Primary splenic cyst: A case report

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Abstract:
Cystic lesions of spleen are a rare entity. Most commonly, hydatid cysts are found in the spleen. Our case is about a primary (true) epithelial cyst of the spleen, which is a very rare entity. A 24-year-old married female with pain and lump in left upper abdomen was investigated by ultrasound of abdomen and found to have a solitary cystic lesion in the spleen. The Computed Tomography (CT) scan showed a 15.3 cm x 12.9 cm x 13.5 cm cystic lesion of spleen, probably a hydatid cyst or pseudocyst. On exploring the abdomen by a left subcostal incision, a solitary cyst involving more than 2/3 of spleen was found. Total splenectomy was done as splenic parenchyma could not be functionally salvaged. Histopathology report showed it to be a benign simple splenic cyst.

Keywords: Cyst, Spleen, Splenectomy, Epitheloid.

Introduction:
Cysts of the spleen are a rare occurrence. Hydatid cysts are the commonest splenic cysts. Primary splenic cysts are the rarest type comprising of 10% of all splenic cysts (1). They are congenital in origin and are also called epidermoid or epithelial cysts. Generally splenic cysts are asymptomatic and do not grow more than 4 cm in size. The only symptoms they might cause are early satiety, vomiting and dysphagia, which manifest in third or fourth decade of life (2). Contrast enhanced CT scans of the abdomen can best delineate the size and other features of the cyst. Many treatment modalities are available currently according to the size and location of the cyst. In today’s scenario, an attempt is always made to manage conservatively. But splenectomy, either partial or total, may be required if the size of the cyst is more than 4 cm (3). Total splenectomy, although known for its complications like post-splenectomy sepsis, becomes a necessity if it is found that not more than 25% of functional splenic parenchyma can be salvaged after the procedure.

Case History:
A 24-year-old female, presented to us with the complaint of pain in her left upper abdomen since 4 months. The pain was dull aching in nature and increased a little in intensity after meals. There was no history of other obvious aggravating or relieving factors. The patient also noticed a lump in the left upper abdomen since 4 months. The lump was earlier small in size, but over 4 months had increased in size and was now visible. The only other complaint was nausea, associated with epigastric fullness. There was no history of any contact with animals.

The patient was a thinly built female, afebrile with mild pallor. There was no generalized lymphadenopathy. Per abdominal examination revealed a lump of size 20 cm x 25 cm involving epigastric and left hypochondriac region. The consistency of the lump was soft with regular borders. Tenderness was present over the lump. It moved well with respiration. Fingers could not be insinuated between the lump and the left costal margin.

A lump arising from the spleen with provisional diagnosis of splenichydatid cyst was kept.

Investigations:
1. The radiograph of the chest was within normal limit.
2. Radiograph of the abdomen (AP view) showed soft tissue shadow in left hypochondriac region, epigastric region and crossing the midline (Fig. 1).
3. Ultrasonography of the abdomen revealed a cystic lesion arising from the spleen with calcification most probably a splenichydatid cyst.
4. Contrast enhanced CT of Abdomen showed large well defined unilocular cystic lesion of approximate size 15.3 cm x
12.9 cm x 13.5 cm in left upper quadrant of abdomen. The lesion was displacing the stomach medially and to the spleen laterally and superiorly with thin rim of splenic parenchyma in posterolateral aspect of upper part of the lesion. The lesion was anterior to the tail of pancreas in upper part with maintained fat planes with the pancreas and displacing the left kidney posteriorly compressing the anterior renal cortex without any sign of any invasion. The lesion showed well defined smooth wall with tiny calcification along anterolateral wall in lower part (Fig. 2). a,b,c)

Figure 2: (a,b,c) CT scan showing relations of the cyst with spleen, left kidney and bowel


Operative Procedure:

The abdomen was explored through a left subcostal incision. The stomach retracted medially to visualize the splenic cyst. The spleen was mobilized. The cyst was found to be occupying more than 2/3rd of the splenic parenchyma. It was not possible to save enough functional splenic parenchyma for a partial splenectomy. So a decision of total splenectomy was taken. The splenic pedicles were clamped, ligated, and total splenectomy was done (Fig. 3). a-b)
Case Report

**Figure 3: (a-b) Intra-operative and postoperative photos of splenic cyst**

**Histopathology Report:**

**Gross:** Spleen with a single cyst of size 22cm X 18cm X 10cm. The cyst was involving more than 2/3rd of the splenic parenchyma. On incising the cyst, 1.5 liter of dark brown coloured fluid obtained.

**Microscopy:**

The sections showed splenic cyst with flattened, attenuated epithelium with inflammation in the cyst wall. Spleen showed fibrocongestive changes.

**Diagnosis:** Benign simple cyst of spleen.

**Discussion:**

Splenic cysts are very rare. Fowler and Martin classified splenic cysts based on the presence or absence of cellular lining of the cystic wall as primary (true) or secondary (pseudo) cysts. Most true splenic cysts are epithelial in origin and have embryonic inclusion of epithelial cells from adjacent structures. Splenic cysts may be of parasitic or non-parasitic origin. Congenital splenic cysts are also called epidermoid or epithelial cysts (1). They are uncommon, comprising only about 10% of all splenic cysts and 25% of non-parasitic cysts. Congenital splenic cysts form when there is an invagination of the mesothelium-lined splenic capsule during development. The lining is pluripotential and may undergo metaplastic changes and fluid accumulation with resultant cyst expansion.

Splenic epithelial cysts occur predominantly in the second and third decades of life but can occur in children and even in infants. Small cysts are usually asymptomatic. An asymptomatic painless abdominal mass is the presenting feature in 30-45% of the cases. Splenic cysts may present with localized or referred pain relating to splenomegaly, abdominal distension and mass effect. The initial symptoms are primarily gastrointestinal and include vague abdominal pain, early satiety, nausea, vomiting and dysphagia (2).

Histologically, epidermoid cysts have a squamous epithelial lining with intracellular bridges and a thick collagenous wall (3). The interior cyst wall may be composed of thick trabeculated fibrous bands covered by epithelium. The cystic fluid may contain cholesterol crystals, protein particles or breakdown products of hemorrhage. The cellular lining of congenital cysts is thought to arise from infolding of the peritoneal mesothelium following splenic capsule rupture or from mesothelial cells trapped in the splenic sulci (4). The mesothelium undergoes metaplasia to squamous epithelium secondary to chronic irritation. Another postulation is that congenital cysts arise from the normal lymph spaces in the spleen (5).

A comprehensive differential diagnosis for a cystic lesion of the spleen includes parasitic echinococcal disease, congenital cyst, intrasplenic pancreatic pseudocyst, pseudocysts from splenic trauma, infarction, infection, pyogenic splenic abscess, metastatic disease and cystic lymphangioma/hemangioma (rare).

Currently, the trend has shifted to more conservative surgery with the demonstration of increased mortality of splenectomized patients due to overwhelming post-splenectomy sepsis. Because of the increased risk of complications, splenic cysts with a diameter larger than 4-5 cm should be managed surgically because conservative options, such as percutaneous aspiration or sclerosis, do not result in long-term control (6).

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References: