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Primary segmental omental infarction as a rare cause of acute abdominal pain in childhood

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ABSTRACT

Introduction: Primary omental infarction (POI) has a low incidence worldwide, with most cases occurring in adults. This condition is rarely considered in the differential diagnosis of acute abdominal pain in childhood.
Material and methods: We present 2 cases of omental infarction in an obese 8-year-old boy and a 5-year-old boy who presented with acute abdominal pain in the right abdomen. Both patients were initially treated with intravenous fluids and analgesics with no improvement. Abdominal ultrasound of the first patient showed free intraperitoneal fluid, meteorism and distended bowel loops. The appendix was not visualized. With a presumptive clinical diagnosis of appendicitis the child underwent laparotomy.

On entering the peritoneal cavity an omental infarction was seen and a portion of the omentum was resected. Appendectomy was performed.

The second patient presented with acute abdominal pain in the right upper quadrant, which started 2 days before. There was a history of possible abdominal trauma about 3 weeks earlier. The patient had repeated ultrasound examinations and a CT scan of the abdomen which showed a omental infarction. He underwent laparoscopy and resection of the omental infarction, as well as incidental appendectomy.
Results: The postoperative period was uneventful. The first patient was discharged on day 3, the second patient on day 4 after surgery. Histology showed a normal vermiform appendix and an omental infarction in both cases.
Conclusion and discussion: Since the omental infarction as etiology of acute abdominal pain is uncommon in children, we emphasize the importance of accurate diagnosis and appropriate treatment of omental infarction.

1. Introduction

Abdominal pain is a common complaint in children presenting to the emergency room. The differential diagnosis includes serious surgical pathologies such as acute appendicitis, intussusception, malrotation, torsion of the gonads, all of which require prompt intervention. In children, primary omental infarction (POI) is rarely considered in the differential diagnosis of acute abdominal pain. This condition has a low incidence worldwide, with most cases occurring in adults.

The etiology of the condition is unclear and it can appear with or without omental torsion.

2. Case report 1

We present a case of primary omental infarction (POI) in an obese 8-year-old boy who presented with clinical, hematological and radiological findings of acute appendicitis.

The patient was admitted to our department due to acute abdominal pain of approximately 12 h duration, with nausea, but no vomiting. The child had no significant past medical history. He was obese with a BMI of 35,1 kg/m^2. The physical examination revealed marked abdominal tenderness localized to the right lower abdomen. His temperature was 37.4° C, and a laboratory investigation revealed a white blood cell count of 12220 leukocytes/mm^3 and elevated C-reactive protein (1.68 mg/dl).

An ultrasound examination did not reveal the appendix, but free peritoneal fluid in Douglas' space and between the distended bowel loops in the right abdomen.

The patient was initially treated with intravenous fluids and analgesics, but showed no improvement.

The child was thus operated on under the preoperative presumptive clinical diagnosis of acute appendicitis. The right iliac fossa was

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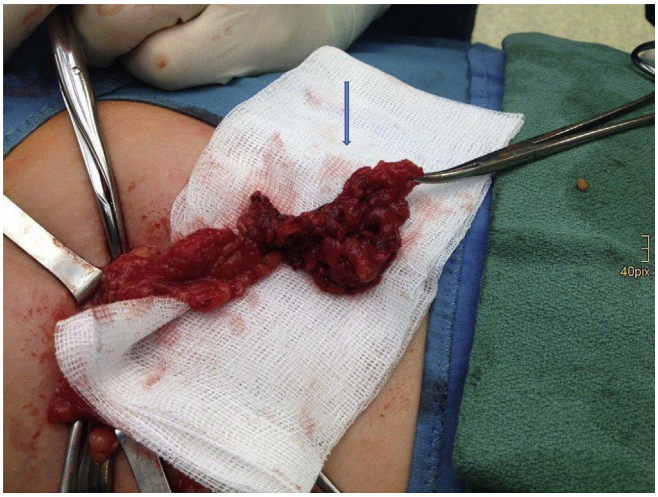

Fig. 1. Omental infarction (intraoperative aspect).

explored and a small amount of serous fluid was found. A grossly inflamed omental mass was seen in the right lower quadrant and a partial omental resection was undertaken (Fig. 1).

The cecum was found in a high position with a normal appendix located retrocecal below the liver. An appendectomy was performed. The pathology of the surgical specimens revealed primary omental infarction and an appendix without inflammation (Fig. 2).

The patient's postoperative course was uneventful and he was discharged on the third postoperative day.

3. Case report 2

A 5-year-old boy presented with acute abdominal pain in the right upper quadrant which started 2 days ago. There was one episode of diarrhea and vomiting the day before, but no fever at home. The pain had a rather colicky character.

There was a bicycle fall 3 weeks ago, but there were no signs of posttraumatic lesions on the abdomen at that time.

The blood tests were normal, besides a mild anemia. The BMI of the second patient was 29,7 kg/m^2.

