

POSTTRAUMATIC SPLENIC CYST *Diagnostic value of MRI*

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Posttraumatic splenic cysts are uncommon lesions and it should be considered if someone have a lump in left upper abdomen following abdominal trauma. We report a 24 years old male patient with huge posttraumatic splenic cysts and diagnostic value of MRI in this case.

Key words: Splenic cyst, MRI, pseudocyst, hematoma

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INTRODUCTION

Splenic cysts classified as primary (true cyst) or secondary (pseudocyst) according to their etiology and pathophysiology (1). In contrast to secondary cysts, primary cysts have a cellular lining that can be caused by either congenital events or parasitic infestations (2). Posttraumatic splenic cysts are uncommon lesions and it should be considered if someone have a lump in left upper abdomen following abdominal trauma. We report a male patient with huge posttraumatic splenic cysts and diagnostic value of MRI in this case.

CASE

A 24 years old man was examined at the outpatient clinic of General Surgery, for a lump in left upper abdomen. There was no history of sudden increase in the lump size, he noticed gradually increased in size over about 2 years period. He has some annoyance during breathing and eating otherwise he has no symptom. Physical examination revealed about 20x15 cm firm and smooth mass in the area of the left hypochondrium. His general condition was normal. There was past history of trauma due to fall 3 years ago, which he vaguely remembered. All investigations including blood count, serum electrolytes, and liver function tests were normal. Hydatid serologies for

Echinococcus and *Entamoeba histolytica* were negative. A computed tomography (CT) scan of the abdomen revealed a low attenuated 20x13 cm cyst on the anterosuperior of the spleen, welding a significant mass effect on the surrounding organs. Lesion did not enhance after IV contrast admission. Magnetic resonance Imaging (MRI) confirmed splenic cyst. Lesion was heterogeneous-hyperintense appearance in both T1 and T2 images (Figure 1 a, b). Using MR imaging findings before splenectomy made the diagnosis of traumatic cyst. In addition, the diagnosis of hydatid disease could be excluded by showing hyperintens signal intensity. Hyperintensities corresponded with hemorrhagic events or high proteinous content, which can not be seen in the hydatid lesions on T1 W images. The patient treated successfully by splenectomy. At postoperative gross examination, 15 cm sized organized hematoma containing 300 milliliters of dark turbid hemorrhagic fluid was detected.

DISCUSSION

Nonparasitic cysts are uncommon, with only around 800 cases described in the medical literature. Secondary cysts of the spleen which constitute 75% of all nonparasitic cysts mostly result from trauma and represent the resolution of a subcapsular or intraparenchymal haematoma (3-5). Splenic cysts generally appear in the younger age group of 20-40 years (4,6). Although secondary cysts of the spleen are mostly traumatic origin as in our case, it may also be of

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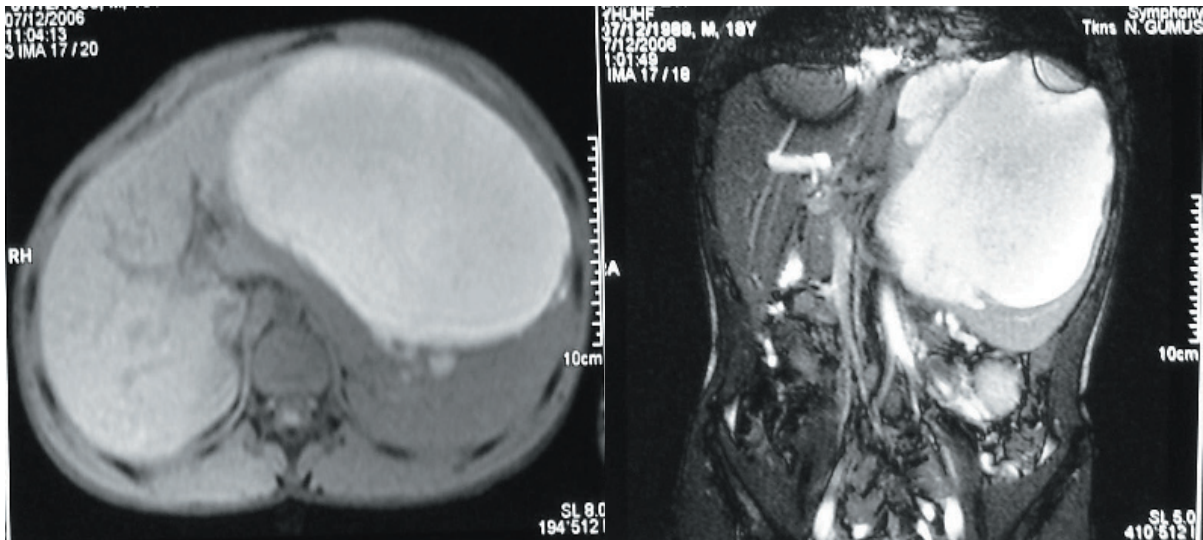


