

A Large Splenic Cyst Rupture - A Rare Case Report

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Abstract: *Non parasitic cyst requires a totally different type of surgical management than that of parasitic cysts. Here case of non parasitic splenic cysts is discussed. Splenic cyst is a relatively rare disease, However the occurrence and the complications associated with rupture is even more rarer.*

Keywords: ruptured Splenic cyst

1. Introduction

Splenic cyst is a rare condition. Splenic cysts can be either primary (true) or secondary (false) on the basis of presence or absence of epithelium lining. True cysts form from embryonal rests and include dermoid and mesenchymal inclusion cysts.

True cysts of spleen are very rare and are frequently classified as cystic haemangiomas, cystic lymphangiomas and epidermoid and dermoid cysts. Epidermoid cysts are thought to be of congenital origin and represent 10 % of splenic cysts. These are lined by flattened squamous epithelium and are more frequently in children and young patients. These should be differentiated from false or secondary cysts that may result from trauma and contain serous or haemorrhagic fluids.

Parasitic and non parasitic cysts require an absolutely different management approach because of their dissimilar pathogenesis.

2. Case Report

A 18 years old male complained of palpable mass in the left upper abdomen for 25 days and mass had disappeared for the last 2 days which he noted after he got up from sleep and now complain of mild pain on walking. There is no history of trauma or infection. The physical examination revealed normal Abdominal findings with no signs of guarding or any tenderness. Previous abdominal Ultrasound revealed a large hypoechoic mass seen in left hypochondrium measuring about 16.7 by 16.8 cm and having low vascularity and previous CECT abdomen revealed well defined central hypodense thick walled peripheral enhancing cystic lesion in left hypochondrium about 32 by 33 cm extending to pelvis. Splenic abscess? pseudopancreatic cyst.

When patient came to us we decided to go for Ultrasound and CT scan:- Both were in favour of cystic mass in spleen which has ruptured and moderate amount of ascitis.

Routine blood investigations were normal. We planned for laparoscopic Diagnostic and proceed. Created following ports (Fig1)



Figure 1: Following port position was made

Operative: A large splenic cyst was present with moderate ascites containing reddish brown fluid . Fluid was aspirated and laparoscopic deroofing of the splenic cyst and omentopexy was done and sent for histopathology.

The **histological report** said it to be epithelial cyst lined by single layer of cuboidal cells at places showing stratification . The wall shows areas of haemorrhage.

Patient was discharged on 8th postoperative day after an uneventful post operative period. And on follow up patient was doing well.

Patient reappeared about 2 months later with swelling in the left hypochondrium-CECT was done which said-large non enhancing cystic lesion of approx 17.8*17.4*20.7cm is seen within whole of splenic parenchyma with few pappillary projections from its wall causing grossly enlargement of spleen. It is displacing stomach towards right side, beneath GB, displacing and malrotating left kidney inferiorly with

stretching of left renal vessels, displacing pancreas anteriorly, compressing liver and left adrenal gland, displacing inferior vena cava and aorta to right and displacing small and large bowel loops inferiorly and towards right. No communication is seen from tail of pancreas.

IMPRESSION- Large splenic cyst with its mass effects – Likely Recurrence

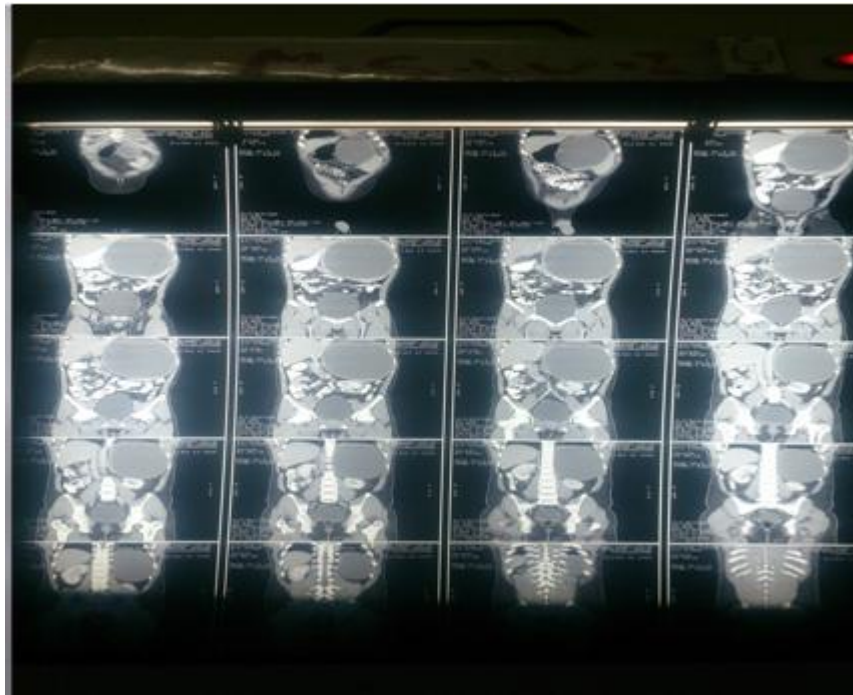


Figure 2: CT Scan Showing the large Splenic cyst

This time we planned for splenectomy and reimplantation of part of spleen by wrapping it in omentum since the child was young. Spleen was sent for histopathology.

