection and tuberculosis of the intrathoracic lymph nodes [8, 9]. These conditions are often accompanied by similar immunological reactivity and manifestations of intoxication syndrome, which is not specific and is caused by tuberculosis infection and concomitant diseases [3, 4, 8, 10].

Sanitary and preventive work in foci of tuberculosis infection is of particular relevance today, because it is known that children who are in contact with a patient with tuberculosis are more often at risk of contracting tuberculosis, and the most dangerous are close and long-term contacts, which, first of all, occurs in family units. The danger of the disease increases in areas where the mother or two or more family members are sick or where deaths from tuberculosis have been recorded. It is possible to reduce or prevent the development of tuberculosis among adults, and, as a consequence, among children in foci of tuberculosis infection, as a result of a set of anti-epidemic measures.

Purpose: To study the features of the detection and course of intrathoracic tuberculosis in children from large families.

Materials and research methods: A comparative analysis of methods for identifying and the course of tuberculosis was carried out in 74 children undergoing hospital treatment: group 1 - 16 patients from large families (3 or more children in the family), group 2 - 58 patients from small families (1-2 children a family).

Research results: The predominant age group among children with hilar lymphadenopathy was the group from 7 to 14 years (49.6%). Among patients without hilar lymphadenopathy, children aged 4–6 years (40.5%) and 7–14 years (39.9%) dominated. The peculiarities of identifying tuberculosis in children from large families are noted. Although contact with a patient with tuberculosis in both groups occurred with the same frequency - 62.5% and 62.1%; Tuberculosis in children from large families was 5 times less likely to be detected by contact ($6.3 \pm 6.0\%$ and $31.0 \pm 6.1\%$, $P < 0.02$), which indicates insufficient work in the foci of infection in this group sick; 7.4 times more often, children of group 1 were identified upon referral ($25 \pm 11.2\%$ and $3.4 \pm 2.3\%$, $P > 0.05$), which indicates a late diagnosis of the disease; for tuberculin diagnostics in equal shares - 68.8% and 65.5%. The compared groups are comparable by age. Clinical laboratory changes were detected significantly more often in the group of children with hilar lymphadenopathy ($p < 0.001$), including symptoms of intoxication (76.0% versus 24.1%), bronchopulmonary symptoms (30.4% versus 3.6%), changes in clinical blood tests, indirectly indicating inflammation (56.8% versus 32.9%). In the structure of clinical forms, tuberculosis of the intrathoracic lymph nodes predominated in both groups - 62.5% and 56.5%; in patients of group 1, focal processes were detected 2 times less often ($12.5 \pm 8.5\%$ and $29.3 \pm 5.9\%$, $P > 0.05$); fibrous-cavernous tuberculosis was detected only in children of group 1 – 6.3%. In group 1, a more severe course of tuberculosis was noted: 2 times less often - the “minor” form ($25.0 \pm 11.2\%$ and $56.2 \pm 6.5\%$, $P < 0.05$); 3 times more likely to have a complicated course ($37.5 \pm 12.1\%$; and $12.1 \pm 4.3\%$, $P > 0.05$); 2 times more common process ($43.8 \pm 12.8\%$ and $20.7 \pm 5.3\%$, $P > 0.1$). There was a late detection of the process in the phase of compaction and partial calcification in both groups – 81.3% and 82.8%; however, the breakdown of lung tissue was determined only in 1 g. – 6.3%.

Conclusion: Tuberculosis in children from large families has a more severe course, determined by the prevalence of the process, the frequency of complicated courses, and forms of tuberculosis, which is due to the later detection of the disease compared to children from small families.

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