FREQUENCY OF BILIARY DISEASES IN CHILDREN

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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 an metabolic-inflammatory nature. At the same time, the proportion of cholelithiasis in children with an upward trend is increasing (1). A certain role in the formation of the pathology of the biliary tract is played by congenital anomalies of the gallbladder and biliary tract.The studies carried out indicate the frequency of lesions of the biliary tract in school-age children. Comparative analysis of the data obtained in a comprehensive study 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: *dysfunction of the biliary tract, anomaly in the development of the gallbladder and biliary tract, cholecystitis.*

Introduction. The study of diseases of the biliary tract in children is justified by a significant increase in their share in the structure of non-infectious pathology of the gastrointestinal tract.

In recent years, there has been a noticeable increase in both functional disorders of the biliary system and metabolic-inflammatory diseases. At the same time, there is a tendency towards an increase in gallstone disease in children.

Diagnostics of the pathology of the biliary tract 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 scanning of the biliary tract and magnetic resonance cholangiopancreatography.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 content.

The informative value of computed tomography in the diagnosis of biliary tract anomalies is lower than with ultrasound.Endoscopic retrograde cholangiopancreatography can reveal calculi in the gallbladder, cystic hepatic and common bile duct, as well as various anomalies in its development.

In recent years, this method has become more widely used in pediatrics, but it is necessary to cancel that the method is invasive, traumatic and the risk of developing reactive pancreatitis is possible.

The high information content of the hepatobiliscintigraphy method is the basis for its widespread use in children with functional disorders of the biliary tract. However, the use of this method for children is only possible from the age of 12.

In pediatric practice, the priority research is often the use of non-invasive, but sufficiently informative diagnostic methods, which include the method of ultrasound scanning of the biliary tract and liver.

Purpose of the study. To assess the information content of various research methods for differential diagnosis of biliary tract pathology.

Materials and methods. In our study, the diagnosis was based on clinical and anamnestic and laboratory data, X- ray and ultrasound studies. An echographic scan of the abdominal organs, in particular the liver and gallbladder, was carried out according to the generally accepted methods. According to the indications, oral cholecystography was performed, which makes it possible to determine the shape and function of the gallbladder, diagnose the presence of anatomical abnormalities and calculi, signs of an inflammatory process.

The duodenal contents were examined by microscoria of the sediment and its biochemical analysis.

Laboratory diagnostics of cholestasis was based on the determination of alkaline phosphatase, total bilirubin and its fraction, cholesterol and cytolytic aminotransferases in the blood.

Results. We examined 89 school-age children who were diagnosed with various clinical forms of congenital and acquired diseases of the biliary tract, 22 of them were hospitalized for alleged inflammatory diseases of the gallbladder, the remaining 67 were identified in the course of a sample survey.

In the course of the study, respectively, separate groups of patients were identified:

with dysfunctional disorders of the biliary tract (12-14%);

with anomalies in the development of the biliary tract (35-38%);

with inflammatory diseases of the biliary tract (Chronic cholecystitis, cholecystocholangitis (42-47%)).

Clinical symptoms in each separate group were characterized by the appearance of signs of abdominal pain syndrome.

So, in children with dysfunctional disorders of the biliary tract, pain was more often of a aching nature, moderately pronounced and short-lived. In a small number of patients with hypermotor dysfunction of the biliary tract, pain sometimes had the character of an acute attack.

In this group of patients, local pain in the epigastric region prevailed (68%). Pain, as a rule, was not associated with food intake, but rather with emotional stress caused by an unfavorable situation and, as a rule, were eliminated on their own (94%).

Some patients, the center of pain from the epigastria region shifted to the right hypochondriac (20%). In about 1/3 of patients (38%), pain attacks were accompanied by nausea, rarely vomiting. Long-term symptoms came to light only in some patients.

In the group of patients with congenital anomalies in the shape and position of the gallbladder, the abdominal pain syndrome often had the character of an attack (64%) of moderate severity and was characterized by a short duration, but it was repeated.

The fact of the high efficiency of the use of antispasmodics was characteristic, which did not give any resemblance to the dysfunction of the gallbladder and biliary tract.

