

## Non Parasitic Splenic Cyst: A Case Report

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**Abstract-** Primary splenic cyst is a rare entity and majority of the cases are classified as epithelial cysts. They are uncommon, comprising only about 10% of benign non-parasitic cysts. Most of the cysts are asymptomatic, and they are incidental findings during abdominal ultrasonography. We report a case of 20 years old male who presented with 1 year history of mild abdominal pain and left upper quadrant fullness. Ultrasound and computed tomography (CT) both were suggestive of splenic cyst. Serological tests were negative for parasitic infection. Splenectomy was done. Histopathological findings are consistent with splenic epithelial cyst.

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### Introduction

Splenic cysts are unusual in everyday surgical practice. They can be parasitic (hydatid), caused by the parasite *Echinococcus granulosus*, or non-parasitic. Non-parasitic cysts are classified as primary (true, epithelial), lined by an epithelial cover (epidermoid, dermoid and mesothelial) or endothelial cover (hemangioma, lymphangioma), and secondary (pseudocysts, non-epithelial), which are usually of post-traumatic origin(1,2,3). The treatment has changed drastically from total splenectomy in the past to splenic preservation methods. Here we present a case of non-parasitic cyst of spleen in a young male.

### Case Report

A 22-year old male of average built complained of left hypochondriac discomfort and fullness. He was pale and the abdominal examination revealed mild tenderness in the left hypochondriac region and splenic tip was palpable. His other investigations were normal except hemoglobin level of 9.7 g/dl. Ultrasonography of abdomen revealed cystic lesion measuring 47 x 42 mm seen in posterior aspect of upper pole of spleen close to diaphragm. Contrast Enhanced Computed Tomography (CECT) showed well defined cystic lesion 4 x 4 cm with internal

septae seen at upper pole with no solid component (Figure 1).

Hydatid serology was negative and elective splenectomy was done which revealed a cystic lesion about 4 x 4.5 cm in upper pole of spleen (Figure 2). Cystic fluid revealed no malignant cells. Histopathology revealed that cyst wall was composed of stratified squamous and cuboidal epithelium. Post operative course of patient was uneventful and was discharged on 6<sup>th</sup> post operative day.



**Figure 1.** CECT showing well defined cystic lesion in upper pole of spleen.



**Figure 2.** Showing the splenectomy specimen.

## Discussion

Cystic changes of the spleen are very rare. Based on the presence or absence of cellular lining of the cystic wall Fowler and Martin classified them as primary (true) or secondary (pseudo) cysts (1,2). Splenic cysts other than those of hydatid disease are also very uncommon. Most true splenic cysts are epithelial in origin and have embryonic inclusion of epithelial cells from adjacent structures (3). Splenic epithelial cysts occur predominantly in the second and third decades of life but can occur in children and even in infants (4). 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 (5).

Histologically, epidermoid cysts have a squamous epithelial lining with intracellular bridges and a thick collagenous wall. 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 peritoneal mesothelium following splenic capsule rupture or from mesothelial cells trapped in splenic sulci. The mesothelium undergoes metaplasia to squamous epithelium secondary to chronic irritation. Another postulation is that congenital cysts arise from normal lymph spaces in the spleen (6). With regard to diagnosis,

ultrasonography allows the distinction to be made between cysts (anechoic or hypoechoic) and solid masses (isoechoic or hyperechoic). An abdominal CT scan is helpful in determining both the cyst's site of origin and its relationship to surrounding structures. Epithelial splenic cysts are characteristically unilocular anechoic lesions with smooth, well-defined margins. This is the most common pattern in small (<5 cm) cysts. The echogenicity, which is the most common finding in large (>5 cm) cysts, is due to cholesterol crystals or other breakdown products of hematoma. The smaller size of the anechoic cysts compared with the echogenic ones suggests that large cysts are more prone to episodes of intracystic hemorrhage (7,8).

Today the optimal treatment options are partial splenectomy, total cystectomy, marsupialization, or cyst decapsulation (unroofing), accessed either by open laparotomy or laparoscopy (9). Partial splenectomy preserves more than 25% of splenic parenchyma, which is the minimal splenic tissue to preserve immunologic protection without increasing the risk of recurrence (10).

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