

A Large Primary Splenic Cyst in Adolescent Female: A Case Report

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Abstract: Cysts arising from spleen are rarely seen, with their discovery usually being incidental radiological findings done for some other cause or on autopsies. Hereby we present a case of one of the largest reported primary epithelial cyst of spleen. In present study a 14-year-old female presented with abdominal pain since 3-5 days & abdominal distension since 2 months, with no other significant complaints. On examination, a large lump was palpable in upper abdomen. CECT scan revealed a well-defined cystic lesion of 15.2x18.1x21.5 cm arising from the spleen with internal septations. Open laparotomy was performed and huge splenic cyst measuring 29x22x15 cm was resected. Histopathological examination was diagnostic of Primary epithelial splenic cyst.

1. Introduction

Splenic cysts are generally classified as **Primary and Secondary** (pseudocyst)¹⁻⁵. Primary cysts have an epithelial lining and can be **Nonparasitic or Parasitic** (echinococcal). Worldwide, Echinococcus infection is the most common cause of a splenic cyst. Non-parasitic cysts include **Simple cysts, Epidermoid cysts, Dermoid cysts and Neoplastic**⁶. There have been reported cases in literature of primary splenic cystadenocarcinomas and splenic lymphoma presenting as a splenic cyst^{3,4,7,8}. Isolated splenic metastasis is exceedingly rare. They are mostly secondary to melanoma and cancer of the breast, lung, ovary, colon, stomach and pancreas⁹⁻¹². Although they usually appear as solid lesions, haemorrhagic phenomena, cystic or necrotic degenerations may occur, conferring to the metastasis a cystic feature¹¹⁻¹⁴. Moreover a cystic adenocarcinoma of the pancreatic tail, extended within the splenic parenchyma should be excluded^{2,14}. Various classifications have been proposed for splenic cyst based on whether they are lined with mesothelial, transitional or epidermoid linings and also whether they are neoplastic, or secondary/pseudocyst. Primary epithelial congenital cysts are lined by flattened or cuboidal cells originating from in folding of peritoneal mesothelioma during splenic development. These lesions are usually small and asymptomatic and do not require excision. When these cysts are large and symptomatic, they can be removed by laparoscopic or open total or partial splenectomy⁶.

2. Case Report

A 14-year-old Female presented with abdominal pain since 3-5 days associated with gradual abdominal distension since 2 months. On Examination a large palpable lump in upper abdomen extending from epigastrium above upto 4 cm

below the umbilicus and from Right mid-clavicular line to left mid-axillary line with ill-defined margins.



Figure 1: Pre-operative photograph of patient showing huge upper abdominal lump (Margins are marked by interrupted dots)

All blood investigations were within normal limit. CECT abdomen revealed Large well defined cystic lesion measuring 15.2x18.1x21.5cm, predominantly in upper quadrants appears to be arising from mid lower pole of spleen and rest of the parenchyma compressed with right lateral displacement of adjacent viscera.

