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Original research

Percutaneous drainage and sclerosis of mesenteric cysts: Literature overview and report of an innovative approach

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ABSTRACT

We present the case of a 29-years-old male patient, affected by a voluminous post-traumatic mesenteric cyst, a rare abdominal disease; our patient represents a rarely affected age group.

Treatment was based on interventional radiology with an US-guided drainage and sclerosis by ethyl alcohol of the lesion.

The intervention performed on this patient represents the application of a standardized radiological technique to a new contest, mesenteric cysts, whose gold-standard treatment is represented in literature by surgery.

In our case we obtained an optimal result, with complete regression of the treated cyst: it proved to be an effective, feasible, safe and minimally invasive procedure.

1. Introduction

We present the case of a 29-years-old male patient, affected by a voluminous post-traumatic and symptomatic mesenteric cyst. Treatment was based on interventional radiology with an US-guided drainage and sclerosis by ethyl alcohol of the lesion, unlike most of other cases described in literature.

2. Case presentation

29-years-old male, employee, BMI 24.9; he referred to the Outpatients clinic of our Surgical Section because of self-palpation of an abdominal mesogastric distension, with sporadic episodes of colic abdominal pain and subjective discomfort. His medical history included tonsillectomy, removal of a pilonidal cyst, and a post-traumatic abdominal wall haematoma due to a contusive trauma of abdominal right quadrants by a domestic accident, spontaneously resolved.

Familiar and pharmacological anamnesis was silent.

The abdominal clinical examination revealed a palpable solid mass of about 10 cm, sliding from nearby tissues, in mesogastric – right paraumbilical region; the mass was not painful.

He underwent instrumental exams:

- Abdominal US: in right paraumbilical region presence of an ovalar, anaecogenous, 82 mm mass, with sharp margins, not vascularized, referable to a cystic formation (Fig. 1).
- Abdominal CT: voluminous fluid, ovalar, 85 × 70 mm formation in mesenteric adipose tissue of umbilical region, contiguous to abdominal wall fascia, communicating with an analogue 2 cm formation; lesions suggestive for mesenteric cysts (Fig. 2).

Blood tests and EKG performed in preparation for possible subsequent therapeutic interventions were normal.

We evaluated the case by an equipe discussion with surgeons and radiologists.

The options, based on literature, were:

- watchful waiting with US follow-up, indicated for asymptomatic cysts [1].
- interventional radiology, mostly described for non mesenteric abdominal cysts treatment; for mesenteric cysts few cases are

List of abbreviations: BMI, Body Max Index; US, ultrasound; ECG, electrocardiogram.

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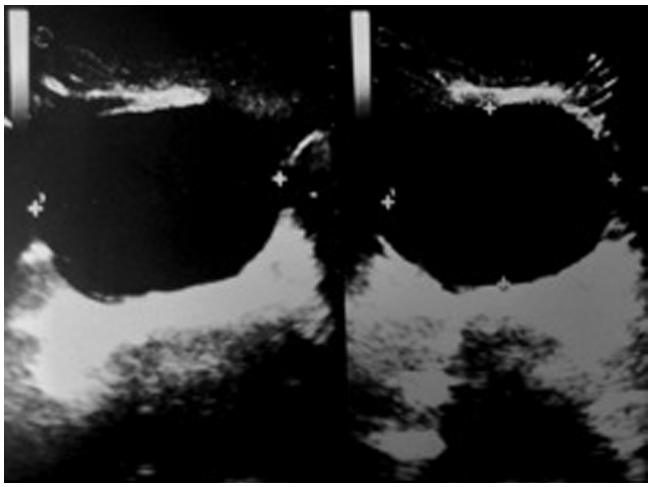

Fig. 1. US image of the mesenteric cyst.

