

# Epidermoid Cyst of Spleen: A Rare Case Report

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**Abstract:** *Epidermoid cyst of spleen is a rare cause of splenomegaly in general population. We have encountered through this case in a young lady presented with abdominal lump and associated symptoms. Patient had undergone splenectomy and recovered uneventfully. We herein present our experience in the management of this case.*

**Keywords:** Splenic cyst, Epidermoid cyst, Epithelial cyst, Splenomegaly, Case Report

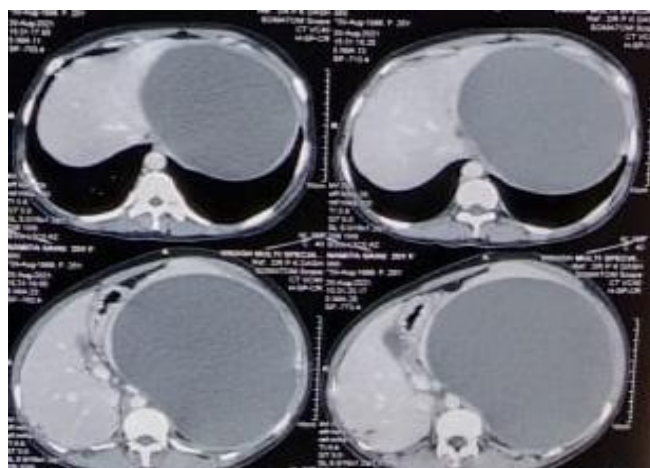
## 1. Introduction

Splenic cysts are infrequent causes of splenomegaly with an incidence of 0.75 per 100000 population which are mostly incidental finding<sup>1</sup>. The most common cause of splenic cyst is parasitic infection due to *Echinococcus granulosus*<sup>2</sup> which constitute more than two third cases of splenic cyst. Among the nonparasitic causes post traumatic pseudocyst constitute more than two third of cases. Rest cases of non parasitic splenic cyst are due to acquired or congenital causes. True congenital causes of splenic cyst constitute around 10% of non parasitic causes, which include epidermoid cyst, dermoid cyst, hemangioma, and lymphangioma<sup>3</sup> and Epidermoid cyst is rarest among these. We have encountered through this rare case and hence presenting here.

## 2. Case Report

A 25 year old female presented with complain of swelling, sensation of fullness and dull intermittent pain in left hypochondrium for last 1 years. No other complaint noted. There was no previous history of trauma, weight loss, fever, cough or GI bleed. On abdominal examination non tender splenomegaly was extending to left lumbar region extending 10 cm below left subcostal border. All laboratory parameters were within normal limits. CT scan of abdomen showed a well defined hypo - attenuating lesion with a thin wall measuring 16.2x15.8x19.9 cm (AP, TR, CC) noted involving upper & mid pole of the spleen. No evidence of wall calcification or any wall enhancement found. There was displacement of left kidney inferiorly, compression stomach anteriorly with mild luminal narrowing, displacement of small bowel loops and liver to left. Patient was vaccinated against pneumococcus, meningococcus, and hemophilus influenzae 2 weeks prior to surgery. Gross splenomegaly with mass effect suggestive of splenic epidermoid cyst/hydatid cyst. Intraoperative finding was huge splenic cyst involving the entire splenic substance compressing the liver diaphragm and parietal wall displacing the stomach and the pancreas. Both lobes of the liver, stomach, pancreas, duodenum found to be normal. No free fluid detected in the peritoneal cavity. Needle aspirate showed straw coloured fluid. Total open splenectomy was done due to large size of the cyst. Cut section showed splenic parenchyma was

displaced by the cyst of size 19x16x15 cm, which was filled with straw coloured fluid. On histopathology, it showed cyst wall was lined by cuboidal epithelium with underlying fibrocollagenous tissue infiltrated with lymphocytes suggestive of epidermoid cyst of spleen. Surrounding splenic parenchyma was apparently normal.