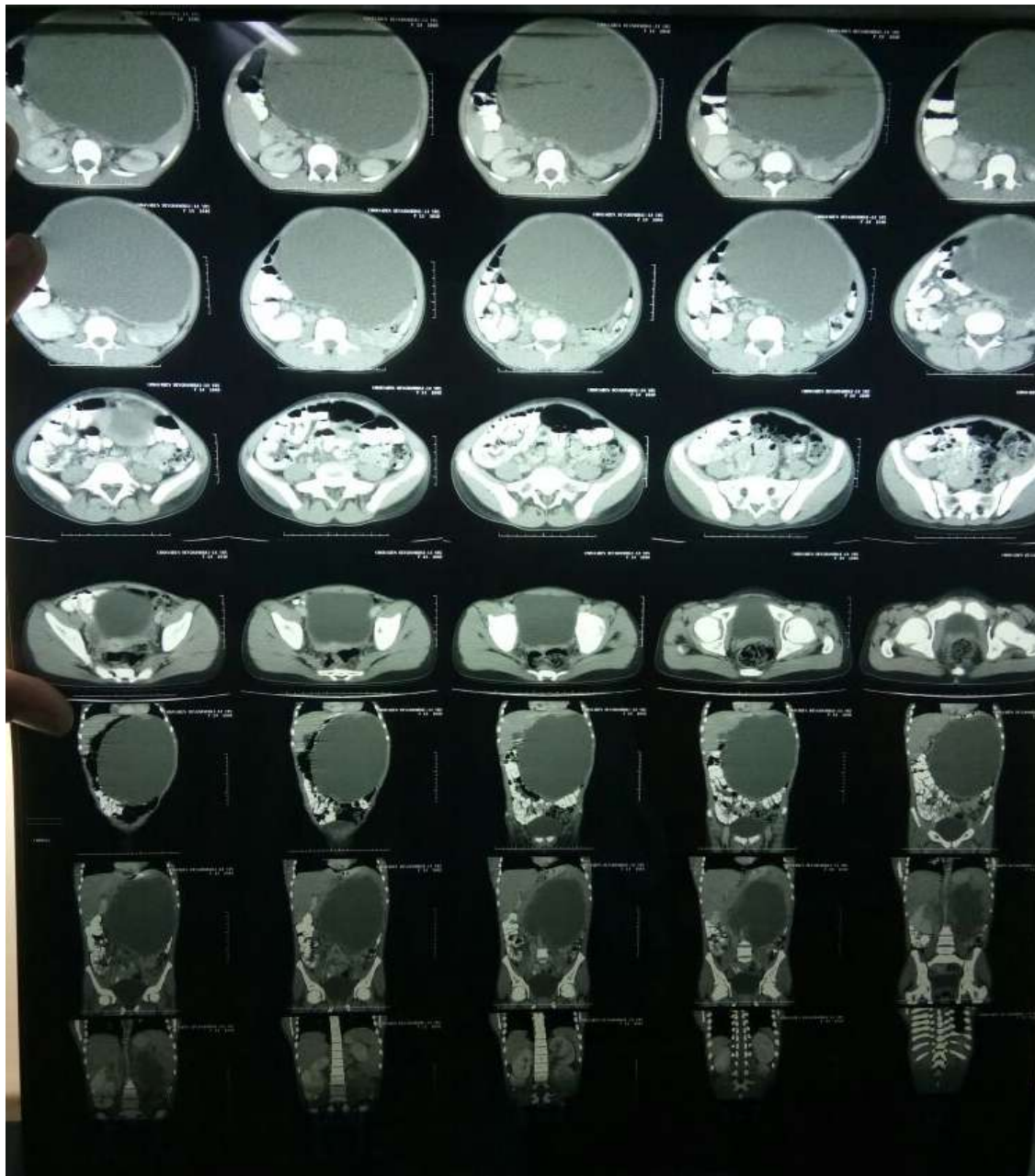


Figure 2: CECT Scan Of Abdomen Showing Cystic lesion arising from spleen

A differential diagnosis of primary splenic cyst v sechinococcal cyst was considered and the patient was prepared for surgery after written informed consent of parents.

Intra operative findings were a huge splenic cyst measuring 21x20x15cm approximation with splenichilar vessels passing over the cyst in close approximation postero-medially with tail of pancreas ,medial and downwards displacement of transverse colon and thinned out left lobe of liver. Minimal residual splenic tissue was present at theperiphery of the cyst. Multiple collateral vessels were present.Splenic cyst with residual splenic tissue was excised and the final specimen weighed ~4.65kg



Figure 3: Intra-op image of Specimen before excision



Figure 4: Specimen of Splenic cyst along with spleen (post excision)

Patient was immunized with Pneumococcal meningococcal and H influenza B vaccines postoperatively.

