

Pseudocyst of Spleen Presenting as Acute Abdomen

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Abstract: Depending on the etiology, splenic cysts are classified into parasitic or nonparasitic cysts. Nonparasitic cysts are further classified into true/real cysts and false cysts/pseudocysts based on the presence or absence of surface lining epithelium. In asymptomatic patients, these splenic cysts are usually diagnosed incidentally during radiological investigations for other suspected diseases. Majority of pseudo cysts develop secondary to trauma. Here we reported a case of ruptured pseudocyst of spleen presented in 21 year old female as acute abdomen. True non-parasitic splenic cysts are rarely observed clinically. Possibility of ruptured splenic cyst should be kept in differential diagnosis of patients presenting with acute abdomen.

Keywords: Splenic cysts, epithelial cyst, pseudo cysts, traumatic cyst, acute abdomen.

INTRODUCTION

Splenic cysts are uncommon in occurrence. The majority of cystic lesions in spleen are due to parasitic infection with *Echinococcus granulosus*. Non-parasitic cysts account for less than 30% of all splenic cyst cases. Nonparasitic cysts are further classified into true/real cysts and false cysts/pseudocysts based on presence or absence of surface lining epithelium. Majority of pseudo cysts are due to secondary to trauma[1].

CASE REPORT

A 21 year old female presented to emergency department in our hospital with sudden onset of pain abdomen for past two hours. She had no history of recent trauma. On local examination, abdomen was tender with guarding and rigidity. Patient was treated as per protocol of acute abdomen. Investigations were advised to find out etiology of acute abdomen. Urine pregnancy test was negative. Baseline hematological and biochemical investigations including liver function tests were within normal limits.

Ultrasound abdomen was unremarkable except perisplenic fluid collection. In view of acute abdomen, surgical intervention was planned. On laparotomy, a ruptured splenic cyst was identified. Splenectomy was done. Specimen of spleen with ruptured cyst wall was sent to pathology department for histological examination.

Grossly, specimen measured 10x7x6 cms and weighed 170 gms. A ruptured cyst measuring 7x7x2 cms was identified along with the normal splenic tissue

with areas of hemorrhage. Histologically, cyst wall was composed of fibrocollagenous tissue with areas of hemorrhage and collection of foamy hemosiderin-laden macrophages. Microsections from the spleen showed marked congestion and hemorrhage. No lining epithelium was identified even on extensive sampling of the specimen. These histological features suggested the diagnosis of pseudocyst of spleen.



Fig-1: Gross view of hemorrhagic splenic tissue with attached ruptured cyst.

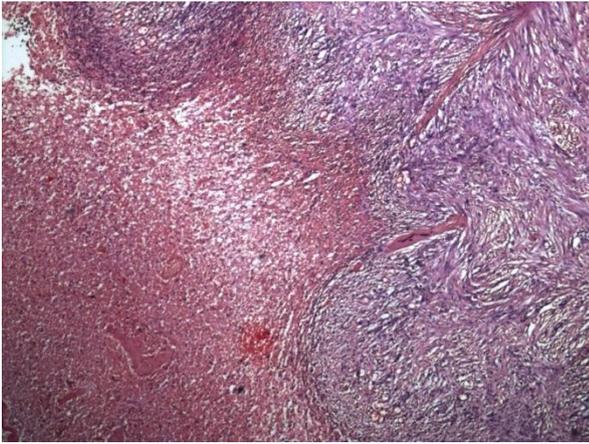


Fig-2: Cyst wall was composed of fibrocollagenous tissue with areas of hemorrhage and collection of foamy hemosiderin-laden macrophages (H&E, 200x)

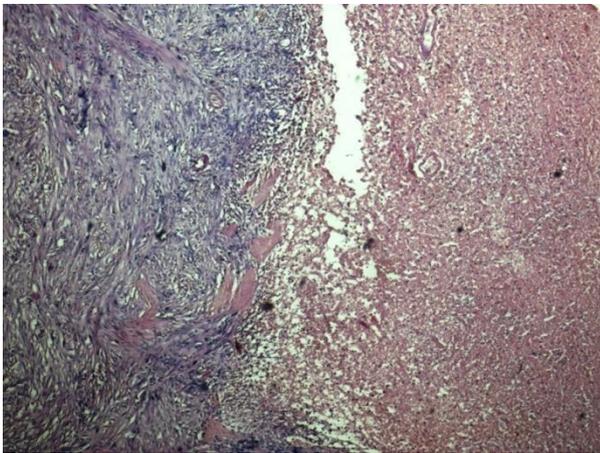


Fig-3: Cyst wall show no lining epithelium and fibrocollagenous tissue only.(H&E, 200X)

