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Case Report

Traumatic rupture of a giant congenital splenic cyst presenting as peritonitis

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ABSTRACT

Splenic cysts are uncommon, with large cysts and complications being rare. We describe a 6-year-old patient who initially presented 1 day after falling onto her abdomen at the playground with worsening abdominal pain and distention. An ultrasound of the abdomen demonstrated free abdominal fluid in all four quadrants. A subsequent contrast-enhanced computed tomography scan of the abdomen and pelvis was performed which showed a large splenic cyst with open communication to the peritoneal cavity. A congenital primary cyst was confirmed on pathology after partial splenectomy was performed. Although the majority of splenic cysts are asymptomatic, rupture can lead to acute peritoneal signs and mimic other significant causes of abdominal pain such as viscous injury or acute appendicitis.

Introduction

Splenic cysts are an uncommon occurrence seen in 0.07% of patients as described in a large autopsy series of 42,327 patients [1–3]. However, with the increasing prevalence of cross-sectional imaging, splenic cysts are incidentally detected with greater frequency. Splenic cysts are typically classified as primary (true) or secondary (false), which are differentiated by the presence or lack of an epithelial lining. Primary cysts can be further subdivided into nonparasitic and parasitic subsets, while secondary cysts can be classified as traumatic, infectious, or resulting from prior infarction. Congenital cysts tend to present in young females, and while symptoms are rare, they do occur and can mimic other clinical pathologies. We present the rare complication of a traumatically ruptured congenital splenic cyst in a pediatric patient.

Case report

A 6-year-old female with a past medical history of sickle cell trait and asthma presented to our emergency department with abdominal pain. One day prior, she was seen in the emergency department for abdominal pain occurring after a

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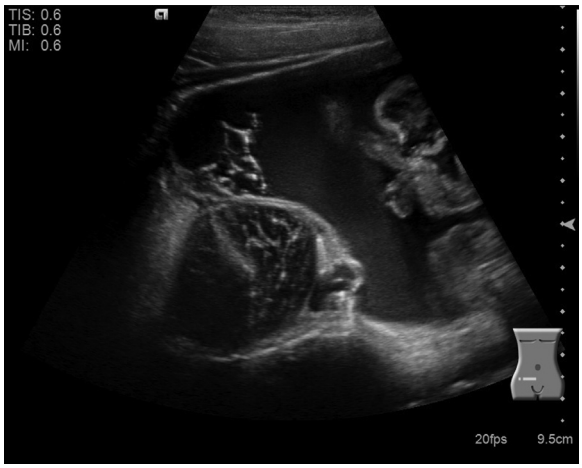

Fig. 1 – Gray scale ultrasound of the right lower quadrant showing a moderate to large amount of free fluid with mobile internal echoes.

fall in gym class where she sustained blunt trauma to her abdomen. An abdominal radiograph showed a nonobstructive bowel gas pattern with moderate stool burden. She was given an enema with partial symptomatic relief and was then discharged home. Abdominal pain persisted and eventually worsened leading to a return to the emergency department approximately 24 hours after the initial presentation.

Physical examination demonstrated abdominal distention, decreased bowel sounds, bilateral lower abdominal tenderness, and rebound worst in the right lower quadrant. Externally, the soft tissues were unremarkable for bruising or other signs of trauma. Cardiovascular and pulmonary examinations were normal. Vital signs were remarkable only for tachycardia up to 120 beats per minute. The patient was normotensive and without fevers. Laboratory analysis, including comprehensive metabolic panel and complete blood count, was unremarkable.

Given the presence of peritoneal signs, there was clinical concern for ruptured appendicitis. An ultrasound (US) of the appendix was ordered (Fig. 1) which showed a moderate to large amount of mildly complicated free fluid throughout the abdomen and a normal appearing appendix. A contrast-enhanced computed tomography (CT) scan of the abdomen and pelvis was performed (Fig. 2) demonstrating a unilocular, well-defined splenic cyst measuring 7.1 × 6.2 × 6 cm and communicating with the peritoneal cavity through a defect within the superior aspect of the spleen. Free fluid throughout the abdomen and pelvis was again noted and demonstrated a similar Hounsfield unit attenuation as the cystic splenic lesion. There was no evidence of abnormal enhancement or calcifications within the cystic splenic lesion. The appendix was normal in appearance.

The patient was admitted to the hospital for close monitoring and symptomatic management. Sonographic examination of the spleen preformed on day 2 of admission showed a stable splenic cyst and improving free fluid. The patient was then discharged to home. A 6-week follow-up US (Fig. 3) showed interval enlargement of the splenic cyst despite improving free intraabdominal fluid. The patient was then taken electively for laparoscopic resection of the splenic cyst and recovered uneventfully.

The resected cyst was sent for pathologic evaluation, which demonstrated a benign squamous epithelium-lined splenic cyst, most likely of congenital origin (Figs. 4–6). The postoperative course was unremarkable, and the patient returned to normal activity.

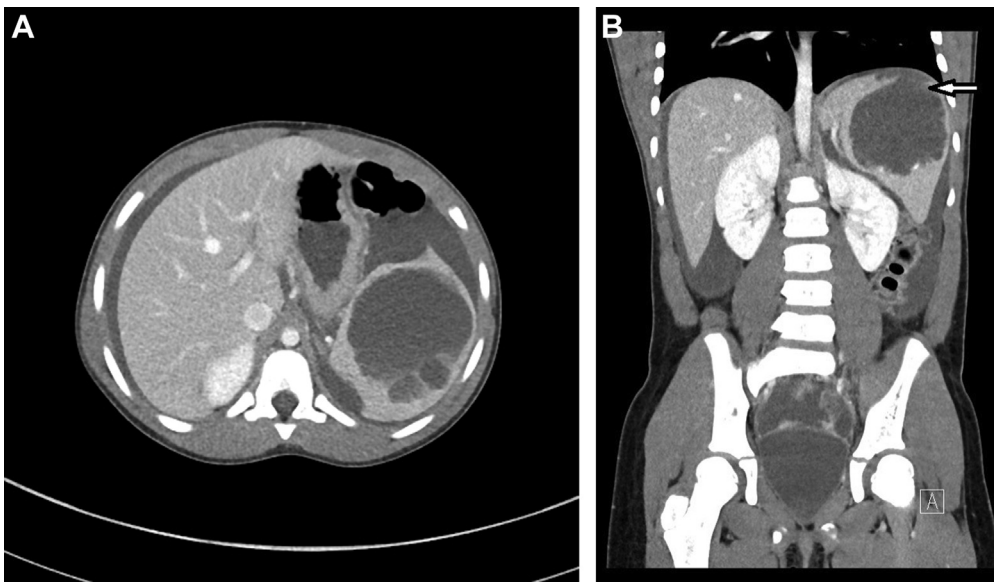

Fig. 2 – Axial (A) and coronal (B) contrast-enhanced CT images of the upper abdomen demonstrate a well-circumscribed, lobulated cystic lesion in the spleen. Coronal image (B) shows a communication with the peritoneal cavity through a defect within the superior aspect of the spleen. Moderate free fluid in the abdomen and pelvis was similar in density to the splenic lesion. CT, computed tomography.