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EXPERIENCE IN THE DIAGNOSIS AND TREATMENT OF INTESTINAL INTUSSUSCEPTION IN CHILDREN

Resume: Intestinal intussusception is the most common type of acquired intestinal obstruction in children, while in the absolute majority this pathology occurs in infants [1-3]. Intestinal intussusception refers to a mixed form of mechanical obstruction (a combination of obturation and strangulation). This pathology is caused by discoordination of intestinal peristalsis with the formation of spasm sites, which contributes to the introduction of one part of the intestine into another, while more often the introduction occurs during peristalsis.

In infants, this pathology develops against the background of anatomical and physiological features, which include mobility of the ileum and cecum, immaturity of the Bauginia flap [2; 3]. It is due to these features that invagination in children under one year of age most often develops in the area of the ileocecal angle. In addition, the age-related physiological immaturity of the intestinal enzymatic apparatus contributes to the development of this pathology.

A significant role in the occurrence of intussusception belongs to the violation of the feeding regime of the child and factors contributing to changes in intestinal peristalsis - intestinal infections

Key words: intestinal intussusception, diagnostics, surgical treatment, children's age.

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ОПЫТ ДИАГНОСТИКИ И ЛЕЧЕНИЯ ИНВАГИНАЦИИ КИШЕЧНИКА У ДЕТЕЙ

Резюме: Инвагинация кишечника является самым частым видом приобретенной кишечной непроходимости у детей, при этом в абсолютном большинстве данная патология встречается у пациентов грудного возраста [1-3]. Инвагинация кишечника относится к смешанной форме механической непроходимости (сочетание обтурации и странгуляции). К данной патологии приводит дискоординация кишечной перистальтики с образованием участков спазма, что способствует внедрению одного участка кишечника в другой, при этом чаще внедрение происходит по ходу перистальтики.

У детей грудного возраста эта патология развивается на фоне анатомо-физиологических особенностей, к которым относятся подвижность подвздошной и слепой кишки, незрелость Баугиниевой заслонки [2; 3]. Именно с этими особенностями связано то, что инвагинация у детей до года чаще всего развивается в области илеоцекального угла. Кроме того, развитию данной патологии способствует возрастная физиологическая незрелость ферментативного аппарата кишечника.

Значительная роль в возникновении инвагинации принадлежит нарушению режима вскармливания ребенка и факторам, способствующим изменению перистальтики кишечника – кишечным инфекциям

Ключевые слова: инвагинация кишечника, диагностика, хирургическая лечения, детской возраст.

Relevance. Even at the beginning of the 20th century, invagination in children was considered a rare and so dangerous pathology that some surgeons

suggested refraining from surgery and waiting for the rejection of the dead invaginate through the rectum[2]. Conservative treatment was primitive and consisted in pumping air into the rectum, introducing gas-forming powders and even boughs, regardless of the patient's age and the prescription of the disease[5].

In subsequent years, interest in this pathology in children naturally increased. In the publications of foreign and domestic surgeons, the results of treatment of a significant number of patients were analyzed. In all the works of domestic and foreign authors, attention was paid to the more frequent occurrence of intussusception in infants[1].

In this regard, many anatomists, physiologists and pathophysiologists have thoroughly studied the features of the structure and function of all parts of the digestive tract of a child, presenting their data in monographs, dissertations and articles[3].

They showed the versatility of the etiology and pathogenesis of invagination in children of different ages. These sources of information, their number and volume are not really offered to students to prepare for classes on the topic of intestinal intussusception in children. At the same time, familiarity with their essence and conclusions is necessary for pediatricians, and sometimes adult surgeons for the primary diagnosis of this type of intestinal obstruction, since these specialists are often doctors of the first contact with a sick child [2].

Timely referral of the patient to a specialized pediatric surgical department for the final diagnosis and determination of the method of treatment of this pathology depends on them. Considering this, we consider it expedient to present in one textbook, in a form accessible to students, the age, anatomical and physiological features of the intestine in children that contribute to the introduction of the proximal part of the intestine into the distal one, paying special attention to the structure and function of the ileocecal angle, in which various types of invagination most often occur[4].

Taking as a basis a summary of the data on invagination in the textbook and methodological recommendations of the Association of Pediatric Surgeons, supplement them with information about the clinical features of the manifestation and diagnosis of atypical forms of invagination [3].

For clinical residents and pediatric surgeons to offer methods developed in our clinic for the treatment of severe, neglected forms of intussusception in children[5].

The purpose of the study. The purpose of this study is to analyze the results of diagnosis and treatment of intestinal intussusception in children.

