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CLINICAL-LABORATORY AND INSTRUMENTAL METHODS OF STUDYING DISEASES OF THE BILIARY TRACT

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ABSTRACT

In the structure of the pathology of the biliary tract, there is a significant increase in both dysfunctional disorders and diseases of a metabolically-inflammatory nature. At the same time, the proportion of cholelithiasis in children with an upward trend is increasing (1). A specific role in the formation of the pathology of the biliary tract is played by congenital anomalies of the gallbladder and biliary tract.

The studies indicate the frequency of biliary tract lesions in school-age children. Comparative analysis of the data obtained in comprehensive research allows differentiating the pathology of the biliary tract, but with a clinical manifestation, and also confirms the informative value of X-ray and ultrasound studies to clarify the diagnosis.

Keywords: biliary tract dysfunction, an anomaly in the gallbladder and biliary tract development, cholecystitis.

INTRODUCTION

Diseases of the biliary tract in children are a common gastrointestinal tract pathology [1,2,3], and according to various authors, it accounts for up to 17 - 20%. In some cases, the onset of diseases is noted even at an early age. The presence of congenital anomalies in the gallbladder contributes to the disruption of the passage of bile and the development of dyskinesias, the addition of an inflammatory process, and the conjugation of damage to other

parts of the digestive tract [4,5,6].

Functional disorders of the gastrointestinal tract occupy one of the leading places in the structure of pathology of the digestive organs in children. Available diseases of bile passage can contribute to the developing organic pathology of the biliary tract (BDT), liver, pancreas, and duodenum [1,2,3]. With biliary dyskinesia, the development of dyscholia with subsequent development of dyscholia with subsequent development of primary chronic cholecystitis is possible. Diskinsial gallbladder and dyscholia contribute to the loss of bile se colloidal ability and, against the background of failure of bile colloidal ability, the development of stone formation.

The demand for studying diseases of the biliary tract in children is dictated by the steady increase in their frequency in the structure of the entire infective pathology of the digestive organs. This is also because the pathology of the gastrointestinal tract, which takes on an irreversible chronic nature in adults, is initially formed in childhood. It is also necessary to consider the frequency of associated lesions of other digestive system organs in pathologies of the biliary tract. According to the Rome Consensus, biliary tract diseases are divided into dysfunctional disorders and organic (developmental anomalies, cholelithiasis, cholecystitis). [20,21,25,26,27].

Therefore, solving issues of differential diagnosis does not lose its importance. Until now, practitioners encounter difficulties, especially in the early diagnosis of biliary tract pathology, and therefore, there is a high percentage of diagnostic errors. Diagnostic difficulties are often associated with an incomplete volume of studies, incorrect interpretation of clinical symptoms and results of laboratory and instrumental studies. [20,21,22,25].

Diagnosis of biliary tract pathology has expanded due to the introduction into medical practice of a number of modern highly effective radiation and endoscopic research methods. These are computed tomography, magnetic resonance imaging, ultrasonography, radioisotope nasal scanning of the biliary tract and magnetic resonance cholangiopancreasography. [13,14,17,19].

Despite the many diagnostic methods for studying the biliary system, their use in children has certain limitations associated with possible complications, as well as obtaining reliable information.

The information content of computed tomography in diagnosing biliary tract anomalies is lower than that of ultrasound. [7,11,12].

Endoscopic retrograde cholangiopancreasography allows us to identify stones in the gallbladder, cystic hepatic and common bile duct, as well as various anomalies of its development.

In recent years, this method has become more widely used in pediatrics. Still, it must be noted that the method is invasive and traumatic, and there is a possible risk of developing reactive pancreatitis. [8,9,10]

The high information content of the hepatobiliary scintigraphy method

is the basis for its widespread use in children with functional disorders of the biliary tract. However, this method in children is only possible from 12 years old. [12,13,18]

In pediatric practice, the priority research is often the use of non-invasive but quite informative diagnostic methods, including ultrasound scanning of the biliary tract and liver. [14.15,16]

Purpose of the study. Evaluation of clinical, laboratory, and instrumental methods for studying dysfunctional and organic pathology of the biliary tract for differential diagnosis.

MATERIALS AND METHODS

In addition to traditional clinical and laboratory studies, an echographic scan of the abdominal organs, particularly the liver and gall bladder, was performed using generally accepted methods to confirm the diagnosis. According to indications, oral cholecystography was performed, making it possible to determine the shape and function of the gallbladder, diagnose the presence of anatomical anomalies and stones, signs of the inflammatory process, and esophagogastroduodenoscopy.

Duodenal contents were examined by sediment microscopy and biochemical analysis.

