

# **CURRENT VIEWS AND CLINICAL MANIFESTATIONS OF ACUTE APPENDICITIS AND APPENDICULAR PERITONITIS IN CHILDREN**

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### **Abstract**

Acute appendicitis is the most common urgent disease in pediatric surgery (75% of emergency operations). Not only pediatric surgeons, but also pediatricians, pediatric gastroenterologists, and pediatric gynecologists have to deal with appendicitis in children. In childhood, inflammation of the cecum develops rapidly, which causes an increase in destructive changes in the appendix in a relatively short time. With appendicitis in a child, the peritoneum is often involved in the inflammatory process, leading to the development of appendicular peritonitis. The peak incidence of appendicitis in children (more than 80% of cases) is at school age, in preschool children the disease occurs in 13%, in toddlers - in 5% of cases.

**Keywords** Acute appendicitis, appendicular peritonitis, children, clinical symptoms.

### **INTRODUCTION**

For a doctor of any specialty, one of the most difficult diagnostic situations is acute abdominal pain in a child or the so-called acute abdominal syndrome. Establishing the cause of the pain often causes great problems even for experienced doctors [5, 6]. The primary goal at such times is to determine whether surgical intervention is necessary or whether it is possible to observe,

examination and treatment with conservative methods. In the huge spectrum of diseases accompanied by abdominal pain symptom, in young patients, first of all, acute appendicitis and its complications should be excluded. The peak incidence of appendicitis is in childhood, with children 9-12 years old suffering most often [2]. Inflammation of the worm is the most frequent cause of emergency surgical interventions on the abdominal cavity in a child. Mistakes are often made at the stage of initial diagnosis, which is especially dangerous in conditions requiring emergency surgical care. Recognition of appendicitis is, on the one hand, the easiest among emergency abdominal diseases (in the presence of "classical", "student" symptoms), and on the other hand, it can be the most difficult diagnostic situation for pediatrician and surgeon in case of atypical clinical picture, which is often associated with an unusual (atypical) location of the ileum [1].

Despite the rapid development of diagnostic capabilities of modern medicine, diagnosis in children is more difficult than in adults, and the disease itself is more severe [1, 4]. Lethality from acute appendicitis among children of different age

groups in different years was estimated from 0.2 to 2.3% and did not tend to decrease [1]. According to some authors, the mortality from appendicitis in infants is 10%, and in neonates it reaches 80% [4]. All of the above indicates the acuteness and obvious relevance of the problem of timely diagnosis of appendicitis in children. It is the problems of diagnosis and provision of competent medical care at the primary stages that explains the high percentage of complications of appendicitis in children. Patients of younger age group are especially difficult to diagnose. The most frequent and severe complications of acute appendicitis are infiltrate and peritonitis [2, 3]. Insufficient knowledge of doctors about the course of complicated appendicitis in children, lack of vigilance with regard to atypical clinical manifestations of the disease leads to medical errors in diagnosis, late start of treatment and in some cases to disappointing prognoses and sad results.

Diagnosis of acute appendicitis is the most important problem of pediatric surgery.

The aim of the study: to investigate the structure of morbidity of appendicitis and its complications in children and to analyze the peculiarities of clinical symptomatology of appendicular peritonitis in children.

### **MATERIALS AND METHODS**

In the clinic of pediatric surgery of Andijan State Medical Institute in 2014-2023, 555 people with acute appendicitis were hospitalized. In 313 children (56%) the inflammation of the worm was isolated, and in 242 patients (44%) it was

accompanied by complications, including peritonitis diagnosed in 187 cases (34%) and appendicular infiltrate in 55 people (10%). The age of 187 children with peritoneal inflammation ranged from 2 months to 17 years. According to the degree of process prevalence in the abdominal cavity, local peritonitis was found in 140 patients, spilt peritonitis - in 47 patients. Appendicular infiltrate developed in patients aged from 2 to 16 years (12 years on average), adolescent girls prevailed among the patients. This statistic does not include children of newborn period, because in this category of patients most diseases have very specific manifestations that are fundamentally different from the symptoms of older children. A retrospective randomized study of case histories of 52 children aged from 8 months to 17 years was carried out, and the clinical symptomatology of local (in 19 cases) and spilt (in 33 patients) peritonitis was analyzed on the basis of carefully collected anamnesis.

