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QUESTIONS OF THE ROLE OF DIAGNOSIS AND PREVENTION OF PULMONARY TUBERCULOSIS IN CHILDREN AND ADOLESCENTS WHO HAVE UNDERGONE SURGERY

Resume: Tuberculosis infection has its own characteristics of circulation in nature and is characterized by an undulating course with periods of decline and increase in activity. The main, most sensitive indicator of epidemic trouble in the country is the indicators of infection and tuberculosis incidence in the child population.

For successful and effective work on the prevention and early diagnosis of tuberculosis infection in children, it is necessary to participate in the activities of all medical workers who provide treatment and preventive care to children. In this case, an important role is played by the organizational and methodological support of diagnostic, therapeutic and preventive measures among children.

Key words: radiation diagnostics, pulmonary tuberculosis, children and adolescence, postoperative period.

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ВОПРОСЫ РОЛИ ДИАГНОСТИКИ И ПРОФИЛАКТИКИ ТУБЕРКУЛЕЗА ЛЕГКИХ У ДЕТЕЙ И ПОДРОСТКОВ, ПЕРЕНЕСШИХ ХИРУРГИЧЕСКОЕ ВМЕШАТЕЛЬСТВО

Резюме: Diagnosis of tuberculosis of the respiratory system is carried out in stages. Methods of mandatory diagnostic minimum allow you to establish a diagnosis with the least cost. Two reliable diagnostic criteria remain the detection

of mycobacterium tuberculosis in the material obtained from the patient and specific morphological changes in the biopsy from the affected organ. In complex and doubtful cases, additional non-invasive and invasive research methods are used to verify the diagnosis.

Keywords: diagnostics, pulmonary tuberculosis, respiratory organs.

Relevance. Tuberculosis (TB) is one of the most widespread infections in the world. According to the World Health Organization (WHO), one third of the world's population is infected with Mycobacterium tuberculosis. About 9 million people get sick with tuberculosis every year, 1.5-2 million people die from tuberculosis[4,7].

The main method of radiation diagnosis of respiratory tuberculosis in children and adolescents remains the traditional X-ray examination. The last decade has been marked by the rapid introduction of computed tomography (CT) into medical practice, which makes it possible to identify pathological changes that are invisible or insufficiently clearly distinguishable during traditional X-ray tomography [1,5].

RCT data make it possible to avoid the unjustified use of invasive research methods, however, computed tomography does not involve frequent use due to the relatively high radiation load on the body of a sick child and the limitations associated with the patient's condition in the early postoperative period. At the same time, there is no consensus on the role of RCT in determining indications for surgical treatment.

In everyday clinical practice, monitoring of the condition of the thoracic cavity after various surgical interventions is carried out mainly by X-ray examination [2,4].

Patients undergo the most frequent X-ray examination during the first two to three weeks after surgery, during this relatively short period of time, the patient as a whole receives a significant radiation load.

In this regard, the introduction of low-dose digital radiography (CR), as well as the use of ultrasound in the postoperative period, deserves attention. This makes it possible to reduce the radiation load on the patient, which is especially important in children's and adolescent practice. There are works on the use of CP and ultrasound of the pleural cavity in children in the postoperative period.

However, there are no data on the comparative analysis of the diagnostic effectiveness of echography and digital radiography in children and adolescents in the postoperative period of treatment of pulmonary tuberculosis in the literature. The issues of complex radiation diagnostics at the stages of surgical treatment are also not sanctified[3,5].

Thus, at present there is no single methodological approach in the complex radiation diagnosis of respiratory tuberculosis in children and adolescents in the preoperative and postoperative period. Based on this, it is relevant to create an optimal algorithm for the radiation diagnosis of pulmonary tuberculosis.

The purpose of the study. Optimization of radiation diagnostics of respiratory tuberculosis in children and adolescents using the most informative and safe methods at various stages of surgical treatment.

Materials and methods of research. The paper analyzes the results of a comprehensive examination of children and adolescents with various forms of respiratory tuberculosis who underwent surgical treatment in the surgical department of the AOFD. A total of 112 people were examined, 49 of them boys and 63 girls. Adolescents aged 15-17 years prevailed (73,%).

The results of the study. The computed tomography performed in the preoperative period led to a reassessment of the results of previous studies and a revision of the scope and nature of surgical interventions in children and adolescents with respiratory tuberculosis in 26.8% of cases.

The use of computed tomography makes it possible to clarify the number and nature of cavities in the lung. The frequency of detection of multiple cavities in patients by computed tomography was 9.4% higher compared to linear tomography and 15.1% higher compared to analog radiography.

When assessing the number of tuberculosis detected, the coincidence of linear tomography data with the results of X-ray computed tomography is 83.3%, the coincidence of analog radiography data with the results of X-ray computed tomography is 76%. Computed tomography makes it possible to increase the effectiveness of detecting decay cavities in tuberculomas by 16% — 26%.

The changes in the intra-thoracic lymph nodes detected by X-ray computed tomography affected the frequency of lymphodulectomies, which increased from 20.5 to 57.1%. A comparison of the data of the pathomorphological examination of the biopsy material and the results of X-ray examination methods showed the advantage of RCT over traditional radiography methods in detecting pericavitic fibrotic changes in the lungs, which allowed all patients to differentiate between cavernous and fibrous-cavernous tuberculosis before surgery.

A comparative analysis of the results of traditional radiological examination and digital radiography conducted in the postoperative period allows us to consider both methods practically equivalent, however, the digital radiography method allows to reduce radiation exposure, which is especially important in children and adolescents in the postoperative period. Ultrasound examination is the most informative in detecting changes in the pleura. The presence of pleural effusion after surgery in patients according to ultrasound was found in 90% of cases and in 65.2% - according to radiography. In the case when the amount of fluid in the pleural cavity does not exceed 50 ml, traditional X-ray examination and digital radiography are not informative.

Conclusion. The developed research algorithm makes it possible at the preoperative stage to assess the nature of changes in the lungs with the greatest degree of reliability, and on the basis of the information received to determine the feasibility of surgical treatment, the type and volume of the planned operation, to reduce radiation load.

Recommendations on the use of ultrasound and CR methods allow monitoring the dynamics of changes in the lungs and pleura in the early

postoperative period and, if necessary, timely correction of the treatment, as well as significantly reduce radiation exposure in children and adolescents.

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