CASE REPORT

A rare presentation of mesenteric cystic lymphangioma in 5-year-old girl

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ABSTRACT

Acute abdominal pain is a frequent event in the pediatric population and appendicitis is the most common cause. Abdominal lymphangiomas occur most frequently in the mesenterium and are usually asymptomatic. Nevertheless, they can manifest as acute abdomen, needing surgical treatment. We report the case of a 5-year-old female operated on due to suspicion of acute abdomen. The pathological lesion was surgically removed during the second operation. The differential diagnosis of acute abdomen should be initially focused on the most common abdominal diseases. However, rare cases, like the presented one, must also be taken into consideration. Ultrasound examination plays important role in the initial differentiation of the causes of abdominal pain.

KEY WORDS:
abdominal cystic lymphangioma, acute abdomen, appendicitis, surgery.

INTRODUCTION

Lymphangiomas are rare lesions of the lymphatic vessels. Their aetiology is uncertain. In most cases lymphangiomas are congenital, often associated with genetic disorders (e.g. trisomies 13, 18, and 21, Noonan syndrome, Turner syndrome) [1]. Abdominal lymphangiomas are rare and occur most frequently in the mesenterium. Mesenteric lymphangiomas have varied clinical presentations, from asymptomatic to acute abdominal pain [2]. They can also cause life-threatening complications like rupture, anaemia due to intraabdominal or intracavitary bleeding, ischemic tissue necrosis, intestinal gangrene, intestinal obstruction with the need for surgical exploration [3]. Based on our experience, we would like to present a clinical case of a 5-year-old female patient whose acute abdominal pain was attributed to appendicitis and solved with two laparotomies.

CASE REPORT

A 5-year-old female was referred to district hospital by the general practitioner because of suspected appendicitis. At arrival to the Emergency Department, the abdomen was tense with muscular defence. Increased inflammatory markers (CRP 220.8 mg/l, white blood cells 19.6 × 10^9/l) and anaemia (haemoglobin 8.6 g/dl, haematocrit 25.7%) were revealed in laboratory tests. The patient's temperature was 36.6°C. The ultrasound examination was not performed at this point. On the basis of physical examination and laboratory tests, the patient was qualified for surgery as a suspicion of appendicitis. During the laparoscopic operation, the conversion to laparotomy was necessary. The appendix was normal, but a pathological mass in the umbilical region was observed. The decision of ending the surgery and transferring the patient to our referral centre was made. The lesion was not typical and surgeons assessed their experience as too small to operate this. On admission, the patient was apathetic. The skin
was pale with no other changes. Due to strong abdominal
defence, the palpation of internal abdominal organs was
very difficult. The ultrasound examination and abdominal
CT-scan showed a large cystic lesion (7.2 × 13.2 × 12.8 cm)
in the umbilical region and retroperitoneal space ascend-
ing from the small intestine's mesentery. The bowel
loops were moved upward, the aorta slightly lateral.
The inferior vena cava and the left kidney were dislo-
cated. The next explorative laparotomy was performed.
A vast cystic lesion ascending from the mesentery
was dissected. Cysts were filled with lymphatic fluid and
blood. Free fluid visible in the abdominal cavity contained
an admixture of blood. The intraoperative diagnosis was
of a mesenteric lymphangioma (Figure 1).
The lesion was radically resected and removed en bloc. Appendectomy was also performed. After a week
of observation, the patient was discharged from the hospital with no postoperative complications.

