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Case Report
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Large Mesenteric Cyst Mimicking Dyspepsia in a Young Adult Female

*Arjavon Talebzadeh**

HCA Florida Orange Park Hospital, Orange Park, FL, USA

Abstract

The mesenteric cyst is a typically benign intra-abdominal lesion that arises from the peritoneum. This report explores a case of a 22-year-old female whose abdominal distention and gastrointestinal symptoms were secondary to a large mesenteric cyst. The patient's symptoms were initially attributed to gastritis. On ultrasound and CT imaging, a large extrahepatic cyst, measuring 2.7 liters in volume, was identified within her abdomen displacing adjacent structures. The patient was ultimately treated surgically with laparoscopic enucleation. The surgical pathology report revealed a cyst lined by cells of mesothelial origin.

Introduction

A broad differential diagnosis should be considered when encountering large thin-walled cysts within the abdomen, the peritoneal lining, or the omentum. Physicians encountering such a presentation ought to consider a wide array of possibilities such as pancreatic pseudocyst, a cyst arising from abdominal viscera (i.e., liver spleen, kidney), a duplication cyst of the enteric system, an infectious etiology (i.e., hydatid cyst), and more [1-8].

The cyst of interest in this article is the mesenteric cyst – which is a cyst arising from the peritoneum. They are rare and implicated in roughly 1 in 100,000 to 250,000 hospital admissions [4,6]. This cyst is most common in the pediatric population, with one third of patients afflicted under the age of 15 [9-13]. Among pediatric patients, there is a bimodal distribution with peaks under the age of 5 and in adolescence [10,13]. Children are more likely than adults to be symptomatic and experience complications such as bowel obstruction, intestinal ischemia, or peritonitis [1,11]. Symptoms of mesenteric cyst include abdominal pain, nausea, and vomiting – many of which are incorrectly attributed to a more common diagnosis such as gastritis or peptic ulcer disease [3,5]. These cysts are most often benign, with only a 3% risk of malignancy among patients afflicted with mesenteric cysts [12].

This report explores a case of a 22-year-old female whose abdominal distention and gastrointestinal symptoms were secondary to a large mesenteric cyst.

Case Presentation

A 22-year-old female presented to a local emergency department for a complaint of bloating, abdominal pain, and heart burn. Such symptoms were reported to have begun after an episode of suspected food poisoning. She was evaluated by another physician for gastritis with antiemetics and PPI without any imaging and was advised to follow up with her primary care physician. Her primary care physician continued similar management. Shortly thereafter, her symptoms progressed. Her pain predominantly affected the epigastrium and space just deep to her sternum. Intermittently, she developed shortness of breath and also experienced a decreased appetite compared to baseline. The patient was noted on exam to have a nontender protuberant abdomen (Figure 1).

Her primary care physician ordered a formal abdominal ultrasound. The ultrasound report declared there was a cystic mass in the mesogastrium of 20 × 18 × 15 cm with a calculated volume of 2775 mL (Figure 2). Subsequently, a CT abdomen and pelvis with IV contrast was performed, redemonstrating similar findings: An extrahepatic cyst measuring 23 × 20 × 13 cm was found to be displacing the right kidney, pancreas, and local bowel loops. Hollow viscus, solid viscera, vascular, and genitourinary structures appeared intact and unremarkable (Figure 3). The cyst was considered mesenteric by the radiology report. CEA and CA-19-9 levels were obtained perioperatively and were within the normal range.

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Correspondence:
Arjavon Talebzadeh, HCA Florida Orange Park Hospital, 2001 Kingsley Avenue, Orange Park, FL 32073, USA, Tel: (619) 948 – 3897; E-mail: Arjavontaleb@gmail.com

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Figure 1: A side profile of the patient reveals a young adult female of otherwise lean stature with a large protuberant abdomen.