Histopathology report said- spleen shows cystic lesion. The wall shows fibrocartilagenous and vascular tissue and focal infiltration by chronic inflammatory cells. No lining epithelium could be identified. The splenic parenchyma shows extensive areas of haemorrhage. The features are suggestive of benign cystic lesion. 10 days after the operation, ultrasound was done which said partial liquefaction of spleen remnant. No free fluid seen. Post operative period went uneventful and patient was discharged.

3. Discussion

The rarity of nonparasitic splenic cysts has limited the definition of clear criteria for their treatment.

Asymptomatic nonparasitic splenic cysts <5cm in diameter must be managed conservatively. Cysts >5cm must be treated surgically because of the increased risk of complications, such as rupture and infection followed by hemoperitoneum, chemical peritonitis, or abscess formation.

Control of the cyst size, prevention of complications, and avoidance of recurrence must be the basic principles of management of splenic cysts. Different types of operative management of nonparasitic splenic cysts are available, including percutaneous drainage, complete splenectomy, partial splenectomy, marsupialization of the cyst, and partial cystectomy (fenestration, unroofing, deroofting).

Percutaneous Drainage

This is controversial. It is said that that this ensures early convalescence. But major disadvantage is of recurrence, the incidence of which is high. Percutaneous drainage, with or without chemical sclerotherapy, can be used as a preoperative method to decrease the size of large cysts.

Total Splenectomy

It use to be preferred method of treatment. But because of the increased risk of immunodeficiency following the complete removal of splenic tissue, minimally invasive techniques must be used. Additionally, the greater the preservation of splenic tissue, the greater the benefit for the adult patient, as long as the risk of hemorrhage is not increased. Only under special conditions is it necessary to perform total splenectomy. These indications include the presence of multiple cysts (polycystic cases), very large-sized cyst, the location of the cyst in the hilum of the spleen,

the intrasplenic cyst (covered completely by the parenchyma), uncontrollable intraoperative bleeding, and cysts that are inaccessible for fenestration or marsupialization.

Laparoscopic total splenectomy is now the preferred operative technique if splenic removal is required.

Partial Splenectomy

The basic advantage of partial splenectomy is achieving the conservation of more than 25% of splenic parenchyma. This proportion is the minimum sufficient amount for regular immunologic function of the spleen. It offers a definite solution in case of splenic cysts of both nonparasitic and secondary causes.

Laparoscopic partial splenectomy can be safely performed. This procedure is mainly recommended if the cyst is located in the poles of the spleen even though deep in the cystic parenchyma and is preferable in recurrent splenic cysts. Currently, this procedure is the treatment of choice for these cases,

Marsupialization

Marsupialization is recommended for superficial splenic cysts, Laparoscopic marsupialization, is a safe and effective method for nonparasitic cysts (including giant splenic cysts) and should be considered the treatment of choice. "Needlescopic" techniques are the newest laparoscopic marsupialization procedures, which remain controversial but may have some application.

Fenestration (Partial Cystectomy, Unroofing, Deroofing)

In this surgical approach, only a segment of the cystic wall is resected, creating an opening for communication between the peritoneal and cyst cavities and risk of recurrence is reduced by doing omentopexy over the parenchymal defect. The laparoscopic technique enables the surgeon to determine the precise size and shape of the splenic cyst and to successfully and thoroughly remove the cystic wall, as we did with our patient. Because of the existing risk of recurrence associated with this procedure, more knowledge is needed to establish this technique as the treatment of choice for nonparasitic superficially located splenic cysts.

4. Conclusions

We suggest the following principles for optimal surgical treatment:

- 1) Surgeons should be familiar with both open and laparoscopic spleen-preserving operative procedures.
- 2) Superficially located cysts should be treated by laparoscopic marsupialization or fenestration.
- 3) Cysts located deep in the poles of the spleen should be managed by partial splenectomy, which is the treatment of choice. Laparoscopic partial splenectomy should be performed by experienced surgeons.
- 4) Total splenectomy must be performed only when minimally invasive surgical techniques or operations like partial splenectomy jeopardize the outcome of the procedure.

Spleen preserving surgery must be the first goal of management of nonparasitic splenic cysts.

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