The primary ultrasound examination (Fig. 3) showed a moderately echogenic, solid, non-compressible mass of 8 × 3 × 4 cm in the region of maximal tenderness and a small amount of fluid in Douglas' pouch.

An X-ray of the abdomen and the thorax showed no abnormalities.

With the suspicion of omental infarction, conservative treatment

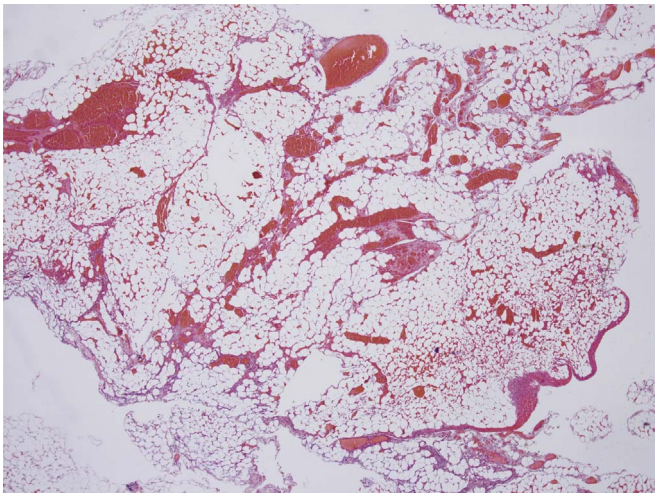

Fig. 2. Omental infarction – Histological aspect.

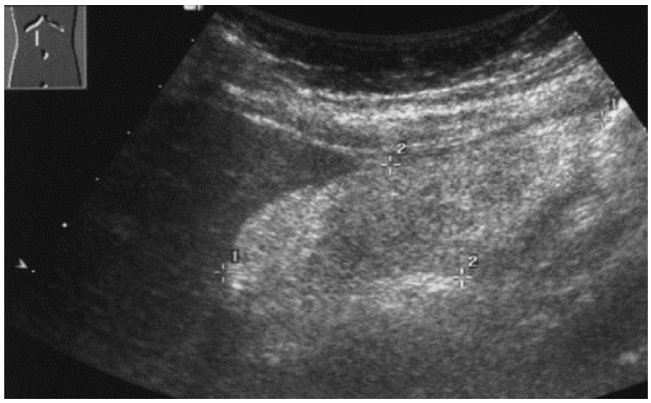

Fig. 3. Ultrasound aspect of the omental infarction.

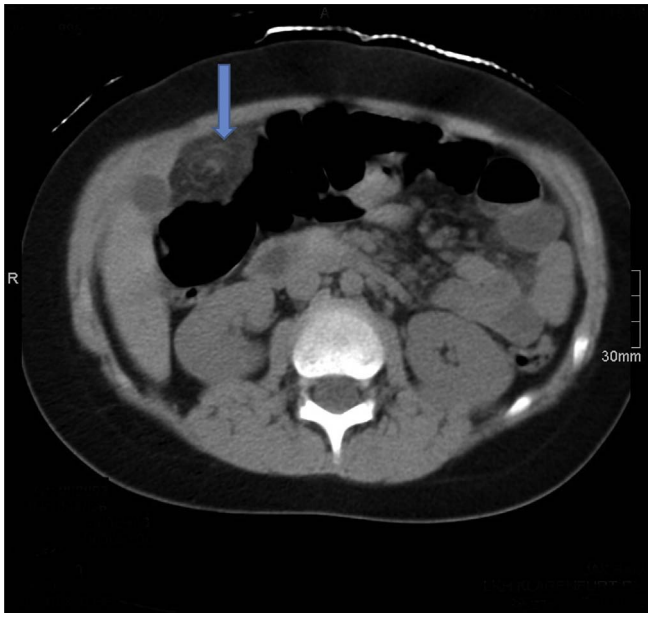

Fig. 4. CT scan confirmed the omental infarction.

with intravenous antibiotics, fluids, analgesics and bed rest was started, but there was no clinical improvement. The follow-up ultrasound 2 days later showed a similar image of the mass. A CT scan of the abdomen (Fig. 4) was performed and it confirmed the omental infarction.

Because the symptoms of the patient didn't improve with conservative treatment, a laparoscopy was performed with resection of the affected omentum and incidental appendectomy.

The histological exam revealed infarction of the omentum (Fig. 5) and a normal appendix without inflammation.

The patient recovered uneventfully and was released from the hospital on the 4th day after the operation.

4. Discussion

Primary omental infarction (POI) is an uncommon condition that may present as acute abdomen in any age group, but mainly in the fourth and fifth decade of life, and with a male-to-female ratio of 2:1 [1,2].

Almost all cases of primary omental infarction have been reported in the past 15–20 years. This is due to probably an increased incidence of obesity epidemic or an increased recognition (increased use of CT scan). About 85% of cases have been reported in adults and only about 15% in children.

Most authors support the hypothesis that it is associated with an