

ACUTE APPENDICITIS IN AN 8-MONTH-OLD INFANT

Tayroni Moretto

Seventh semester student, UNINTER,
Universidad Tres Fronteras
Ponta Porã- Brazil

Thalys Moretto

Seventh semester student, UNINTER,
Universidad Tres Fronteras
Ponta Porã- Brazil

Nelly Cruz Alvarez Remón

Seventh semester student, Universidad
Federal do Mato Grosso do Sul
Tres Lagoas- Brazil

Iván Cruz Álvarez Cantos

Pediatric Surgeon, University Professor at:
UNINTER Universidad Internacional Tres
Fronteras

Pedro Ramón Ríos Gonzáles- Surgeon

Research coordinator: Universidad
Internacional Tres Fronteras

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Abstract: Acute appendicitis is more common in school-age children, but rare in children under one year of age. The younger the patient, the faster the disease progresses and the risk of complications is usually greater in these cases. The case of an 8-month-old infant admitted to the pediatric hospital due to fever and vomiting is presented. After several examinations, he underwent surgery, a laparotomy was performed, finding a moderate amount of purulent fluid which was aspirated, an inflamed appendix was located with abundant fibrin on its surface. Already in the intensive care unit, he suffered septic shock that responded well to treatment. Acute appendicitis in infants is a difficult disease to diagnose, but physicians in charge of caring for infants with fever, diarrhea, and irritability attributed to abdominal pain must consider it. This way, early recognition of the disease can be carried out and timely surgical treatment can be carried out.

Keywords: Appendicitis, Infants, Diagnosis.

INTRODUCTION

In the child population, gastrointestinal symptoms are a very frequent reason for consulting emergency services at health centers.¹ In most cases these are due to self-limiting conditions such as viral gastroenteritis, gastroesophageal reflux, intestinal parasitosis².

However, on some occasions they can be manifestations of surgical pathologies that could put the patient's life at risk if a timely and accurate diagnosis is not made³. Appendicitis in children under 2 years of age is a very rare entity, difficult to diagnose, and can cause great morbidity and mortality when not diagnosed in time. The case of an infant with a diagnosis of acute surgical abdomen secondary to appendicitis is described due to its infrequency.

Due to the wide variety of presentations, the diagnosis of acute appendicitis can deceive even the most experienced clinician⁵. The "classic" presentation of appendicitis, characterized by generalized abdominal pain, with subsequent localization in the right lower quadrant associated with nausea, vomiting and fever, is observed less frequently in pediatric patients⁶.

Children often present with earlier clinical signs than adults, when only mild, nonspecific symptoms are present⁷. Some data indicate that individual signs such as Blumberg or Rovsing have high sensitivity and specificity in children⁸. The most common findings in children with appendicitis are abdominal pain in the right lower quadrant, rigidity, and vomiting. If the history is accurate, abdominal pain prior to episodes of vomiting may help distinguish appendicitis from acute gastroenteritis⁹. Children under 2 years of age generally present with diarrhea as their main symptom. Due to the difficulty in evaluating patients under 2 years of age who present abdominal pain, the probability of intestinal perforation at the time of diagnosis of appendicitis ranges between 30 and 65% of cases, a value much higher than in the general population. Adults¹⁰.

Acute appendicitis is the disease that most frequently requires emergency surgical intervention and its highest incidence is observed between 6 and 12 years of age¹¹. According to our experience, which is the product of performing more than 950 appendectomies per year, the disease occurs in the newborn in less than 0.3%, before one year in 1.0% and in 5.0% of cases before. from three years of age¹².

The evaluation of abdominal pain in children is difficult and a complete clinical evaluation could help diagnose cases of acute appendicitis in any of its phases¹³. This evaluation can lead to two alternatives: 1)

request an evaluation from a surgeon for suspected appendicitis and 2) in doubtful cases request complementary laboratory and cabinet studies¹⁴. In children with abdominal pain, fever is the most useful isolated symptom for the diagnosis of acute appendicitis¹⁵. Premature neonates have a high probability of presenting with acute appendicitis¹⁶.

