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Large Splenic Cyst in a child: Case presentation

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Abstract

Background

Splenic cysts are rare and may be primary (true) or secondary (pseudocysts), depending on whether they have an epithelial lining. True cysts may be parasitic or non-parasitic. All splenic cysts are congenital, non-parasitic cysts. The most common cysts are pseudocysts, and most of them are secondary post-traumatic hematoma. Splenic cysts may be asymptomatic or may cause vague left upper quadrant abdominal discomfort. Diagnosis is readily established by ultrasonography; CT examination is usually not necessary. The cysts may be treated with splenectomy, cyst excision, or marsupialization

Case Presentation

The patient with a splenic cyst who had been treated in the Department of Pediatric Surgery, Prishtina University Hospital, was identified. The medical history, physical examination of the patient, ultrasound, and CT scanning were performed revealing a large splenic cyst.

Result

Laparotomy was subsequently performed and resulted that the patient had a true cyst. A total splenectomy was done successfully. The size of the cysts was 15.7 × 8.5 centimeters. The postoperative course was uneventful. At the 1-year follow-up, he was doing well.

Conclusion

In our patient open total splenectomy was effective and without recurrences. The successful treatment is similar to the literature.

Keywords

Splenic cysts, Open splenectomy, Management

Introduction

At birth, the spleen normally weighs between 10 and 12 gr. The visceral relationships of the spleen are with the greater curvature of the stomach, the tail of the pancreas, the left kidney, and the splenic flexure of the colon (1). The spleen has important hematopoietic functions during early fetal development, and along with the liver, is a major site of red and white blood cell production (2). Splenic cysts are primary or true cysts (nonparasitic, or parasitic) and pseudo cysts. True cysts have a squamous epithelial lining and are congenital. (2,3,4,5) Most splenic cysts in children are pseudo cysts and are secondary by recognized or unrecognized previously trauma (6,7). Parasitic cysts are the most common echinococcal cysts. Differentiation from parasitic can be made by history, serology, and scanning (8, 9). Patients with splenic cysts presented with an enlarged painless upper abdominal fullness, shoulder pain, or renal symptoms related to the compression. The presence of symptoms is often related to the size of the cyst, especially in large cysts. Rarely these cysts may present with rupture, hemorrhage, and infection (8, 9). The diagnosis is confirmed with Ultrasonography and CT abdominal imaging. Ultrasound usually shows a heterogeneous mass with solid and cystic mass. Internal echoes may be present due to debris. Also, a CT scan or MRI should be performed (10, 11). Surgical intervention is indicated for symptomatic cysts and large cysts. Either total or partial splenectomy is a successful treatment, and the advantage of partial splenectomy is the potential for the preservation of splenic function. (12, 13, 14). There are different types of the surgical procedures according to the clinical situation. There are different surgical treatment modalities, such as percutaneous drainage, partial splenectomy, total cystectomy, Marsupialisation, or cyst unroofing, and creation of a cyst peritoneal window (15, 16, 17, and 18).

Case Presentation

A 12-year-old male was presented with a left upper abdominal pain for more than a month. No history of trauma, no weight loss, also no family anamnesis of cancer. The patient's physical examination until a month ago was unremarkable and on physical examination, we saw an elevation above the left costal arch like a large tender abdominal mass in the left upper quadrant. Laboratory tests were normal. The abdominal ultrasonography shows a mixt hypoechoic and peripherally little splenic parenchyma. Cystic mass shows clean sonic posterior shadowing, which is pathognomonic and it differentiates cystic from solid lesion. The abdominal CT scan (fig1) confirmed a large 15.7 × 8.5 cm cyst, including most part of the spleen parenchyma, and had caused almost total displacement of the remaining small part of the spleen splenic parenchyma.