Material and methods of research. The work is based on the analysis of observations of 38 children with intestinal intussusception aged from 4 months to 7 years inclusive, who are being treated in the surgical department of AOMPDB from 2020 to 2021. There were 21 boys and 17 girls. The most frequent invagination developed in children under 1 year of age (24 people, 58.0%).

The results of the study. When collecting anamnesis, the presence of an error in nutrition was revealed in 5 children (12.4%). In 2 (6%) cases, intussusception developed against the background of acute respiratory infection, in 3 (7.5%) patients - against the background of intestinal infection.

Clinical manifestations of intestinal invagination were pronounced in almost all cases.

Paroxysmal abdominal pain, which was expressed by periodic anxiety, was observed in 37 (99%) patients. The pain attacks lasted from 5 to 15 minutes. The time intervals between seizures were equal to 10-20 minutes. Repeated vomiting was observed in 30 (83%) patients, at the beginning of the disease – with stomach contents, then - with an admixture of bile, in 11 patients vomiting with stagnant contents was noted. In 8 observations (22%), an increase in body temperature to subfebrile values was noted. In 6 (12%) patients, there was a

discharge of blood from the anus, and in the majority - in the form of "raspberry jelly".

Upon admission to the pediatric surgical department, the condition of 5 children (11.7%) was regarded as satisfactory, in 29 (79.0%) - of moderate severity. 4 (10.1%) patients were admitted to the hospital in serious condition. A serious condition was noted in children who were admitted to the hospital within more than 48 hours from the onset of the disease.

Bloating was detected in 29.8%. The invaginate was palpated in the form of a tumor-like mobile, cylindrical, moderately painful formation in 57.8%. The presence of Dansa's symptom was noted in the medical history of 89 children (23%). In 90.6% of patients, the abdomen was soft during palpation, in 9.4% of children, the tension of the muscles of the anterior abdominal wall was determined.

In the total blood count of 31 children, the number of leukocytes did not exceed 10.0x109/ l, 21 patients had leukocytosis from 12.0 to 15.0x109/l, in 4 cases - from 16.0 to 25.0 x109/l (these children were admitted to the hospital later than 48 hours from the onset of the disease, while 3 patients of them were admitted later than 72 hours).

All observed children underwent ultrasound examination of abdominal organs. In 31 patients (81%), ultrasound examination was supplemented with X-ray - irrigation.

Conservative disinfection is carried out in the operating room under general anesthesia. Before manipulation, it is necessary to perform palpation of the abdomen to determine the invaginate. Then an intubation tube is inserted into the rectum of the patient, after which the cuff is inflated in order to create a seal during the injection of air into the intestine.

With the help of a Richardson balloon, air injection begins, while the flow of air into the colon is monitored: at the beginning, an asymmetry of the abdomen is observed during the passage of air to the invaginate, with further air

injection, provided the invaginate is straightened, the abdomen becomes symmetrical due to the passage of air into the proximal parts of the intestine. At this time, the palpatory invaginate ceases to be determined. Then a Richardson balloon is disconnected from the tube to remove excess air from the intestine. The child is placed in the ward. After full awakening of the patient, an overview radiography of the abdominal cavity is performed, which indicates the presence of gas in both the colon and small intestine.

Disinvagination from laparoscopic access was performed in 8 cases: in 10 only disinvagination was performed, and in 20 children disinvagination was combined with appendectomy. In these patients, the appendix was involved in invaginate.

In 3 observations, it was not possible to perform disinvagination from laparoscopic access due to the extent of the invaginate and pronounced intestinal edema. These patients underwent laparotomy followed by disinvagination.

15 children were operated using laparotomy access (Volkovich-Diakonov access). Disinvagination and appendectomy were performed in 11 of them, and disinvagination was performed in 4 cases.

4 children who were admitted more than 72 hours after the onset of the disease in a serious condition were operated from laparoscopic access after preoperative preparation. Iliac-colon intussusception was revealed. After disinvagination, necrosis of the ileum was diagnosed. The conversion to a median laparotomy, resection of the ileum with the imposition of an end-to-end anastomosis was performed.

In two patients, after disinvagination performed from the Volkovich-Diakonov incision, it was found that the cause of pathology was Meckel's diverticulum. The diverticulum was removed by means of wedge-shaped resection of the ileum with the imposition of an anastomosis.

No fatal outcomes were observed during intestinal intussusception. There were no complications in the postoperative period. All children were discharged in satisfactory condition.

Conclusion.. In the diagnosis of intestinal intussusception in children, in addition to the clinical picture, ultrasound and X-ray examinations are important.

The absolute majority of children with this pathology with timely admission to a surgical hospital can be treated conservatively.

Organic intestinal pathology is a fairly rare cause of intestinal intussusception.

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