DISCUSSION

Cystic disease of the spleen is a rare condition. Depending on the etiology, splenic cysts are classified into parasitic or nonparasitic cysts. Nonparasitic cysts are further classified into true/real cysts and false cysts/pseudocysts based on presence or absence of surface lining epithelium [1]. Usually parasitic or nonparasitic cysts of spleen are asymptomatic clinically. These splenic cysts are usually diagnosed incidentally during radiological investigations for other diseases. Increase in size is the main factor for a splenic cyst to become symptomatic. If the diameter of cyst is more than 4 cm, patient is more likely to be symptomatic according to the literature [2].

Pseudocysts of spleen have thick fibrous or fibrocollagenous walls without lining surface epithelium. Pathogenesis of splenic pseudocysts is not well understood. Most commonly these cysts develop after post-traumatic hematomas in spleen. Resolution and liquefaction of hematoma is thought to be the etiological factor in origin of pseudocysts of the spleen

[3]. However, history of trauma can be absent in few cases. Few other etiologic theories for pseudocysts formation have been suggested. Pseudocyst can appear after infarction, inflammation or thrombosis of true cysts or epithelium of true cyst may disappear for unknown reasons[4].

Clear splenic cysts are anechoic lesions but debris inside the pseudocysts may give it a hypoechoic appearance on ultrasonography. Peripheral shiny echogenicity is observed on ultrasonography, if there is calcification on the wall [2,3]. They appear as well defined, usually homogeneous, non-enhancing cystic masses on CT. Signal intensities on T1 and T2 weighted images in MRI are dependent on the amount of proteinous material and blood inside the cyst [5, 6].

True epithelial cystic lesions of spleen usually appear during the first decades of life. They may be congenital or sporadic, as well as familial. Lining surface epithelium may contain columnar, cuboidal, or squamous epithelium. Immunohistochemically, lining epithelium may be CEA or CA 19-9 positive and these markers may also be elevated in the serum. They are anechoic, well defined cystic masses on abdominal ultrasonography. On CT, these appear as unilocular hypodense cystic masses with an ill defined wall. T2 weighed MRI shows hyperintense signal consistent with the cystic nature of the lesion [2, 7].

Splenic abscess and hydatid cyst are the main differential diagnosis for cystic lesion of spleen. Splenic abscess may be solitary, multiple or multilocular in appearance. Abdominal pain, fever and leukocytosis with elevated sedimentation rate are features that help in differentiating abscesses from cysts [2]. Ultrasound shows a hypoechoic or anechoic lesion with an ill defined border which depends on density of purulent material inside the cyst. CT may show a well defined hypoattenuating lesion with peripheral enhancement in case of an abscess. Both abscess and cysts will appear hypointense on T1, hyperintense on T2 weighted images while abscess will show restriction on diffusion weighted imaging.

In endemic countries, possibility of hydatid cyst should be considered in the differential diagnosis of cystic disease in spleen. Diagnosis of hydatid disease is usually made by patient history, laboratory findings, serological tests and radiologic investigations. Cystic lesions in spleen may also occur as secondary changes such as in lymphomas with central necrosis, metastatic tumors with cystic changes and large sized hemangiomas [2, 8].

If the diameter of splenic cyst is more than 4 cm, it is more likely to complicate and surgical treatment may be considered. Splenectomy was done in

past for any cystic lesion of spleen, but at present, conservative approach is suggested due to risk of sepsis which increases after splenectomy. Larger cysts and cysts located on splenic hilus require total splenectomy. Partial splenectomy for smaller cysts might be considered as it also preserves the immunological functions of spleen. However, partial splenectomy is required only for relapsing cases or suspicious primary cysts. Deroofing is usually enough in uncomplicated cysts [2, 9, 10].

CONCLUSION

Non parasitic/ non epithelial splenic cysts are rare cystic lesion of spleen. Possibility of ruptured splenic cyst should be kept in differential diagnosis of patients presenting with acute abdomen.

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