RESULTS

We examined 91 school-age children who were diagnosed with various clinical forms of congenital and acquired diseases of the gastrointestinal system and an enlarged liver was discovered during the initial examinate and them were hospitalized for suspected inflammatory diseases of the gallbladder, the rest (67) were identified during a random examination. Accordingly, separate groups of patients were identified: 1 - with chronic cholecystitis and cholcystocholangitis (42-47%); 2 dyskinesia of the biliary tract (12-14%); 3rd anomalies of the gallbladder and bile ducts (35-38%).

Clinical diagnosis of these diseases was based on data from anamnesis, examination, physical, X-ray and ultrasound examinations. Patients with chronic cholecystitis and cholcystocholangitis were characterized by paroxysmal abdominal pain, moderately intense, of short duration and associated with eating fatty and fried foods. These patients often complained of nausea (67%) and vomiting less frequently (33%). During an objective examination, the area of palpation pain was determined in the projection of the gallbladder, and in some patients without predominant localization in the right hypochondrium with moderate intensity. The enlarged liver was noteworthy. The dimensions ranged from 2-3 cm to 4-5 cm from under the costal margin. The minimum increase was determined mainly by dyskinesia of the biliary tract, and the maximum growth was determined in patients with chronic cholcystocholangitis and with anomalies of the gallbladder and

biliary tract. It was in the last two groups that positive bladder symptoms were simultaneously identified. In most patients (65%), palpation of the liver was sensitive; the edge was rounded, the surface was smooth, and the consistency was soft. In the remaining patients (35%), among whom there were mainly children suffering from cholcystocholangitis and anomalies of the gallbladder and biliary tract, the liver was not only enlarged, but also of compacted consistency, along with pain on palpation, there were numerous complaints of dyspeptic disorders and characterizing asthma—allergic syndrome.

Pain in children with biliary dyskinesia was more often of an aching nature, moderately severe, and short-lived, and only in some children with hyper motor dyskinesia was the pain of the nature of an acute attack. In this group of patients, local pain in the epigastric region predominated (68%). The pain, as a rule, was not associated with food intake but rather with emotional stress caused by an unfavorable situation and, as a rule, was eliminated on its own (94%). The most painful epigastric region upon palpation in some patients, the center of pain shifted to the right hypochondrium. In approximately 1/3 of patients (38%), pain attacks were accompanied by nausea, rarely vomiting. Long-term symptoms were detected only in individual patients. In the group of patients with anomalies in the shape and position of the gallbladder, the attack (64%) was moderate in severity and short-lived but was repeated in nature.

Characteristic was the high effectiveness of using antispasmodics, which did not give any resemblance to dyskinesia of the gallbladder and biliary tract. The area of palpation pain was located approximately equally often in the epigastric region (51%) and the hypochondrium (49%). During the period of exacerbation, pain was relieved with antispasmodics; sometimes abdominal pain syndrome was often combined with analgesics. A comparison of the features of clinical symptoms in various types of pathology of the biliary system made it possible to identify some features characteristic of a particular pathology.

Thus, for patients with cholecystitis and cholcystocholangitis, cystic symptoms were characteristic. Children with dyskinesia of the gallbladder and biliary tract are characterized by a relationship between the occurrence of abdominal pain after eating spicy food and physical activity. In case of anomalies of the biliary system, antispasmodics were highly effective. As can be seen from the data presented, these features are not pathognomonic, and therefore it is not possible to base the diagnosis of the disease only on clinical and anamnestic information. [18,19,21]. General clinical blood tests in the examined children of this group were also not specific; in some patients (12%) with chronic cholecystitis (cholcystocholangitis), changes characteristic of the inflammatory process were observed - accelerated ESR with moderate leukocytosis and allergization of the body (15%). The functional state of the biliary system using duodenal intubation revealed no

abnormalities in only 6% of children. In all the rest (94%) motor disorders predominated.

Hypermotor dyskinesia was detected in 35% of children, hypomotor dyskinesia in 28% and mixed dyskinesia in 31%. In 46%, motor impairment was combined with signs of dyskinesia. Inflammatory changes in the biliary system were confirmed.

CONCLUSION

Based on the results of our research, we concluded that ultrasound examination in diagnosing the pathology of the biliary tract remains a reasonably informative method. Nevertheless, in several cases, recorded changes in the shape of the gallbladder during ultrasound examination require X-ray confirmation, which is consistent with the opinion of other authors (1.2). Comparison of clinical symptoms in patients with inflammatory, dysfunctional disorders and gallbladder and biliary tract anomalies allows us to differentiate this pathology by clinical manifestations.

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