Case 15022

Eurorad

Mesenteric cyst: a rare cause of abdominal pain

Published on 29.09.2017

DOI: 10.1594/EURORAD/CASE.15022
ISSN: 1563-4086
Section: Abdominal imaging
Area of Interest: Abdomen
Procedure: Education
Procedure: Biopsy
Imaging Technique: CT
Imaging Technique: Ultrasound
Imaging Technique: PACS
Special Focus: Cysts Case Type: Clinical Cases
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Patient: 27 years, female

Clinical History:

The patient presented to the ER with a history of mild abdominal pain aggravated in the past week. She had no history of prior surgery or trauma. Physical examination showed a soft, depressible abdomen, painful on the left side, where presence of a tumour of approximately 5 cm was perceived.

Imaging Findings:

Ultrasound of the abdomen was obtained at ER admission revealing a mass in the left quadrant, adjacent to the descending colon. The mass was not solid, with internal debris and thickened walls, with densification of the adjacent peritoneal fat. A small amount of fluid was present in Douglas pouch.
A CT examination was performed for aetiologic investigation, showing a hypodense mass in the left middle abdomen, adjacent to the descending colon. The mass had an internal liquid component, thickened and enhancing walls and measured 4.7 x 4.2 x 2 cm (transversal x longitudinal x anteroposterior).
Surgical excision was performed. The mass was in the dependence of sigmoid colon mesentery and could easily be eradicated.
Grossly, the mass was brown and yellow in colour and it was cavitated on the inside.
Microscopically, it did not have inner lining, but there was abundant polymorphic inflammatory infiltrate.

Discussion:

When faced with a peritoneal mass the first step is to differentiate between a cystic and a solid lesion. It is also important to determine the organ of origin. If the lesion does not clearly arise from an abdominopelvic solid organ, probably it will originate from the mesentery or omentum.
Mesenteric tumours may present as an incidental finding, with non-specific abdominal features or as acute abdomen. Abdominal pain is the major presenting symptom [1], as it was the case with our patient.
Mesenteric cyst is a rare abdominal tumour, with an incidence varying from 1 per 100, 000 to 250, 000 admissions [2].
A mesenteric cyst is defined as a cyst located anywhere in the mesentery of the gastrointestinal tract. It may or may not extend into the retroperitoneum, which has a recognisable lining of endothelium or mesothelial cells [3].
Lymphangioma is the most common mesenteric cyst and it usually has the appearance of a multilobulated cystic

lesion without ascites [4].
Other mesenteric cysts are very uncommon and have no specific features.
Another differential would be an enteric duplication cyst which is also a rare lesion, with a thickened wall of three layers as the bowel wall. It may occur anywhere in the mesentery, either adjacent to or away from the bowel.
Mesothelial cysts are another type of cystic lesion with no specific features but lined by mesothelial cells [4].
Non-pancreatic pseudocysts are thought to be the sequelae of a mesenteric or omental haematoma; or an abscess that did not resorb. Most of these patients have a history of prior abdominal trauma. Often the lesion has a thickened wall and there can be some debris within the lesion [1]. Given the radiological appearance, and although the patient did not recall a recent history of trauma, it was compatible with our case. The specimen did not show any inner lining and there was abundant polymorphic inflammatory infiltrate, which was consistent with a non-pancreatic pseudocyst.
Surgery is the treatment of choice and the only way to obtain a definitive diagnosis of a mesenteric cystic lesion. Aspiration of the cyst alone should not be performed, but marsupialisation with careful follow-up may be necessary for multiple cysts or those difficult to excise completely, such as those located within the retroperitoneum [5].
Differential Diagnosis List: Mesenteric cyst (non-pancreatic pseudocyst), Non-pancreatic pseudocyst, Lymphangioma, Enteric duplication cyst, Echinococcal cysts

Final Diagnosis: Mesenteric cyst (non-pancreatic pseudocyst)

References:

