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Splenic Secret- A Deep Dive into a Rare Space Occupying Lesion

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ABSTRACT

Space occupying lesions of spleen can be broadly categorized into infectious/ inflammatory, benign, vascular and malignant lesions. Among the benign lesions, splenic cysts which include primary/true, secondary/false are uncommon entities with an incidence rate of 0.07%. Herein we present a 21-year-old female presented with pain abdomen confirmed with final clinical diagnosis of lymphangioma of spleen was made. Imaging aids in diagnosis but histopathological examination remains the gold standard for achieving a definitive diagnosis of Primary epithelial cyst of spleen, enabling precise differentiation and guiding subsequent treatment strategies.

Key words: Splenic cyst, primary epithelial cyst, splenectomy ,histopathology.

Introduction

Space occupying lesions of spleen can be broadly categorized into infectious/ inflammatory, benign, vascular and malignant lesions[1]. Among the benign lesions, splenic cyst which include primary/true, secondary/false are uncommon entities with an incidence rate of 0.07%[2,3]. Primary cyst contain epithelial lining and sub categorized unto parasitic and non-parasitic cyst depending on their etiology[4]. Non parasitic cysts/ primary epithelial cysts are commonly congenital and are often discovered incidentally in younger age group[5]. Herein we present a case in 21-year-old female presented with pain abdomen.

Case details

A 21-year-old female construction worker by occupation presented to surgical OPD with intermittent dull dragging pain in the abdomen from the past 2 months. There was no history of trauma. General physical examination was normal. Per abdomen examination revealed splenomegaly. Ultrasound and MRI was diagnosed as hydatid cyst and lymphangioma of spleen.(Fig 1) Final clinical diagnosis of large splenic lymphangioma was considered and advised for splenectomy.

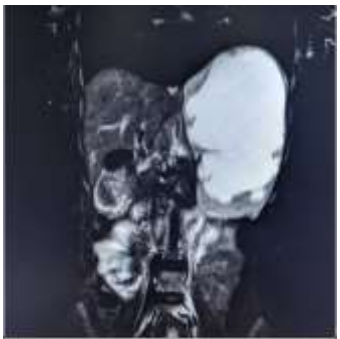

Fig 1. MRI(coronal) Abdomen Splenomegaly homogenous fluid.

The splenectomy specimen weighed 1586gms and measured 21x19x7.5cms. Cut surface showed large uniloculated cyst measuring 18x14x6cms filled with thick mucinous material, on serial sectioning multiple tiny cysts seen with peripheral rim of normal splenic tissue identified. (Fig 2)

Fig 2a Intraoperative image of splenic cyst.

Fig 2b. Gross image of enlarged splenectomy specimen

Fig 2c. Cut surface shows large unilocular cyst filled with thick mucin.

Fig 2d. Serial Cut surface shows multiloculated cyst filled with thick mucin.

On microscopy splenic parenchyma with multiloculated cyst seen lined by flat, cuboidal, at places stratified squamous epithelium having benign cytological features and fibrocollagenous wall. Surrounding compressed congested red pulp and lymphoid hyperplasia of white pulp of splenic parenchyma noted. (Fig 3).There was no evidence of parasitic cyst, granuloma, atypia and malignancy in the sections studied. Final diagnosis of Primary epithelial cyst of spleen was made. Patient is doing well, till date.

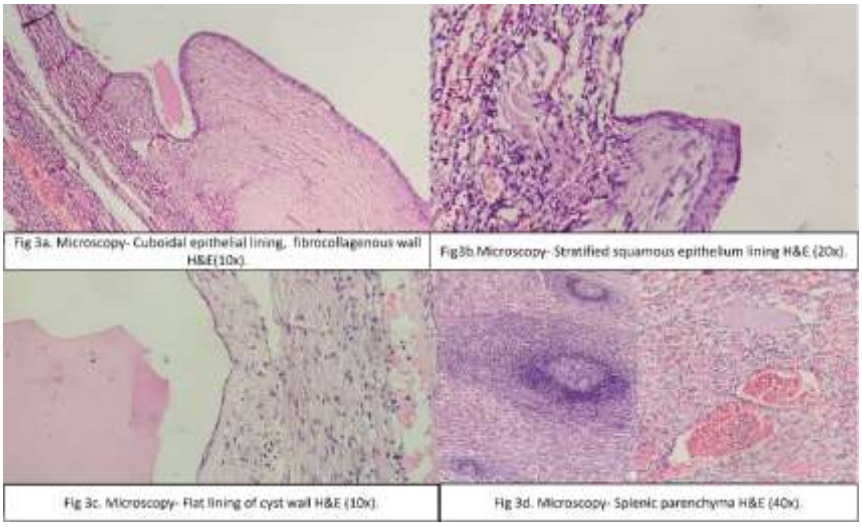

Fig 3a. Microscopy- Cuboidal epithelial lining, fibrocollagenous wall H&E(10x).

Fig3b.Microscopy- Stratified squamous epithelium lining H&E (20x).

Fig 3c. Microscopy- Flat lining of cyst wall H&E (10x).

Fig 3d. Microscopy- Splenic parenchyma H&E (40x).

Discussion

The first primary splenic was reported 1929 by Andral[1]. These cysts are seen in second or third decade of life similar to our case[2]. Most of the cases are incidental, asymptomatic, minimally symptomatic with dull pain and very few present with acute abdomen[6]. Our case present with pain abdomen. Imaging, aids the diagnosis of splenic cyst by appreciating the size and extension; however, histopathology only confirms whether it is a primary or secondary cyst[3]. The primary cysts have cuboidal mesothelial like, flat, columnar or squamous epithelium[7]. Literature search suggest that the epithelial cyst of the spleen is derived from embryonic inclusion of epithelial cells of adjacent structure[8]. Similar histopathology findings were appreciated in our index case.

Management of the cyst remain surgery but modality differs depending on size, number, pathogenesis, relation with splenic hilar vessels, remaining healthy splenic tissue and patients age[9]. Total splenectomy had been the preferred treatment for years in order to decrease the risk of bleeding and other complications of spleen[10]. Early diagnosis and appropriate management are essential to prevent complications and ensure optimal outcome. In our case too, the patient was subjected to splenectomy, and patient was doing well post-surgery.

Conclusion

Primary splenic cysts are relatively rare but clinically significant entities that pose a diagnostic challenge due to their varied presentation and similarity to other space-occupying lesions of the spleen. It is crucial to include them in the differential diagnosis when evaluating splenic masses, as accurate identification is essential for appropriate management. Advanced imaging modalities, such as ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI), play a pivotal role in facilitating the initial diagnosis by providing detailed anatomical and structural information. However, despite the critical insights offered by imaging techniques, they may not always conclusively distinguish primary splenic cysts from other splenic lesions or pathologies. Therefore, histopathological examination remains the gold standard for achieving a definitive diagnosis, enabling precise differentiation and guiding subsequent treatment strategies.

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