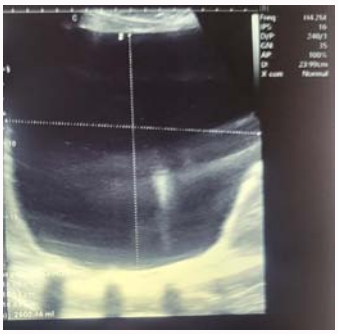

Figure 2: On ultrasound, a large anechoic cyst without septations was identified within the patient's upper abdomen. Estimated volume of 2600 mL.

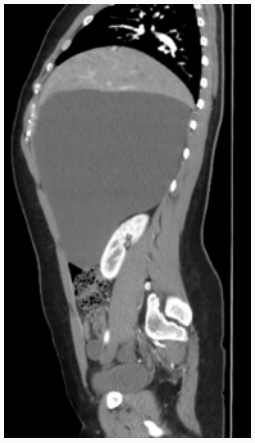

Figure 3: A large extrahepatic cyst of fluid-density identified within the peritoneal cavity on CT abdomen and pelvis with IV contrast.

The patient was thus referred to a general surgeon who scheduled the patient for laparoscopic removal of the cyst. Roughly 80% of the cyst was removed due to significant vascularity of the lesion (Figure 4,5), and the patient was discharged from the hospital after 24 hours of observation. Her pathology report ultimately demonstrated a thin lining of mesothelial cells without dysplastic features (Figure 5), strongly suggesting it was non-malignant [1,2].

Discussion

The source of this patient's gastrointestinal symptoms was initially attributed to dyspepsia. Given its rarity and non-specific clinical presentation, imaging plays an important role in developing suspicion of mesenteric cyst, with surgical pathology required for confirmation [1,3,5]. Mesenteric cysts have six pathohistologic variants originally described by de Perrot et al. including:

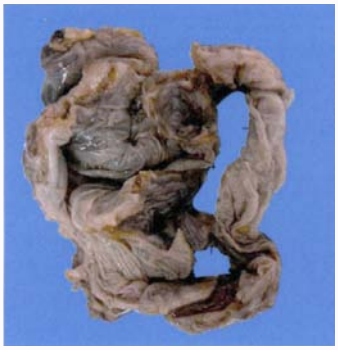

Figure 4: Gross specimen of the removed cyst. The surface is soft and bright gray with intermittent purple vascular sections.

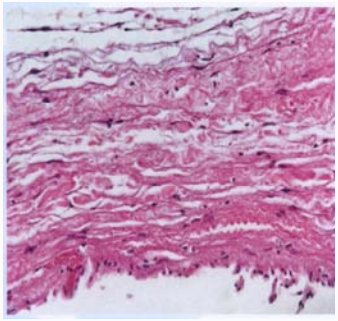

Figure 5: Pathophysiologic specimen reveals an inner lining of cuboidal cells with an appropriate nuclear-to-cytoplasmic ratio. Curly fibrous elements containing capillaries typical of connective tissue are also appreciated.

1. Cysts of lymphatic origin (simple lymphatic cyst and lymphangioma);
2. Cysts of mesothelial origin (simple mesothelial cyst, benign cystic mesothelioma, and malignant cystic mesothelioma);
3. Cysts of enteric origin (enteric cyst and enteric duplication cyst);
4. Cysts of urogenital origin;
5. Mature cystic teratoma (dermoid cysts); and
6. Pseudocysts (infectious and traumatic cysts) [2].

This patient's pathology report described a lining of mesothelial cells – suggestive of a cyst of mesenteric origin.

There is no known pharmacological treatment for this condition and definitive management is surgical intervention [3,7,11]. Options for surgical management include enucleation or excision ± bowel resection. With careful patient selection, smaller mesenteric cysts are often removed laparoscopically [9]. However, sometimes cysts are so large that laparotomy may be preferred. Pediatric patients are more likely to present with acute complications, rapid symptom onset, and higher rates of bowel resection [1].

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