



An Unusual Case of Splenic Cyst: Epidermoid Cyst Masquerading as Hydatid Cyst

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Epidermoid cysts of the spleen are very rare benign tumors; characterized by a mesothelial invagination made of a stratified squamous epithelial lining of the splenic capsule during embryogenesis, they are primary non-traumatic and non-parasitic cysts, and they are generally of difficult diagnosis but the advent of CT and histology which remains the arsenal of diagnosis of epidermoid cysts of the spleen. We report a case of a young woman aged 25 years, without any notable pathological history presented with intermittent abdominal pain, with a large palpable splenic mass, ultrasound and abdominal CT scan objectified components that did not present the typical appearance of an epidermoid cyst and biology was in favor of a hydatid cyst igg positive. The patient underwent a total open splenectomy, the histopathological examination revealed the presence of a yellowish white material occupying the entire splenic parenchyma with the presence of numerous intracystic membranes, in addition there are surgical procedures opting for conservative treatment in our case we preferred totalization.

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1. INTRODUCTION

Splenic cysts are a relatively rare pathology constituting 30% of splenic lesions, they can be primary or secondary, congenital, parasitic, vascular, neoplastic, or post traumatic. Primary cysts are most often congenital lined by a stratified squamous epithelium while secondary cysts are formed by fibrous tissue lacking this epithelial coating. Epidermoid cysts constitute 10% of splenic cysts, are congenital non-encapsulated primary cysts that arise after invagination of endodermal mesothelial cells in the splenic capsule during embryogenesis which will generate metaplasia and lymphatic secretions originating from these epidermoid cysts.

Clinical presentation of an epidermoid cyst of the spleen varies, but most often the cyst is asymptomatic and found incidentally during imaging studies. However, in some cases, the cyst may grow large enough to cause symptoms such as abdominal pain, discomfort, or fullness. Rarely, the cyst may become infected, causing fever and abdominal tenderness.

2. CASE REPORT

A 25-year-old woman with a history of two caesarean sections and contact with dogs presented with dull abdominal pain in the left hypochondrium for one year with intermittent nausea and vomiting. A palpable mass was found in the left upper quadrant on clinical examination. The biological workup was positive for hydatidosis, and the rest was unremarkable. Abdominal ultrasound visualized a cystic mass in the medial part of the enlarged spleen measuring 10.4x7.1cm. When helical imaging was performed after injection of intravenous contrast medium, a large hypodense cystic mass occupying the entire spleen measuring 13x8.1cm separated by intracystic septum was revealed. A diagnosis of hydatid cyst of the spleen was suspected given the biology and imaging [Fig. 1]. A laparotomy was proposed to the patient, and splenectomy was recommended due to the size and location of the cystic tumor, which revealed a cystic lesion replacing the normal splenic tissue [Fig. 2]. Histopathological examination revealed a cystic formation made of a yellowish-white material occupying the entire parenchyma with the presence of numerous intracystic membranes. The wall is made of a stratified

squamous epithelium border without atypia, largely ulcerated, and the cyst content is made of a stack of keratinous lamellae [Fig. 3].

3. DISCUSSION

Splenic cysts are rare findings in surgical practice, and various classifications can be found in the literature (according to Fowler, Martin, and Morgenstern) [1]. Splenic neoplasms can be primary or secondary, parasitic or nonparasitic. Primary cysts can be true cysts, such as epidermoid cysts, or neoplastic cysts, such as lymphomas and angiosarcomas. Secondary cysts include post-traumatic and infectious pseudocysts, such as hydatid cysts [2].

True cysts are congenital cysts, particularly epidermoid cysts, whose origin is not yet clear. It is believed that they occur during the embryonic development of the spleen by the incorporation of mesothelial cells into an area occupied by squamous cells in the splenic parenchyma, which is accompanied by metaplasia and secretion of fluid ranging from serous to purulent [3].

Epidermoid cysts of the spleen are histologically defined by the presence of a stratified squamous epithelial lining inside the cyst, sometimes with variable cuboidal mesothelial cells and mucous cells. This lining distinguishes primary cysts from secondary cysts, which are devoid of this epithelial lining [4].

Primary cysts account for only 10% of all splenic cysts, affecting young adults and children preferentially [5]. They have varying clinical presentations and nonspecific symptoms for small cysts, whereas large cysts present with variable abdominal pain and a mass occupying the entire left flank. Thrombocytopenia or complications such as rupture or hemorrhage may also occur [6].

On radiological examination, distinguishing between true and false cysts is generally difficult. In abdominal ultrasound, true cysts appear as solitary, liquid cysts with regular contours and anechoic contents with mobile internal echoes, sometimes manifesting as trabeculae that create a "scalloping sign." In contrast, secondary cysts develop thicker fibrous walls, eggshell calcifications, and neighboring cysts, especially on computed tomography. If peripheral

calcifications are found on abdominal CT without enhancement, post-traumatic cysts are more likely. Furthermore, CT scan images analyze the content of the cyst, whether liquid or fatty, and the presence of internal septations and debris, as well as the location, size, and adjacent structures of the cyst. The CT scan appearance is less specific than the ultrasound appearance [7-8].