### 3. Discussion

Splenic cyst are rare causes of splenomegaly with an incidence of 0.75 per 100000 population which are mostly incidentally found in radiological investigations<sup>1</sup> which are mostly parasitic cysts. Large nonparasitic cysts are rare. According to Martin's classification, splenic cysts are either true cysts (primary) or pseudo cyst (secondary) depending upon their inner lining by epithelium layer or nonepithelial lining respectively<sup>2</sup>. True cysts classified as parasitic and non - parasitic causes. Non parasitic causes includes congenital and neoplastic causes. Most true cysts are acquired among which parasitic cysts are most common which occur in areas of endemic hydatid disease (*Echinococcus* spp.)<sup>3</sup>. Congenital splenic cysts develops due to invagination of peritoneal mesothelial cells into the spleen during intrauterine development, followed by their proliferation and secretion of serous fluid. Congenital splenic cyst includes epidermoid cyst/epithelial cyst, dermoid cyst, hemangioma, and lymphangioma<sup>4</sup> which constitute of around 10% of nonparasitic causes. Splenic pseudocyst develops mostly as a result of blunt trauma of abdomen, where subcapsular or interstitial splenic hematoma is surrounded by fibrous connective tissue, and its contents liquidated and transformed into a serous form. Pseudocyst constitute more than two third of non parasitic causes. Other causes of pseudocyst are hemorrhage, infection or infarction.

Epidermoid cysts of spleen are rare causes of splenic cyst, which occurs in children or young female patients<sup>5</sup>. Various theories proposed in support of its pathogenesis but still remains inconclusive<sup>6, 7</sup>. These include Mesothelial invagination theory, Endodermal inclusion theory and various others. Symptom depends upon size of cyst which may manifest as early satiety, constipation, abdominal discomfort, renal symptoms or pain. Rarely present as infection, rupture or hemorrhage<sup>8</sup>. Clinical history is useful in finding the etiology of the condition<sup>3</sup>. Diagnosis best done by CT scan. There may be preoperative elevation of serum carcino embryonic antigen (CEA) and CA 19 - 9. Surgery is indicated in large or symptomatic cyst. Total or partial splenectomy is decided on individual basis. Partial splenectomy with preservation of at least 25% of spleen helps protection against pneumococcal infection. Vaccinations (pneumococcal, meningococcal, and hemophilus influenzae) to be given 2 weeks prior to surgery or as soon as possible after surgery, if total splenectomy was not planned earlier. Open or laparoscopic procedures, either can be considered<sup>9</sup>. Earlier, the classical approach to splenic cysts has been open complete splenectomy but today various other options, such as partial splenectomy, marsupialization, cyst decapsulation or deroofting, accessed either by open laparotomy or laparoscopy<sup>11</sup> may be tried<sup>14</sup>. Splenic preservation surgery may be followed when a small cyst is present at periphery of spleen<sup>13, 15</sup>. Parasitic cyst often require surgery. PAIR (puncture - aspiration - injection - reaspiration) procedure may be followed in parasitic cyst, when surgery is contraindicated or size of cyst is less than 5 cm size<sup>12</sup>. Percutaneous drainage has limited role<sup>10</sup> as it may cause anaphylaxis in parasitic cyst and recurrence in non parasitic cyst. Small, asymptomatic non - parasitic splenic cysts or pseudocysts can be followed up with regular monitoring<sup>12</sup>.

### 4. Conclusion

Epidermoid cyst of spleen is an uncommon cause of splenomegaly which is often an incidental finding. This case presented to us with abdominal lump with associated symptoms. After radiological investigations we proceeded with splenectomy. On histopathology it was confirmed to be Epidermoid cyst. All splenic cysts should be proceeded with radiological investigations and clinical history before any intervention.

#### Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

#### Financial Support and Sponsorship- Nil

**Conflicts of Interest:** There are no conflicts of interest.

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