Due to the young age, intraluminal obstruction of the appendix is not responsible for appendicitis, but there are other causes that can cause it such as thrombotic or embolic event, internal or external hernias, cardiac anomalies and colon obstruction as in Hirschprung's disease¹⁷. Pain and nausea cannot be considered evidence of appendicitis in this age group, as these patients generally present with abdominal distension¹⁸.

Because delay in diagnosis leads to perforation and peritonitis, caution must be taken when faced with this pathology at this stage of life; the younger the age, the greater the diagnostic difficulty¹⁹.

The poor development of the omentum in pediatric patients also contributes to the above²⁰. Abdominal ultrasound is in many places an examination with good overall performance for the diagnosis of appendicitis, it is quick, non-invasive, and can be performed at the patient's side; However, in many situations it turns out to be very painful²¹. In recent years, CT has been the test to perform when the results of the clinical history and ultrasound are inconclusive, being the best method for diagnosing appendicitis²².

Mortality from acute appendicitis, in children under one year of age, in the 1960s was 91%. With the development of diagnostic means, liquid resuscitation methods and antibiotic therapy, it has been possible to reduce up to 30%, currently²³.

The objective of this work is to report the case of an 8-month-old infant who had acute appendicitis, due to its infrequency in such

early stages of life, the reports and description of these patients are of particular interest, which contribute to early diagnosis. and timely treatment of future cases.

REPORT OF CASE

Patient: M. A. P. C, white male, 8 months old. Entry date: 1-24-13 (2am), operation date: 1-26-13 (8pm), exit date: 2-13-13.

History of the current illness: -10 days of evolution with catarrhal symptoms and intermittent fever. 4 days before admission, she was diagnosed with AOM and was treated with Amoxicillin, which the mother did not comply with. 2 days before, she had 5 vomitings and 1 fever spike. He was referred due to general condition and paleness. The general clinical picture shows: Child with the appearance of a "sick child", hepatomegaly, HB: 85gr/l. Admission to respiratory room

In respiratory room:

Day 24:

In the morning he reported no vomiting, no fever, he was eating well, and he reported ear pain. An otoscopy was performed and congestive membranes were reported. At night he has 1 vomit, he takes medication and it doesn't come back.

Day 25:

In the morning, 2 vomiting and 2 feverish peaks of 38 degrees were reported. Abdominal distention appears, continues adynamic, and the child's position with both legs bent over the abdomen draws their attention.

-It is decided: to perform LP, abdominal US, transfer to the ICU (to take the general condition) and the diagnosis of "Acute Appendicitis" is proposed.

In ICU (day 25):

-On reception, attention is drawn to the patient's poor response to stimuli, hepatomegaly in 2 sections, moderate abdominal distension and position in bed.

-The PL is negative and the US Abdominal is “Negative”

-It is decided to evaluate with surgery who performs TR after which the child has a semi-pasty stool, abdominal distension decreases. It is suggested that there is no surgical condition at that time.

-Treatment with Rocepphyn is instituted
Day 26:

-Fever reappears, vomiting is not reported

-The neurological seizure continues to draw attention, the abdominal distention reappears and the position with the legs bent over the abdomen persists.

-US is repeated and reports: Dilation of thin loops with increased peristalsis, slight crowding of loops towards FID and low amount of free fluid.

-Abdominal X-ray is performed where some air-fluid levels are observed.

-It is evaluated by surgery at 1pm: It is decided that there are no conclusive clinical elements of acute appendicitis, much less imaging, although it is decided to Reevaluate at 6 hours

- Reevaluated at 7pm: The child remains the same so it is decided to perform an Abdominal Puncture. Cloudy yellow liquid is extracted so it is decided to announce to operate.