Prakash A., Agrawal A., Gupta R.K., Sanghvi B., Parelkar S (2010) Early management of mesenteric cyst prevents catastrophes: a single centre analysis of 17 cases. Afr J Paediatr Surg 7:140–143 (PMID: 20859015)
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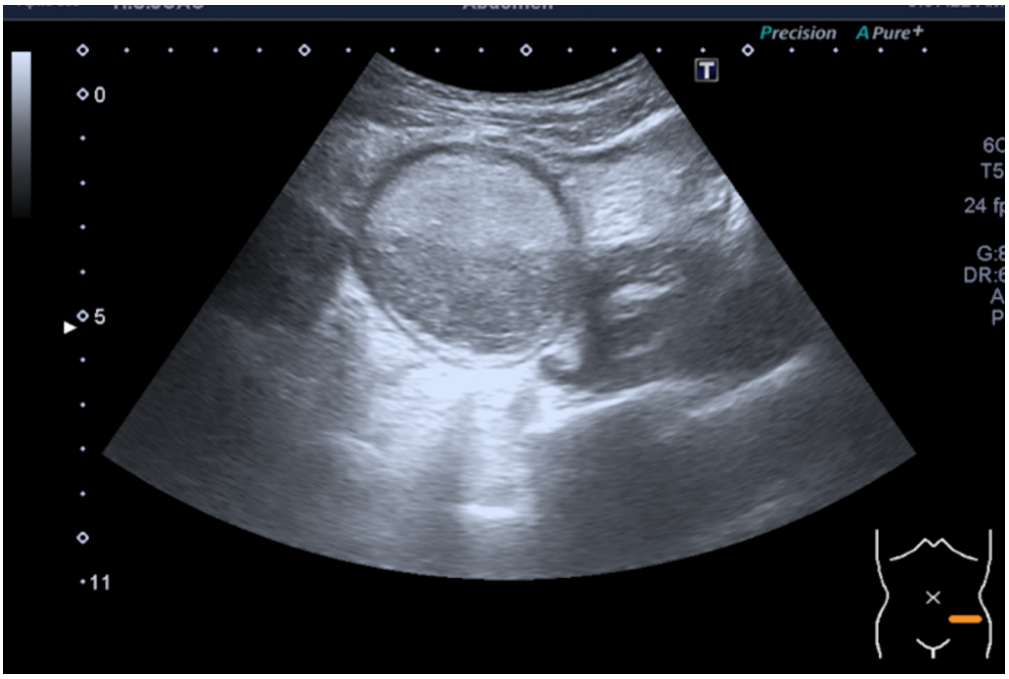
Saviano M.S., Fundarò S., Gelmini R., Begossi G., Perrone S., Farinetti A., Criscuolo M. (1999) Mesenteric cystic neoformation: report of two cases. Surg Today 29(2):174–177 (PMID: 10030745)
Ros PR, Olmsted WW, Moser RP Jr, et al. (1987) Mesenteric and omental cysts: histologic classification with imaging correlation. Radiology 164(2):327–332 (PMID: 3299483)
Burkett JS, Pickleman J. (1994) The rationale for surgical treatment of mesenteric and retroperitoneal cysts. Am Surg 60:432-5. (PMID: 8198335)