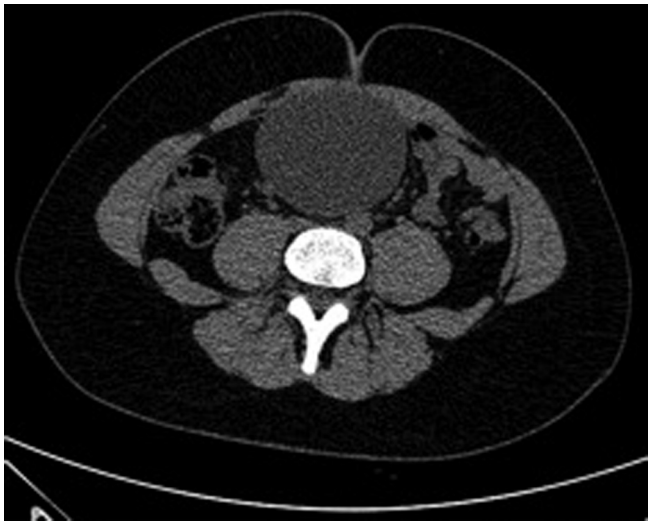

Fig. 2. CT image of the mesenteric cyst.

reported, treated with percutaneous drainage only, or with drainage followed by sclerosis by ethyl alcohol [1–3].
- surgical laparoscopic or laparotomic operation, with cyst dissection and removal, or removal with involved bowel tract resection, or cystic drainage and marsupialisation [4–7].

In our case, to choose the most appropriate treatment, we evaluated:

- patient age;
- symptoms and subjective discomfort;
- lesion volume;
- risk of complications due to the cyst and its volume amount;
- suspect benign nature of the cyst, probably post-traumatic;
- the entity of surgery that, even if started laparoscopically, could require a laparotomic conversion or a bowel resection;
- the availability in our hospital of radiologists expert in interventional treatments.

The collective decision was an interventional radiologic treatment including cysts drainage and its sclerosis by ethyl alcohol to reduce recurrence risk.

In day-hospital regime an US-guided sclerosis by 95% ethyl alcohol was performed. The lesion was centred by US, a pig-tail drainage was positioned, and 250 cc of yellow limpid fluid were aspirated; then 60 cc of ethyl alcohol were injected and left it in place for 20 min. Afterwards about 70 cc of fluid were aspirated, composed of ethyl alcohol and reactive cystic fluid. Post-procedure US control demonstrated the absence of residual fluid collections.

The patient was reassessed with clinical examination after 7 days and didn't present any post-procedure symptoms or complications.

Cystic fluid cytological examination was negative for neoplastic cells. We programmed an US follow-up 2 months after the procedure. This US control demonstrated a mesogastric 36 × 20 mm fluid collection of about 15 cc (Fig. 3).

This image isn't interpretable as a recurrence of the lesion but it's likely due to sierositis of cystic wall reacting to ethyl alcohol treatment, typical of the first post-procedure period; the patient was asymptomatic with negative clinical examination, so we didn't perform any additional treatment and programmed an US control after 6 months (8 months from treatment). In this occasion, 8 months from treatment, the US appreciated the complete regression of the fluid collection (Fig. 4).

We programmed next follow-up control up to 1 year, still preferring US as imaging method instead of CT, for radioprotectionistic reasons because of patient's young age.

3. Results and discussion

Mesenteric cysts are a rare disease, representing 1/140,000 total hospital admissions and 1/20,000 paediatric hospital admissions, with a median age of 5-years-old [8]. Our patient, therefore, represents a rarely affected age group.

Mesenteric cysts diagnosis is clinical and radiological. It can be: occasional, clinical (after abdominal distension), surgical (during other operations), radiological (during examinations performed for other reasons), after complications – mostly represented by abdominal pain, bowel obstruction, volvulus formation, infection, cyst's breakage or haemorrhage, or rarely an irreducible hernia [8–11].

Among the most recent classifications we find the division in lymphatic cysts (simple or lymphangioma), mesothelial cysts

Fig. 3. US image of mesogastric fluid collection – 2 months after treatment.