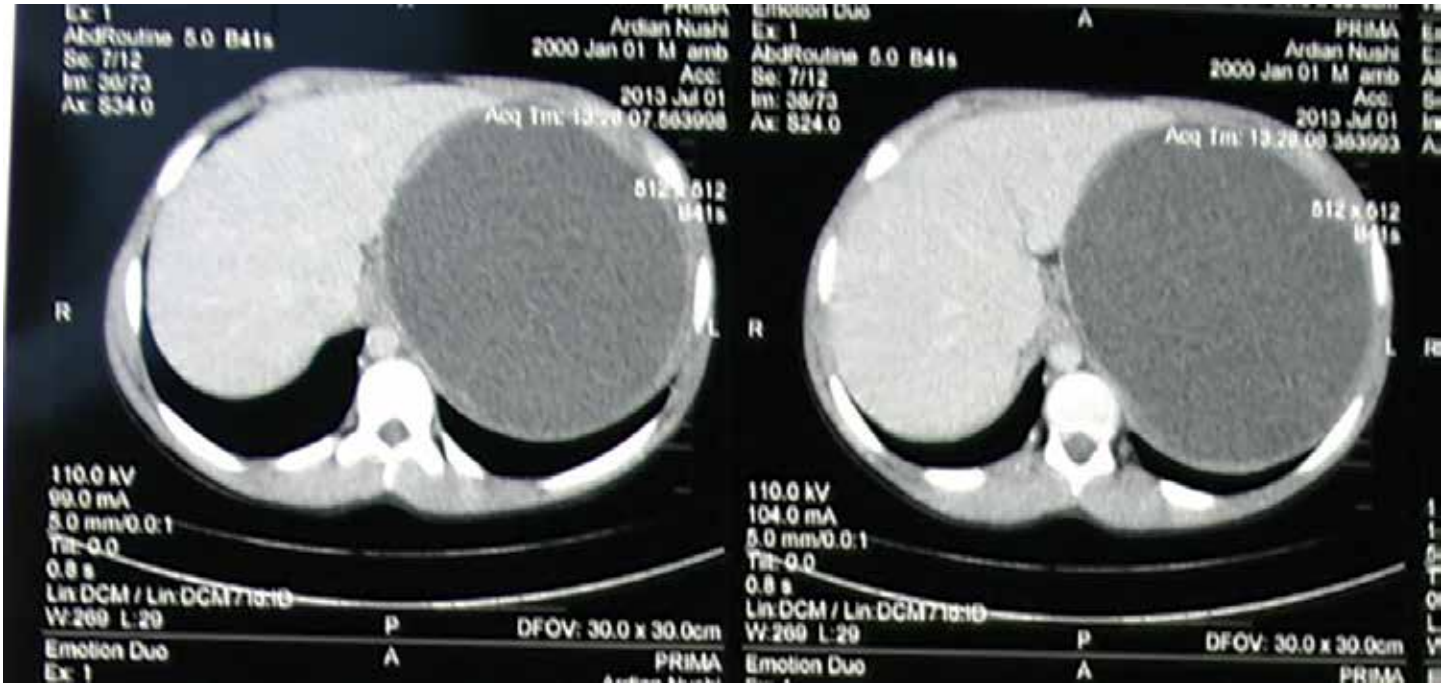

Figure 1: CT Scan confirmed the presence of large splenic cyst (15.7x8.5 cm)

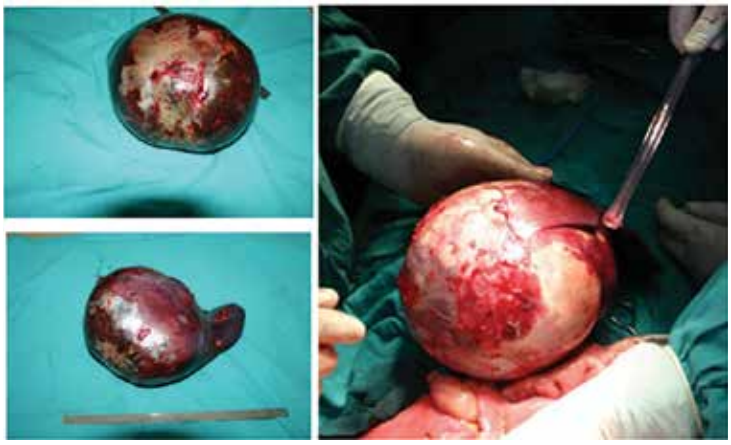

Figure 2: Gross view of the specimen, a large cystic lesion of the spleen.

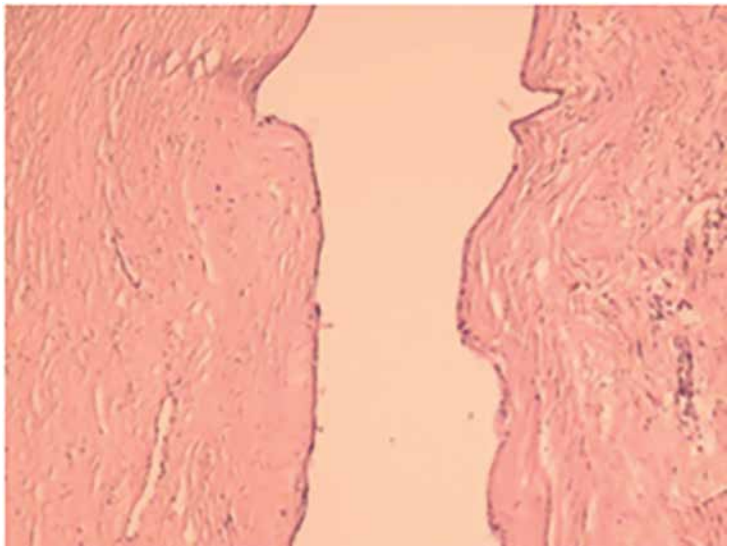

Figure 3: The wall of the cyst is lined by cuboidal, mesothelial-like epithelium (H&E, 10x)