Figure 1

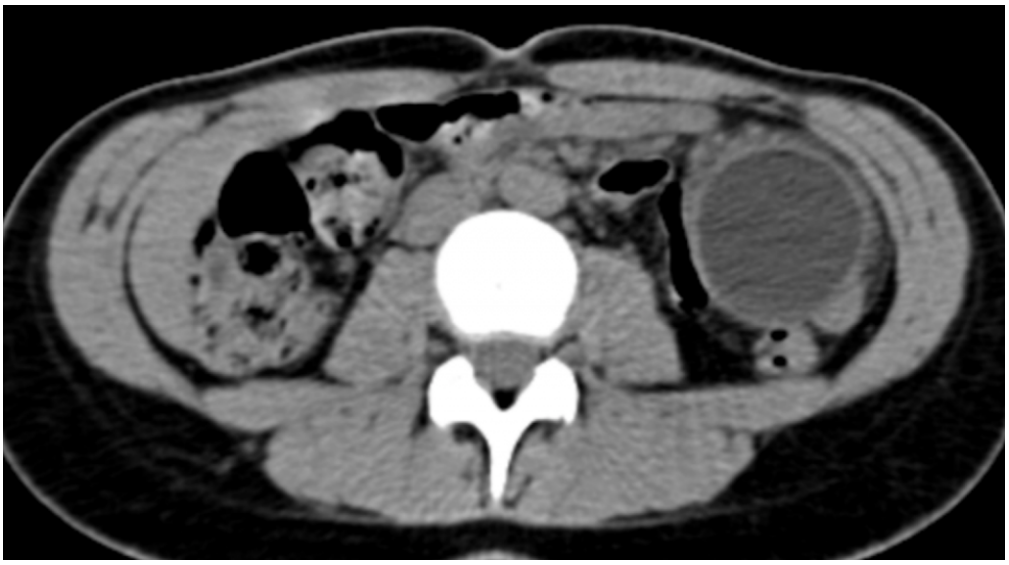
a



Description: Ultrasound image of the left flank showing a round, well-defined, cystic mass with the internal debris adjacent to the descending colon. **Origin:** Radiology Department - Centro Hospitalar de São João