In magnetic resonance imaging, epidermoid cysts are hypointense in T1-weighted images, but the signal increases with the content of the cyst and hyperintense in T2-weighted images [9]. Regardless of the imaging method, a discontinuity in the cyst wall and the presence of intra-peritoneal effusion should be feared as a rupture of the cyst, requiring emergency surgery.

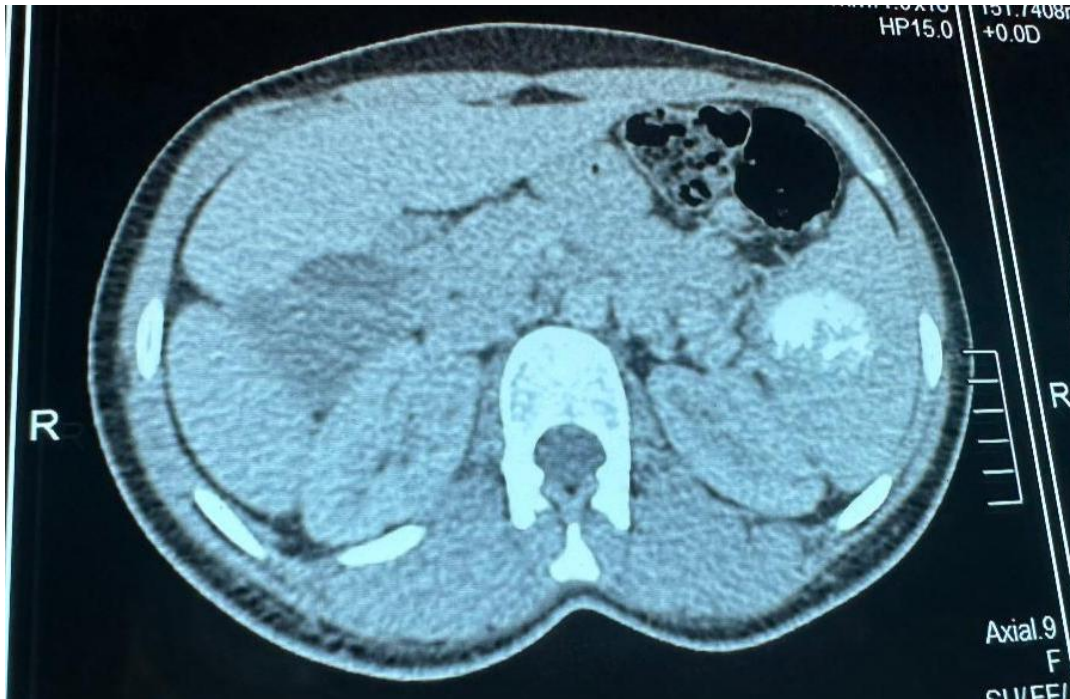


Fig. 1. Axial image with contrast CT abdomen shows a large hypodense cystic mass occupying the entire spleen

