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THE SIGNIFICANCE OF CLINICAL-LABORATORY AND INSTRUMENTAL RESEARCH METHODS IN THE DIAGNOSIS OF ECHINOCOCCOSIS

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Annotation
Echinococcosis is considered the most dangerous zooanthropohelminthiasis, which often has an endemic distribution or is recorded as sporadic cases. Localization of echinococcal cysts can be in any organ [10]. A massive echinococcosis lesion can lead to severe and life-threatening variants of the course of the disease [6, 11]. Frequent postoperative complications, accompanied by multiple repeated surgical interventions, lead to persistent disability of patients. Deaths from this disease occur every year. In this connection, early and timely diagnosis of echinococcosis remains an urgent medical problem.

Keywords: echinococcosis, ultrasound, magnetic resonance imaging, computed tomography.

Relevance
Echinococcosis is an urgent problem, since the disease is quite widespread, however, the frequency of diagnostic errors, complications, and mortality in multiple

echinococcosis is high. In recent years, there has been an increase in the number of patients with echinococcosis and its complicated forms in the Samarkand region. Therefore, an important condition for the timely diagnosis of echinococcosis is a rational algorithm for examining patients. It includes a complex of clinical, laboratory and instrumental research methods. The correct interpretation of the results of clinical, laboratory and instrumental methods of examination allows not only to make the correct diagnosis in a timely manner, but also to identify asymptomatically developing complications [5, 9, 12].

The aim of the work was to evaluate the significance of clinical, laboratory and instrumental research methods in the diagnosis of echinococcosis.

Materials and Methods

An analysis was made of the case histories of 105 children with echinococcosis hospitalized in the pediatric surgical department of the 2nd clinic of the Samarkand State Medical University for the period from 2018 to 2021. The diagnosis was confirmed by the detection of antibodies to echinococcus, ultrasound, computed tomography, magnetic resonance imaging.

Research Results

Among children with echinococcosis of various localization, girls predominated (65,7%). The age of the children ranged from 5 to 13 years, with an average age of 9 years. Most of the sick children lived in rural areas (66,6%), the rest of the children (33,4%) lived in the city. 57,1% of sick children were in contact with domestic animals (dogs, cattle). In 42,9% of patients, there was no epidemiological history. In 76,2% of children, liver damage was noted (in 61,2% of cases, isolated and in 15% in combination with invasion of the parasite into the lungs, retroperitoneal space, free abdominal cavity), in 20% of children - isolated lung damage. Among the examined children, the right lobe of the liver was affected in 81,2%, both lobes of the liver - in 15 (18,8%) cases. Rarely (3,8%) parasitic cysts were localized in the retroperitoneal space, mesentery of the small intestine, abdominal and pleural cavities.

Echinococcosis in children is asymptomatic for a long time, which makes it difficult to diagnose and determines the detection of the disease in the complication stage [6]. In 51,4% of children, an asymptomatic course of the disease was revealed: in 22,2% of children it was an accidental finding, in 77,8% of children they were found during examination for concomitant pathology. And in 48,6% of children, the examination was carried out regarding characteristic complaints, which will be listed below. In

14,3% of children, complications such as suppuration of the cyst, a breakthrough into neighboring organs, into the abdominal and chest cavities were observed.

In the majority (64,7%) of children, the main complaint was moderate dull or aching pain in the right hypochondrium. In six (11,8%) children, pain in the right hypochondrium was paroxysmal, accompanied by nausea. In 49% of children, an increase in body temperature (37,2-39,0 C) was observed. Only 21,6% of children complained of pain in the chest, abdomen, episodes of coughing with a large amount of sputum.

All children underwent physical examination, clinical laboratory examination (blood test, urine test, coprogram), biochemical blood test (total protein, bilirubin and its fractions, urea, creatinine, transaminases, glucose), study of the hemostasis system, plain chest radiography, ultrasound organs of the abdominal cavity, ELISA of blood with echinococcal antigen, CT and MRT of the chest and abdominal cavity were performed according to indications.

Ultrasound of the abdominal cavity and retroperitoneal space was performed in all children. The widespread introduction into practice of ultrasound of the abdominal cavity and retroperitoneal space as a method of screening diagnostics in children makes it possible to suspect echinococcosis of the parenchymal organs of the abdominal cavity and retroperitoneal space already in the early stages of the development of the disease and provides information on the topography of cysts, their size, character growth, correlation with intrahepatic structures and others. abdominal organs, complications. However, in some cases, there are difficulties in differential diagnosis between non-parasitic cysts, postoperative residual cavities, recurrence of echinococcosis, which forces the use in practice of such methods as computed tomography and magnetic resonance imaging of the abdominal cavity and chest [1, 4, 13], enzyme immunoassay blood test [2].

Computed tomography was performed (49%) in children. The indications for its implementation were: the detection of multiple cysts in the liver and other organs on ultrasound, the difficulties of topical diagnosis, the need for differential diagnosis of subcapsular cysts of the right lobe of the liver, extraorgan growth. The use of CT made it possible to more accurately determine the localization of cysts and record their topography.

Magnetic resonance imaging was performed in 19 children (18,1%) to clarify pathomorphological changes in the area of the cyst and, most importantly, the topical detailing of large vessels and bile ducts adjacent to the cyst wall. MRT gave high information content in the diagnosis of echinococcal cysts with their small sizes, since it made it possible to identify the characteristics of a parasitic cyst in most cases.

One of the most popular methods of laboratory diagnosis of echinococcosis is enzyme immunoassay. ELISA has a number of advantages: it is less laborious and less time consuming, it is convenient for performing a large number of similar analyzes, etc., which determines the widespread use of ELISA in all areas of medicine [3, 6, 7, 8]. This method helped in the differential diagnosis between echinococcal and non-parasitic cysts.

In 69,5% of the examined patients, the diagnosis of echinococcosis was confirmed by the detection of antibodies to Echinococcus granulosus by ELISA. However, unfortunately, not all surgeons pay due attention to this diagnostic method, and for this reason, diagnostic errors are made (often a hemangioma, solitary cyst, liver abscess, tumors, etc. are detected during the operation), which force a change in surgical tactics during the operation. and create unforeseen difficulties.

In all operated patients, the diagnosis of echinococcosis was confirmed by parasitological and pathomorphological methods.

From this we can conclude that at the preoperative stage of the examination, using clinical, laboratory, serological and modern instrumental methods of research, it is possible to make a correct diagnosis and identify the nature of the underlying disease (presence of a parasitic cyst, size, localization, complications). And the localization of cysts, their size, relationships with surrounding structures, detection of complications of the disease at the preoperative stage make it possible to choose the right surgical tactics, rational surgical intervention and avoid early and late postoperative complications.

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