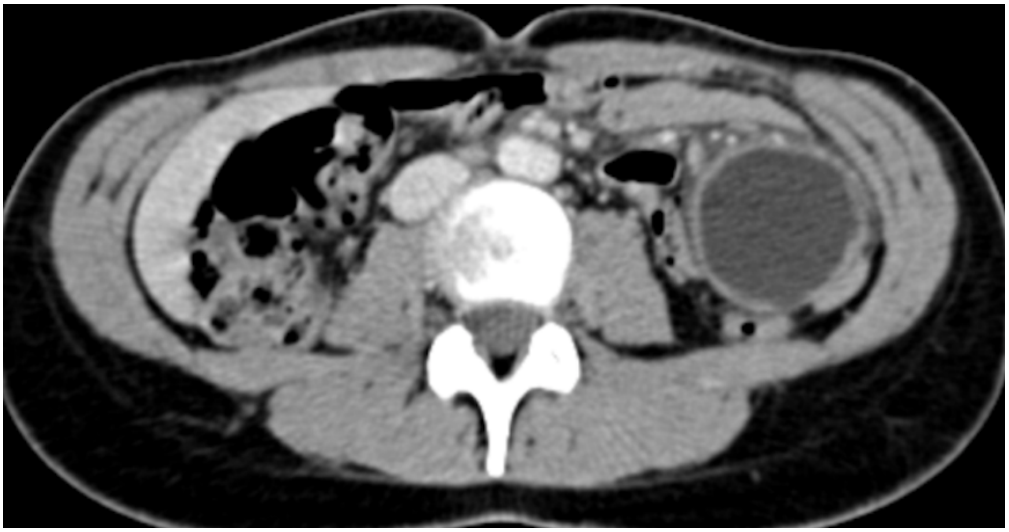
Figure 2

a



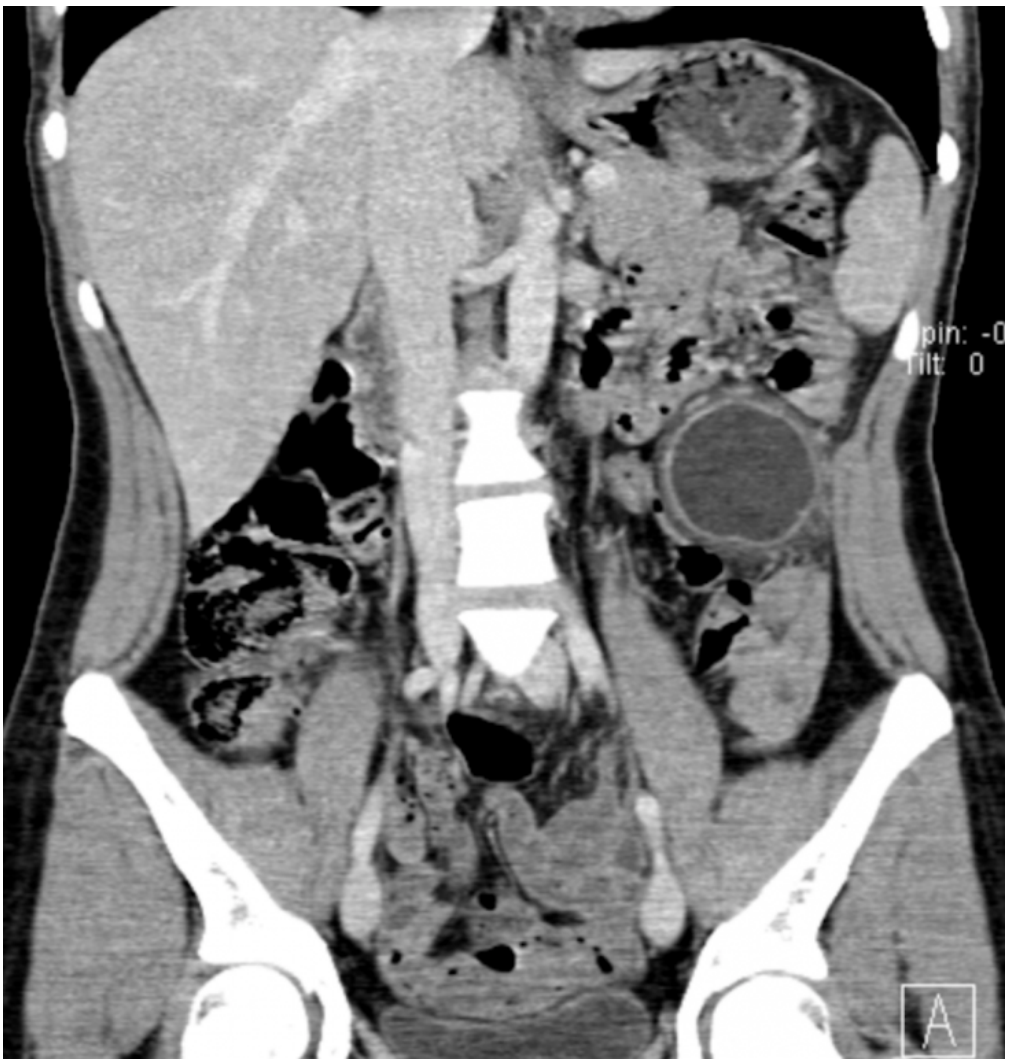
Description: CT non-enhanced axial image depicting the liquid content of the lesion. The lesion is next to the descending colon but does not clearly arises from any organ. **Origin:** Department of Radiology - CHSJ - Porto, Portugal

b



Description: Enhanced axial images showing that only the walls of the lesion shown enhancement after contrast administration. Stranding of the adjacent fat is also seen. **Origin:** Department of Radiology - CHSJ - Porto, Portugal