The zone of polpatorial tenderness was determined approximately the same, often both in the epigastric region (51%) and in the right hypochondrium (49%).

In patients with chronic cholecystitis and cholecystocholangitis, abdominal pains were of a paroxysmal nature, moderately intense, of short duration, often associated with the intake of abundant fatty foods. Often, abdominal pain was accompanied by nausea (65%), less often vomiting (25%).

In an objective study, the zone of polpatorial soreness was determined in the projection of the gallbladder, and the fate of patients without predominant localization in the right hypochondrium with moderate intensity.

For patients with cholecystitis and cholecystocholangitis, positive gallbladder symptoms were characteristic. There was a clear relationship with food intake ($p < 0.05$).

For dyspeptic syndrome, which occurs in more than 80% of the observed patients, significant differences have not been established.

Attention was drawn to the enlarged liver. Its dimensions ranged from 2-2.5 cm to 2.5-3.0 cm from under the costal edge.

The minimum increase in the size of the liver was determined mainly with dysfunctions of the biliary tract, the maximum in patients with chronic cholecystocholangitis and with anomalies of the gallbladder and biliary tract.

In the overwhelming number of patients (65%), palpation of the liver was sensitive, the edge was rounded, the surface was smooth, the consistency was soft. In the remaining patients (35%), among whom were mainly children suffering from cholestocholangitis and an anomaly of the gallbladder and biliary tract, the liver was not only enlarged, but somewhat compacted, along with moderate pain on palpation, in addition to complaints of dyspeptic disorders, there were complaints characterizing astheno - vegetative syndrome.

Comparison of the features of clinical symptoms in different variants of the pathology of the biliary tract made it possible to identify the features inherent in one form or another.

So for patients with cholecystitis and cholecystocholangitis, gallbladder symptoms were characteristic. Children with dysfunction of the biliary tract are characterized by the relationship of the occurrence of abdominal syndrome with food intake and physical activity. With anomalies of the biliary system, the use of antispasmodics was highly effective.

General clinical blood tests in the examined children of this group were not specific, only the fate of patients (12%) with chronic cholecystitis (cholecystocholangitis) revealed changes characteristic of the inflammatory process - accelerated soybeans with moderate leukocytosis and body allergy (15%).

Despite the availability of modern diagnostic methods for studying the biliary tract, the use of the procedure of fractional multi-stage duodenal closure allows one to assess not only the motility of the gallbladder, the state of the sphincter apparatus, but also microscopic changes in the colloidal state of bile. In case of pathology of the biliary tract, if there are no contraindications to conducting a study based on the result of fractional duodenal zaidirovanie, it is possible to timely identify violations of the biliary and biliary function of the liver, the motor function of the biliary tract and determine the main links in the treatment and prevention of these conditions (authors).
Thus, in our studies, the functional state of the biliary system using duodenal intubation revealed no abnormalities in only 5% of children. All the rest (95%) had movement disorders. Studies of enzymes in bile (ALP) showed a different degree of change in their activity in all three groups.

Hypermotor dyskinesia was found in 38% of children, hypermotor dyskinesia in 26% and confusion in 30%. In 44%, motor disorders were combined with signs of dysfunction. Inflammatory changes in the biliary system were confirmed by the corresponding picture.

Ultrasound examination of the liver and biliary system revealed an increase in the vertical size of the liver and an increase in its echogenicity in 74 patients (97%) of varying severity.

The diagnosis of chronic cholecystitis was confirmed by such ultrasound diagnostic criteria as thickening of the gallbladder wall (54%) and its thickening (32%). The motor function of the gallbladder remained unchanged in only 27% of children, and in all the rest (73%) various variants of violation of the tone and rhythm of contraction were revealed, which determine the nature of dysfunction. The hypermotor form of dysfunction was detected in 35 children (64%), the hypermotor form in 14 (25%) and mixed in 6 (11%).

It should be noted that an ultrasound examination of the gallbladder revealed a parietal sediment in the form of "sand". Ultrasound signs of cholestasis were characterized by the expansion of the intrahepatic bile ducts into the parenchyma of the liver.