Figure 1 a, b: Non-contrast enhanced T1W axial [a] and T2 W coronal MRI [b] examinations revealed hyperintense large spleen cyst.

infectious and degenerative origin as in intrasplenic pancreatic pseudocyst, hematomas of the spleen appeared in the course of acute or chronic pancreatitis, spontaneous subcapsular hematomas in the mononucleosis or cytomegalovirus infection, and hematomas with use of the cocaine (5,7).

The main treatment options are splenectomy, complete cystectomy with partial splenectomy, percutaneous drainage, marsupialization/fenestration, and splenic decapsulation. The optimal treatment of symptomatic splenic pseudocysts is not clearly defined. Although some authors have been stated that splenectomy is the treatment of choice for very large cysts (8,9). Many surgeons have advocated spleen-sparing procedures. It is not clear which spleen-sparing procedure is the best treatment (3).

Splenic cysts are usually diagnosed incidentally because of the lack of typical clinical symptoms. Complaints of the patients are generally related to mass effect of cyst, which causes compression of neighboring organs. Large cysts may cause abdominal pain, early satiety, nausea, vomiting, constipation, or hydronephrosis (1,2,10). In physical examination, a mass with smooth surface can detect in the left hypochondrium especially if the cyst size is large. Patient should have been interrogated whether there is any remote trauma history or not

in detection of left upper quadrant mass. The masses of the spleen are uncommon lesions, and these can summarize as congenital cysts, inflammatory masses (pyogenic abscess, fungal abscess, echinococcal cyst, etc.), vascular masses (infarct, peliosis, etc.), posttraumatic masses (hematoma, pseudocyst, etc.), benign neoplastic masses (hemangioma, lymphangioma, eg.), malignant neoplastic masses (lymphoma, metastasis, etc.). In addition, other causes of splenomegaly, including myeloid metaplasia, hemolytic anemia, mononucleosis, and portal hypertension must be excluded (1,11).

Diagnosis of the splenic cysts is generally based on the radiological examination (5). Ultrasound and CT imaging may help to distinguish cystic from solid lesions. These imaging modalities are also helpful in preoperative determining whether the cyst is multi or unilocular, the location in the spleen and its relationship to the surrounding structures. However, because of the similarity in Ultrasound and CT findings of primary or secondary splenic cyst can cause diagnostic confusion. Nonparasitic cysts of the spleen are often treated wrongly as echinococcal cysts, and in some cases specific medical treatment is prescribed (2,5). Although some authors stated MRI was not considered necessary in pseudocyst (4), we think that, MRI may be helpful in this situation as in our case. Especially, if cyst is hyperintense

on T1 weighted images. But, the MRI characteristics differ depending on the phase of evolution of the hematoma. After 3-4 weeks, a hematoma appears as a cystic mass with low signal intensity on T1 weighted images and high signal intensity on T2 weighted images. In contrast to our case, we expect low signal intensity on T1 weighted images because of remote trauma story. We believe that, high signal intensity on T1 weighted images due to recurrent bleeding in to cyst. In conclusion, MRI may be more helpful than Ultrasound and CT imaging in differential diagnosis of splenic cysts.

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