A laparotomy was performed, finding a moderate amount of purulent fluid which was aspirated, an inflamed appendix was located with abundant fibrin on its surface. Appendectomy is performed according to standard technique. The Douglas cul-de-sac is cleaned with a damp gauze, Penrose drainage is left and it is closed in layers. In the postoperative period he had signs of severe sepsis that responded favorably to the treatment imposed with a combination of cefaxone and metronidasol.

DISCUSSION

In infants, acute appendicitis is a rare condition and even more so in those under one year of age. In general terms, it is considered that inflammation of the cecal appendix in young children represents the occurrence of another disease that has not yet manifested itself in its classic form, such as necrotizing enterocolitis and, less frequently, Hirschsprung's disease²⁴.

The diagnosis of appendicitis in infants is generally postoperative. Although in some cases it is possible to detect the presence of appendiceal inflammation through an omphalocele, there is no doubt that the clinical study continues to be the most useful resource to identify those cases of abdominal pain that require surgical intervention²⁵.

Regarding the patent peritoneovaginal duct, its presence is notable when there are manifestations that suggest the passage of a segment of intestine or omentum towards the hernia defect, or intraperitoneal hemorrhage as a consequence of an injury to the solid viscus and leakage towards the hernia, or when complicated appendicitis and peritonitis are accompanied by phlogosis of the affected inguinal region²⁶.

In low-lying inflamed appendages that contact the sigmoid or in peritoneal suppurations that fill the bottom of the pouch

Most frequent reports	Patient
-Abdominal distention	-Abdominal distention
-Vomiting	-"Vomiting"
-Palpable mass	-"Fever"
-Irritability	
-Diarrhea	
-Fever	
Less frequent reports	
-Abdominal wall erythema	
-Mid flexion contracture	
-Hypothermia	
-Respiratory Distress	

Table 1. Frequent signs and symptoms reported and those presented by the patient.



A



B



C



D

Images of the surgical procedure demonstrating the externalization of the cecal appendix through an abdominal incision.

<p>Report Leukogram: Leukocytosis with left deviation</p>	<p>Patient Leukogram: Inlet: 6.3x10⁹/L P68 L26 M6 UTI: 18.4x10⁹/L P37 L58 E2</p>
<p>Simple Abdominal Rx: -Fecalith -Pneumoperitoneum -Right side levels -Handle dilation</p>	<p>Simple X-ray of the Abdomen -Left side levels -Handle dilation</p>
<p>ULTRASOUND -Diameter greater than 6mm -Periappendiceal abscess -Appendicolith -Echogenic and fluid-thickened submucosa -Circumferential hyperemia using Doppler -Thickening and increased echogenicity of the omentum and perenteric fat -Increase in size of the lymph nodes adjacent to the ileum, cecum and colon. -Intra-abdominal liquid collection</p>	<p>ULTRASOUND -1st: Normal -2nd: -Slight bunching of handles -Small amount of liquid</p>

Table 2. Complementary examinations, most frequently reported patterns and those presented by the patient.

of Douglas - pelvic abscess - diarrhea occurs in 5 to 10% of patients, which can confuse the doctor when attribute them to colitis or enteritis. Local irritation of the ureter or bladder in pelvic appendicitis causes dysuria and frequency. In young children, urinary retention can even occur²⁷.

CONCLUSION

Although uncommon in young children, acute appendicitis is a disease that must be taken into consideration by physicians caring for infants with fever, diarrhea, and irritability attributed to abdominal pain.

Surgical emergencies can easily be misdiagnosed in children, who are not always able to reveal voluntary information. Surprisingly, there are no clinical guidelines applicable to all pediatric patients, and those that exist generally have patients between 3 and 21 years of age as inclusion criteria. For this reason, a high degree of suspicion based on a complete clinical history is the key to establishing the diagnosis in children under 2 years of age who have a high rate of morbidity and mortality secondary to a wrong diagnosis.

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