In 35 (38%) children, abnormalities in the development of the gallbladder were diagnosed. In our studies, the morphological state of the gallbladder in the observed was characterized by: S-shaped deformation of the organ - 28.5%, bends of the body - 42.8%, in the cervical region - 20% and the cervical - ductal zone - 8.5%. The revealed anomalies in the development of the gallbladder were combined with dysfunctional disorders of the biliary tract.

As evidenced by the literature data, anatomical changes in the structure of the gallbladder play an important role in the disturbance of the passage of bile (3.0), fluttering congestion with the passage of time lead to the development of dystrophic changes in the wall of the gallbladder, and that affects its contractile function. Various variants of deformation of the gallbladder pryatyat normal function of it, disrupting the motility of the organ more often, according to the hypotonic type. Especially the functional state of the gallbladder is affected by congenital or acquired pathology in the cervical-ductal zone. At the same time, in the stage of compensation during sonographic examination, dysfunctional disorders of the gallbladder are determined. However, subsequently, the functional reserves of the gallbladder are depleted, the organ gradually increases in volume, its wall becomes atonic, which further leads to the development of congestion in the gallbladder, cholecystitis with the formation of often cholelithiasis. X-ray functional disorders in the group of children with diseases of the biliary system revealed violations of the contractile function of the gallbladder in 74 patients according to the results of cholecystography. In 54% of patients, signs of weakening of the contractility of the gallbladder prevailed.

In 36% of patients, according to cholecystography, anatomical and organic changes in the gallbladder were established.

When comparing the results of ultrasound and cholecystography, the majority of the examined showed a complete coincidence of the results. But in 11 children (12.3%), this correspondence was not established, so in 6 observations, gallbladder anomalies were not detected radiographically, which are observed with ultrasound, X-ray examination by cholecystography in these children established disorders of the motility of the biliary tract, which in ultrasound simulated anomalies.

In 6 children, movement disorders detected by ultrasound were not confirmed by cholecystography, which is possibly associated with functional disorders of the biliary system of a transient nature.

The results of the comparative studies have confirmed the sufficient information content of ultrasound in the diagnosis of diseases of the biliary tract. Nevertheless, in some cases, the 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, 3, 4).

The study of the excretory function of the liver and biliary tract established the transient nature of the disorders. Moreover, this was revealed in 44 (49.4%) children. The clinical picture of transient cholestasis was dominated by subicteric staining of the skin and visible mucous membranes (24%), enlargement of the liver up to 2 - 3 cm from under the edge of the costal arch (39%), recurrent stool acholia (16.4%) and steatorrhea (14.6 %). Laboratory diagnostics of cholestasis is based on the results of biochemical blood tests by determining the level of alkaline phosphatase, cholesterol, total bilirubin and its fractions and cytolytic aminotransferases. Thus, biochemical studies showed an increase in the level of alkaline phosphatase in 44 (49.4%) children, hypercholesterolemia was observed in 50% of children, conju. The level of serum aminotransferases in our studies remained normal in all observed children. That was a confirmation of the absence of a pathological process in the liver that underlies cholestasis.

Probably, the obtained results of biochemical studies cannot be considered as specific markers of cholestasis, since the submitted literature can be considered as real markers only if more than 50% of the hepatic parenchyma is damaged (3, 4, 5).

Conclusion

All the studied functional and organic diseases of the gallbladder in school-age children are accompanied by impaired motility, chronic cholecystitis is more often combined with congenital anomalies in the development of the gallbladder.

The research showed that in the diagnosis of diseases of the biliary tract, all developed examination methods should be used. A rational combination of diagnostic methods used in children makes it possible to timely identify both functional disorders and organic diseases of the biliary tract. Moreover, each of them has certain advantages in terms of information content and specificity.

Based on the results of our research, we came to the conclusion that ultrasound in the diagnosis of pathology of the biliary tract is still a fairly informative method. But, nevertheless, in a number of cases, the recorded changes in the shape of the gallbladder during ultrasound examination require X-ray confirmation, which is consistent with the opinion of other authors. gatedhyperbilirubin was determined inconsistently in a small number of children (10%).

Comparison of clinical symptoms in patients with inflammatory, dysfunctional disorders and anomalies of the gallbladder and biliary tract allows differentiating this pathology by clinical manifestations.

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