DISCUSSION

Acute abdominal pain, which occurred in our patient,
is a frequent ailment in the paediatric population [4].
The literature indicates that in the overall paediatric
population, the most common causes are respectively:
appendicitis, which was a primary diagnosis in the pre-
sented case, bowel obstruction, child abuse, constipation,
dietary indiscretions, gallbladder disease, gastroenteri-
tis, haemolytic uremic syndrome, mesenteric adenitis,
pancreatitis, sickle cell crisis, trauma, upper respiratory
infection, and urinary tract infection [5]. The life-threat-
ening causes of acute abdominal pain, like haemorrhage,
obstruction, and perforation of the gastrointestinal tract,
deserve special attention and could have been suspected
in our patient due to anaemia and increased inflamma-
tory markers at the laboratory tests [6]. It is essential to
differentiate between surgical and non-surgical as well
as urgent and non-urgent conditions presenting as acute
abdominal pain [7]. The differentiation is not simple.
The patient's medical history, physical examination, im-
aging and, laboratory tests are the basis of diagnosis,
nevertheless, diagnostic laparoscopy may be occasionally
needed in some patients for the final verification as in
the presented case [8, 9].

As already mentioned, appendicitis is the most com-
mon surgical emergency and a frequent cause of abdomi-
nal pain [10]. Many conditions should be differentiated
from appendicitis, among them the ones above and oth-
ers like intussusception, acute cholecystitis, perforated
peptic ulcer, mesenteric adenitis, Meckel's diverticulitis,
colic or appendicular diverticulitis, pancreatitis, and
rectus sheath hematoma. Urological, gynaecological, and
systemic conditions must also be taken into consider-
ation [11]. The described patient's acute abdominal pain,
muscular defence and laboratory tests results belong to
the symptoms of appendicitis as described in the litera-
ture. Other common symptoms and clinical findings in
paediatric patients with this condition are nausea, vom-
iting, fever, diarrhoea, migration of pain, cough, respira-
atory distress, and leukocytosis with neutrophilia in
the blood count [12, 13]. We did not observe such symp-
toms in our patient.

Mesenteric lymphangioma is a rare finding because it
mainly occurs in the head, neck, and axilla [14]. Lymph-
angiomas in the abdominal cavity are highly uncommon,
but if they appear, they originate from the mesenteri-
um [15]. Same as for our patient. Imaging is beneficial in
the diagnosis of mesenteric lymphangiomas. Ultrasonog-
raphy is used for the initial diagnosis of the lesion because
it is considered a highly sensitive tool for diagnosing cys-
tic lesions and due to lack of radiation exposure [16, 17]
CT-scan provides information on anatomical localization,
size, and involved structures, which is crucial to plan the
surgical treatment. Therefore it was used in our patient to
complete the diagnostic imaging, nevertheless, magnetic
resonance imaging is also considered to be an effective
examination in these cases [16]. In our case, the symp-
toms of acute abdomen have evolved due to prolonged
intra-cystic haemorrhage, but other reported reasons
like torsion or rupture can cause the acute abdominal
pain [18]. The treatment of mesenteric lymphangioma in
this case was surgical resection due to the patient's clin-
ical condition. The lesion is classified as benign, but it is
essential to remove it radically. Lymphangioma tends to
recur and infiltrate adjacent structures [19]. Even though
the complete surgical resection is the most effective
way of treating mesenteric lymphangiomas. A minimally inva-
sive approach using percutaneous drainage and sclerosis
with ethyl alcohol was recently reported as innovative but
also efficient therapy [20].

Considering the diagnostic criteria proposed in
the Appendicitis Inflammatory Score (AIR), the patient
at the district hospital received the score that requires
additional evaluation using imaging examinations or
laparoscopy [21]. Probably an ultrasound examination
before the decision about surgery would save the child
from the necessity of two laparotomies.

It emphasises the importance of ultrasound exam-
ination in the differential diagnosis of abdominal pain.
It is suggested that USG could be sufficient for the ini-

FIGURE 1. Mesenteric lymphangioma filled with lymphatic fluid and blood
A rare presentation of mesenteric cystic lymphangioma in 5-year-old girl

CONCLUSIONS

Differential diagnosis of acute abdomen in paediatric patients must include rare conditions, like lymphangiomas. Ultrasound examination plays important role in the initial differentiation of the causes of abdominal pain. Radical surgery is an effective treatment for abdominal lymphangiomas.

DISCLOSURE

The authors declare no conflict of interest.

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