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Original Research Paper

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A RARE CASE OF COMPLEX SPLENIC CYST ASSOCIATED WITH PERSISTENT THROMBOCYTOPENIA IN A YOUNG FEMALE: A CASE REPORT.

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ABSTRACT Splenic cysts are rare clinical entities, often discovered incidentally on imaging. They may be congenital, parasitic, or post-traumatic in origin. Symptomatic cysts presenting with hematological abnormalities such as persistent thrombocytopenia are uncommon and pose a diagnostic challenge. We report a case of a 27-year-old female who was admitted to our hospital in August 2025. She presented with dull aching abdominal pain localized to the left hypochondrium for three months, associated with intermittent fever, headache, and back pain. Her past surgical history was significant for two lower segment cesarean sections (2015, 2017). There was no history of trauma, comorbidities, or medication use. Laboratory work-up revealed persistent thrombocytopenia. Contrast-enhanced MDCT of the abdomen demonstrated a 5.5 × 6.4 × 4.4 cm lobulated non-enhancing hypodense lesion with internal septations in the superior pole of the spleen, consistent with a complex cystic lesion. Other abdominal viscera were normal. Splenic cysts are rare, with an incidence of <1% in splenectomy series. They are broadly classified as parasitic and non-parasitic. The association of splenic cysts with thrombocytopenia is particularly rare and may be related to hypersplenism. This case highlights the importance of considering splenic cysts in the differential diagnosis of left hypochondriac pain and unexplained thrombocytopenia. Early detection with imaging and timely intervention can prevent complications.

KEYWORDS : Splenic cyst, Laparoscopic splenectomy, Hypersplenism, Thrombocytopenia

INTRODUCTION

Splenic cysts are rare lesions, accounting for less than 1% of all splenectomies reported in the literature (Morgenstern, 2002). They are classified into two broad categories: parasitic (most commonly hydatid cysts due to Echinococcus granulosus) and non-parasitic (congenital, traumatic, or neoplastic). Non-parasitic cysts, particularly congenital epidermoid cysts, are uncommon but may present with abdominal pain, fever, or hematological abnormalities when complicated (Ingle et al., 2014).

Persistent thrombocytopenia associated with splenic cysts is rare and can be attributed to hypersplenism, where sequestration and destruction of platelets occur within the enlarged or diseased spleen (Habermalz et al., 2011). This case report highlights a rare presentation of a complex splenic cyst in a young female with persistent thrombocytopenia.

Case Report

A 27-year-old female presented with complaints of dull aching abdominal pain localized to the left hypochondriac region for three months. The pain was associated with intermittent fever, headache, and back pain. She denied any history of vomiting, jaundice, weight loss, or trauma. Her past surgical history included two lower segment cesarean sections in 2015 and 2017. She was not on any long-term medications, and there was no history of comorbidities.

On general examination, she was afebrile with stable vitals. There was no pallor or icterus. Mild splenomegaly was suspected on abdominal palpation, with tenderness localized to the left upper quadrant.

Laboratory investigations revealed persistent thrombocytopenia, with platelet counts ranging between 60,000 and 80,000/μL on repeated testing. Hemoglobin and leukocyte counts were within normal limits. Liver and renal function tests were normal. Viral serologies were negative.

Radiological findings: MDCT of the abdomen and pelvis revealed a 5.5 × 6.4 × 4.4 cm lobulated, non-enhancing, hypodense lesion with internal septations in the superior pole of the spleen. The lesion did not show surrounding fat stranding or calcification. The liver, pancreas, gallbladder, kidneys, adrenal glands, uterus, and ovaries were normal. No intra-abdominal lymphadenopathy or ascites was noted.

Based on clinical and radiological findings, a diagnosis of complex cystic lesion of the spleen was made, with associated persistent thrombocytopenia likely due to hypersplenism.