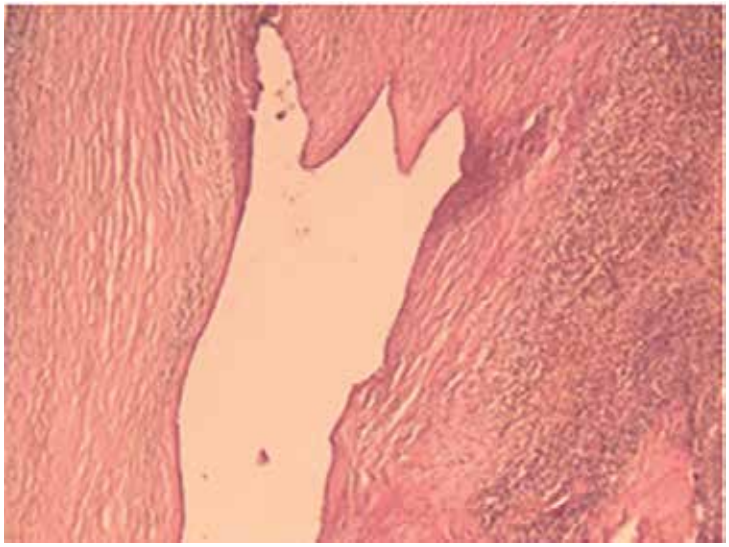

Figure 4: Cyst wall lined by one layer of cuboidal epithelium surrounded by some residual splenic tissue (H&E, 5x).

Discussion

Benign cysts are rare and usually remain asymptomatic. Cysts are unilocular or multilocular and are of variable origin. The cysts are classified: as congenital, parasitic, or post-traumatic. Congenital cysts are unilocular and inside are filled with clear fluid. The lining of these cysts is squamous (epidermoid cysts), and endothelial. Parasitic cysts are usually echinococcal (hydatid) cysts. (2, 3). Post-traumatic unilocular cysts (pseudocysts) have smooth and thick-walled and they result from the liquefaction of a hematoma, the lining is fibrous, and the inside is filled with cloudy brown fluid (5,6). The diagnosis of a splenic cyst is made with Ultrasound, MRI, and CT scanning. CT and magnetic resonance imaging (MRI) may give guidelines regarding the morphology of cyst, the nature of fluid, the exact location and its relationship with adjacent structures (2,3). Cysts are often asymptomatic, but they may present as a mass in the left upper quadrant, sometimes with pain and referred left shoulder pain and symptoms from compression of the left kidney. The presence of symptoms is often related to the size of the cyst, especially in large cysts. (2). Cyst rupture, hemorrhage, or infection rarely can occur if a large cyst is. For the symptomatic cysts and for large cysts treatment is indicated. Simple aspiration of the cysts does not prevent re accumulation of the fluid (2,3). Aspiration and injection with antibiotics (tetracycline) or pure Alcohol has been reported with limited success in the literature, with most patients having recurrence (19). Resection either by partial splenectomy, if feasible, or by total splenectomy may provide successful treatment, and the advantage of partial splenectomy is the potential for preservation of splenic function Many publications describe successful experiences with partial splenectomy, cyst wall resection, marsupialization, or cyst unroofing (20, 21, 22, 23). Although hydatid cysts are uncommon, this diagnosis should always be excluded before performing invasive diagnostic or therapeutic procedures that may risk spillage of cyst content. Echinococcal cysts should be handled carefully, like hepatic hydatid disease. If a risk of rupture exists, a total splenectomy should be performed. (8, 9).

Conclusion

Any type of conservative surgical treatment modality has little value in cases such as a very large cyst. Surgical treatment is indicated for large symptomatic

cysts after exact confirmation of the diagnosis made by ultrasound, MRI, or CT. Spleen-preserving excision is possible in a small cyst. If the cyst is very large and rupture and bleeding are present, total laparoscopic or open splenectomy should be performed.

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