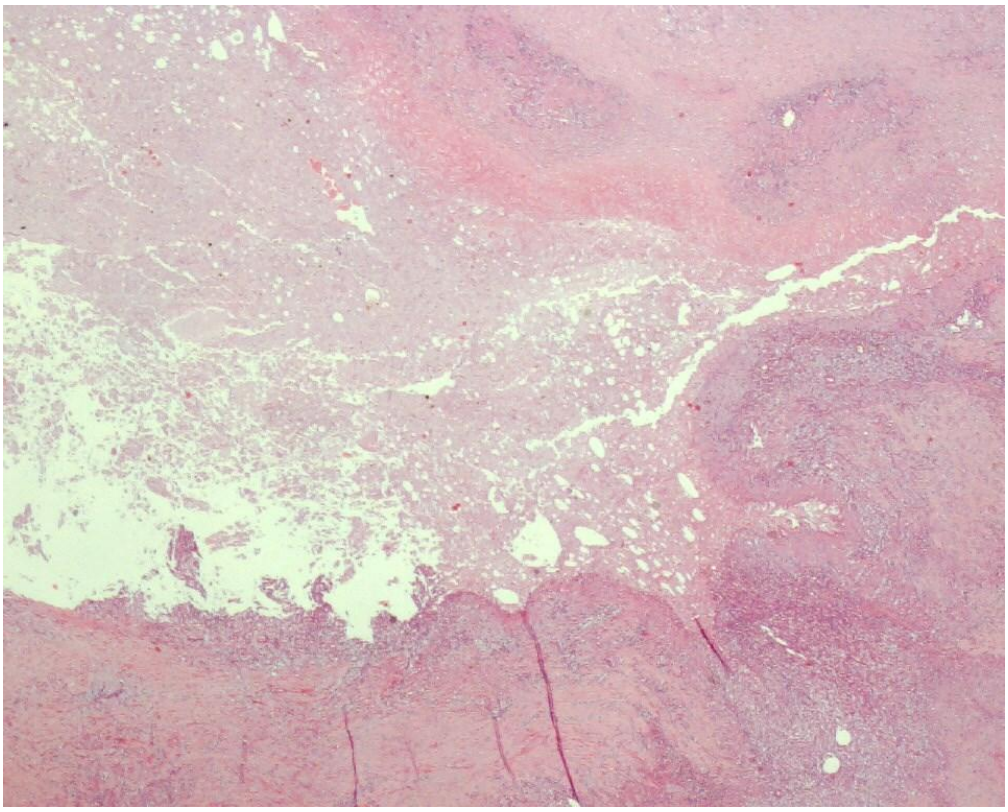
c



Description: Coronal CT image after e.v contrast administration. Only the walls of the lesion shown enhancement. The lesion is next to the descending colon but does not clearly arises from any organ.
Origin: Department of Radiology - CHSJ - Porto, Portugal

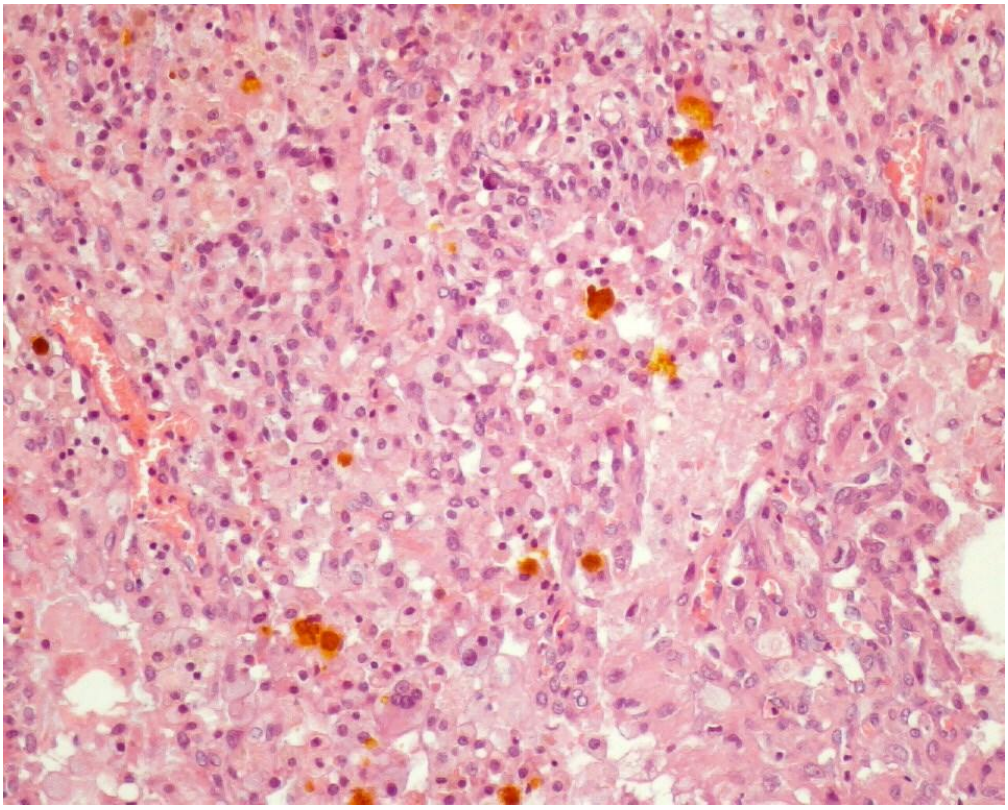
Figure 3

a



Description: H&E stain shows a cystic space with no lining epithelium. **Origin:** Department of pathological anatomy - CHSJ - Porto, Portugal

b



Description: H&E stain shows areas of hyalinisation and also an abundant polymorphic inflammatory infiltrate. **Origin:** Department of pathological anatomy - CHSJ - Porto, Portugal