The patient was taken up for laparoscopic splenectomy under general anesthesia. Intraoperatively, a large cystic lesion was noted arising from the posteromedial aspect of the spleen, occupying approximately 66 % (2/3rd) of the splenic volume. The cyst wall was thin, and its proximity to the splenic hilum precluded the feasibility of cyst excision or partial splenectomy. Hence, total laparoscopic splenectomy was performed. The procedure was uneventful with minimal intraoperative blood loss.

The resected specimen revealed a unilocular cyst with internal septations. Histopathological examination confirmed a non-parasitic epithelial cyst. Postoperatively, the patient's platelet counts improved significantly, normalizing within two weeks. She was discharged on day 7 in stable condition with appropriate vaccinations and counseling regarding post-splenectomy care.

The intraoperative finding of a cyst occupying nearly two-thirds of the splenic volume, located postero-medially, posed technical limitations to spleen-preserving surgery. While partial splenectomy is advocated in selected cases to

preserve immunological function, in this patient, the extent of parenchymal involvement and the location of the cyst adjacent to the hilum necessitated total splenectomy. Laparoscopic splenectomy has been widely regarded as the standard of care for benign splenic lesions, with excellent safety profile and favorable postoperative recovery compared to open procedures (Habermalz et al., 2011).

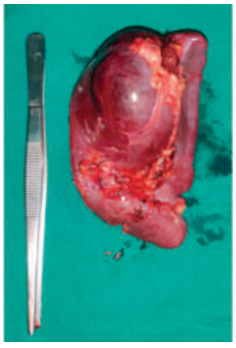

Image 1

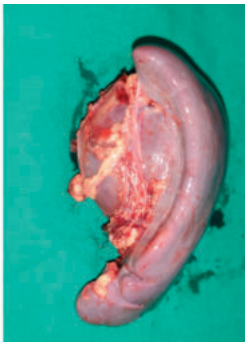

Image 2

Image 1 & 2. Excised specimen of Spleen with Cyst involving 2/3rd of Spleen

DISCUSSION

Splenic cysts are rare entities, with congenital cysts being the most common type of non-parasitic cysts. Congenital cysts are thought to arise from mesothelial inclusions or embryological rests of epithelium. They may remain asymptomatic until they reach a size large enough to cause mass effect, pain, or complications (Ingle et al., 2014).

The unique aspect of this case was the association with persistent thrombocytopenia. Hypersplenism due to cyst-related splenic dysfunction likely explains the low platelet counts. While thrombocytopenia is often seen in massive splenomegaly, its occurrence in moderate-sized cysts is rare (Habermalz et al., 2011).

Differential diagnoses for complex splenic lesions include: parasitic cysts (hydatid disease), post-traumatic pseudocyst, splenic abscess, and cystic neoplasms (rare).

Imaging plays a key role in diagnosis. On CT, congenital cysts typically appear as hypodense, non-enhancing lesions, sometimes with septations, as seen in our patient. Hydatid cysts may show calcifications and daughter cysts, while abscesses often have enhancing rims.

Management: The management of splenic cysts depends on size, symptoms, and complications. Asymptomatic cysts <5 cm can be monitored with follow-up imaging. Symptomatic or large cysts (>5 cm) often require surgical intervention. Options include total splenectomy, partial splenectomy, or cyst excision, with a preference for spleen-preserving approaches when feasible (Morgenstern, 2002).

In our patient, the presence of persistent thrombocytopenia and symptoms warranted surgical intervention. Laparoscopic total splenectomy was considered the best option to relieve symptoms as cyst involved 2/3rd of spleen.

CONCLUSION

Splenic cysts are rare and may present with atypical symptoms such as persistent thrombocytopenia. Imaging, particularly CT, is crucial for diagnosis and differentiation.

This case emphasizes the need to consider splenic cysts in patients with unexplained left hypochondriac pain and cytopenias. Early recognition and appropriate management can prevent complications and improve outcomes.

Conflict Of Interests

The authors declare no conflict of interest. No funding was received for this.

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