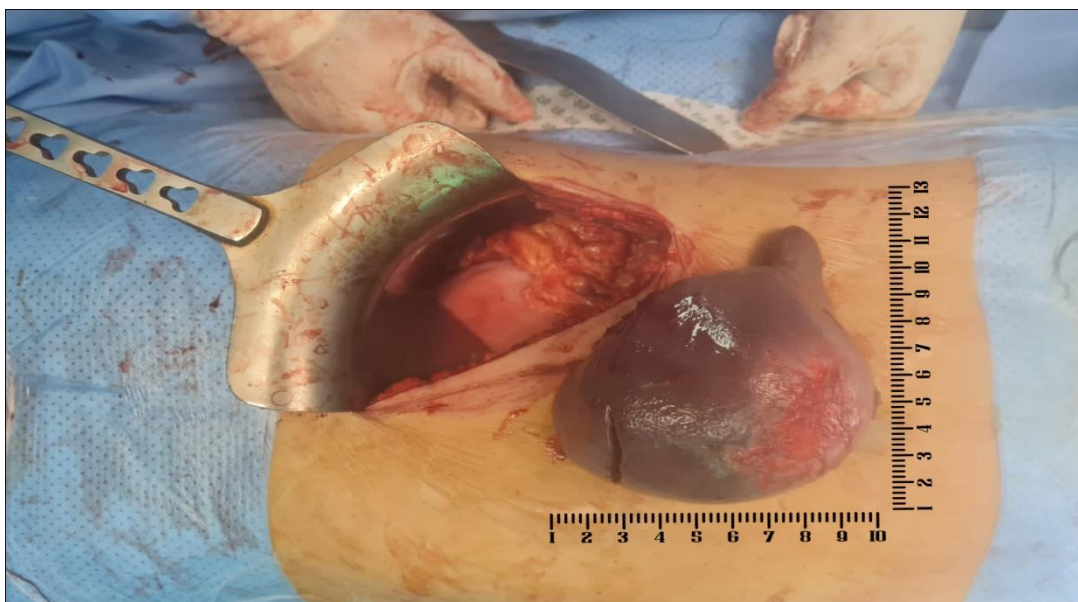


Fig. 2. Total splenectomy and the cystic lesion has been completely removed

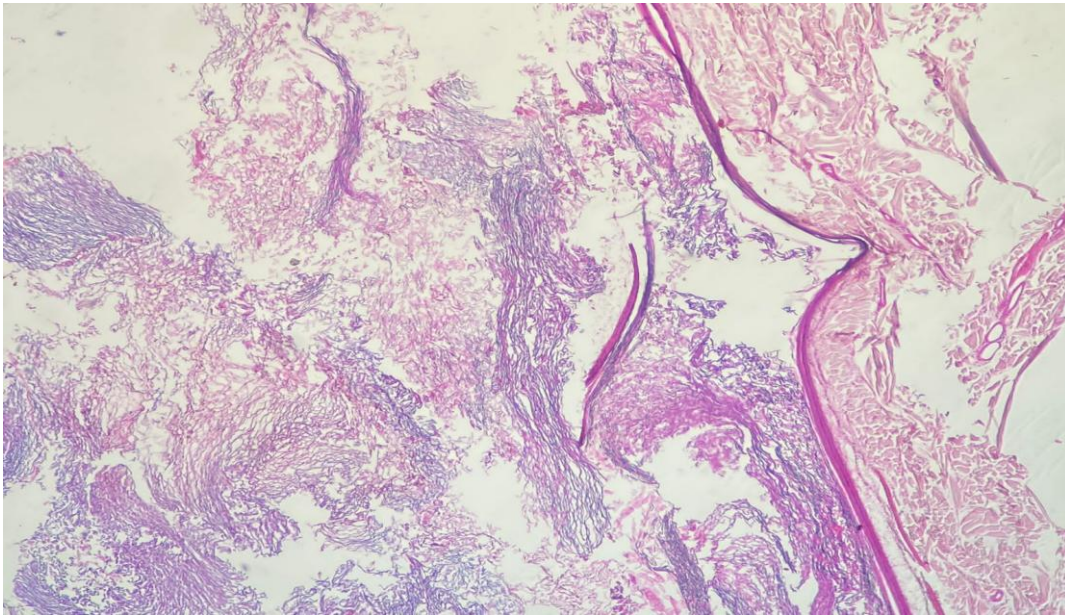


Fig. 3. Showing epithelial lining the wall is made of a stratified squamous epithelium border (hematoxylin and eosin staining x 10)

The differential diagnosis is mainly with hydatid cysts, pseudocysts, and lymphangiomas. Specifically, splenic hydatid cysts are endemic parasitic lesions that share some clinical aspects with splenic epidermoid cysts, such as splenomegaly and well-circumscribed lesions in ultrasound. However, the echinococcal cyst is hyperechoic on ultrasound examination, and histological examination reveals that it does not have a stratified epithelial lining but consists only of fibrous tissue [10-11].

The treatment of splenic epidermoid cysts depends mainly on their size. For cysts larger than 5 cm, the traditional approach was total splenectomy, but currently, with therapeutic advances, partial splenectomy or minimally invasive surgery can be performed for smaller cysts [12-13].

There are several studies that compare the difference and recurrence rates of each of the aforementioned therapeutic procedures. As for laparoscopic aspiration, it has been associated with a recurrence rate of 20% to 40% [14]. Similarly, percutaneous drainage with or without injection of sclerosing agents has been associated with a non-negligible recurrence rate [15]. Partial splenectomy is considered an appropriate technique if 25% of the splenic parenchyma is preserved [16].

The laparoscopic approach is a preferred approach if the cyst is located on the upper and

lower splenic poles [17]. For hilar cysts, cysts covered by splenic parenchyma, huge cysts, and/or those associated with hypersplenism, total splenectomy is recommended [18-19].

4. CONCLUSION

The diagnosis of an epidermoid cyst of the spleen is usually confirmed by imaging tests. In some cases, a biopsy or surgical removal of the cyst may be necessary to confirm the diagnosis and rule out other possible conditions, such as a malignant tumor or a parasitic infection.

It is important to note that epidermoid cysts of the spleen do not require treatment unless they are causing symptoms or are at risk of rupturing, which can lead to serious complications such as bleeding and infection. In such cases, surgical removal of the cyst may be recommended.

CONSENT

Written informed consent was obtained from the patient for publication of this case and for the accompanying images.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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