Research results and discussion. The main clinical manifestations of acute appendicitis and appendicular peritonitis in children were abdominal pain, vomiting and increased body temperature. However, the sequence of appearance and the degree of severity of these symptoms were of particular interest. Pain as the first symptom of acute appendicitis was observed in 41 (78.9%) of 52 patients. It is important to note that in 21 children (51.2 %) the disease started with isolated abdominal pain syndrome, and fever and vomiting occurred later. 20 children (48.8 %) simultaneously with abdominal pain noted the presence of other manifestations of the disease: vomiting in 14 cases (34.1 %) and fever in 6 people (14.6 %). The fact that the first signal of appendicitis is abdominal pain was quite expected. However, in 21.1% of children the disease was manifested by other symptoms: vomiting in 6 patients (11.5%) and fever in 5 patients (9.6%). Abdominal pain syndrome occurred later. This result can be explained by two factors. First, pediatric surgeons deal with a special contingent of patients: up to a certain age, it is difficult for a child to objectively assess his or her well-being. Often it is necessary to collect anamnesis, only by talking to

parents, who, of course, can not accurately indicate the moment of the onset of abdominal pain in the child. Older children are able to clearly describe their complaints. But in order to get important information from the child, it is extremely important for the doctor to establish a good psychological contact with the young patient. Unfortunately, such features of work with children are not always taken into account by doctors of the adult treatment network, surgeons of central district hospitals, which are often the initial link of diagnosis. Medical errors at the initial stage of examination are the main cause of further complications and the possibility of lethal outcomes. The second point that explains the lack of early onset of abdominal pain in appendicitis is the possibility of atypical location of the worm. The doctor examining the child should remember the variants of retrocecal, retroperitoneal, pelvic location of the appendix, in which the abdominal manifestations of surgical disease are masked by symptoms of intestinal or urinary tract infection. The clinical manifestations of appendicitis complicated by peritonitis depending on the degree of process prevalence were evaluated. The clinic differentiates between spilt and local inflammation of the peritoneum. Among 19 children operated on for local peritonitis, 16 (84,2%) had vomiting. The majority (10 patients) had single or double vomiting, 6 patients (37.5%) had multiple vomiting. Temperature increased in all 19 children with local appendicular peritonitis. Subfebrile temperature was registered in 4 cases (21,1 %), febrile - in 12 patients (63,2 %), pyretic - in 3 people (15,7 %). Among 33 children with spilled appendicular peritonitis, 28 (84,85 %) had vomiting. At the same time, 16 (54.55 %) had multiple vomiting. Increase of body temperature was noted in all patients: to subfebrile figures - in 5 (15,15 %) patients; febrile - in 18 patients (54,55 %). Pyretic fever was registered in 10 patients (30,3 %). Thus, for the spilt inflammatory process in the abdominal cavity is more characterized by repeated vomiting and rise in body temperature to high figures (more than 39 ° C). However, such manifestations may be present in local peritonitis. In any case, the degree of severity of these two

symptoms should be taken into account when planning preoperative preparation.

### **CONCLUSIONS**

Among children with acute appendicitis admitted to the hospital, 34% had local or spilled peritonitis, and 10% were diagnosed with appendicular infiltrate. The main sign of acute appendicitis is abdominal pain, but in some cases the first symptoms may be vomiting or increased body temperature, and the pain syndrome joins later. In the vast majority of patients with local peritonitis observed a single vomiting, while for children with spilled inflammation of the peritoneum is more characteristic of multiple vomiting. The development of peritonitis (including spilt) is usually accompanied by a pronounced temperature reaction, but may occur against a background of subfebrile. For timely diagnosis of acute appendicitis in childhood, it is necessary to remember the possibility of variability of clinical manifestations, as well as take into account the psychological characteristics of the child when collecting anamnesis.

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