Histopathological examination confirmed the diagnosis of primary epithelial cyst

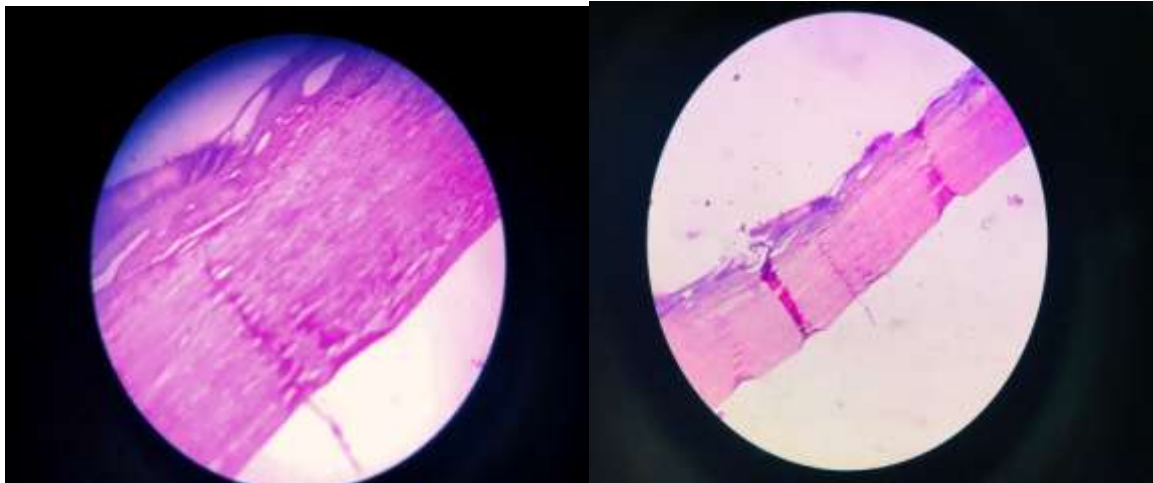


Figure 5: Histological Examination showing Cuboidal epithelium of Splenic cyst

3. Discussion

Splenic cysts are relatively rare entities. The differential diagnosis for these lesions includes parasite infections (which is the commonest), secondary cyst due to trauma or infarction, congenital forms, primary splenic neoplasm or cystic metastasis etc. Non-parasitic cysts of the spleen are relatively uncommon. These include dermoid, epidermoid and epithelial(squamous) cysts. Primary true cysts of the spleen account for approximately 10% of all nonparasitic splenic cysts³⁻⁸. These cysts, however, are benign and needs no treatment unless symptomatic. True splenic cysts are often asymptomatic and discovered incidentally. Patients may complain of abdominal fullness, early satiety, distention of abdomen, shortness of breath, and/or left shoulder or back pain. They may also experience renal symptoms from compression of the left kidney. On physical examination, an abdominal lump may be palpable. Rarely, splenic cysts present with acute symptoms related to rupture, haemorrhage, or infection. Diagnosis is best made by CT. The treatment of nonparasitic cysts depends on whether or not they produce symptoms⁹⁻¹². Asymptomatic nonparasitic

cysts may be observed with close follow-up by ultrasound to exclude significant expansion. Patients should be advised of the risk of cyst rupture with even minor abdominal trauma if they elect for non-operative management for large cysts. Small symptomatic nonparasitic cysts may be excised with splenic preservation, and large symptomatic nonparasitic cysts may be unroofed or splenectomy may be performed. These may be removed through either laparoscopy or laparotomy.

Till date the largest epithelial splenic cyst documented in literature is 30x30x30 cm, as reported by Kiran George N.*, Gayatri Balachandran, L. N. Mohan, Department of General Surgery, St. John's Medical College, Bangalore, Karnataka, India¹⁷.

4. Conclusion

Splenic cyst is an uncommon clinical entity; and specifically non-parasitic splenic cyst is rare. Large symptomatic cysts necessitate intervention and histopathological confirmation of the same

References

- [1] Hansen MB, Moller AC. Splenic cysts. *SurgLaparoscEndoscPercutan Tech.* 2004;14:316-22.
- [2] Brauner E, Person B, Ben-Ishay O, Kluger Y. Huge splenic cyst with high level of CA 19-9: the rule or the exception? *Isr Med Assoc J.* 2012;14:710-11.
- [3] Elit L, Aylward B. Splenic cyst carcinoma presenting in pregnancy. *Am J Hematol.* 1989;32:57-60.
- [4] Morinaga S, Ohyama R, Koizumi J. Low-grade mucinous cystadenocarcinoma in the spleen. *Am J SurgPathol.* 1992;16:903-8.
- [5] Palmieri I, Natale E, Crafa F, Cavallaro A, Mingazzini PL. Epithelial splenic cysts. *Anticancer Res.* 2005;25:515-21.
- [6] Zinner MJ, Ashley SW. *Maginot's Abdominal operations.* McGraw-Hill Publishers. 12th Edi. 2016:1247.
- [7] Nakashima A, Nakashima K, Seto H, Kamei T, Kakishita M, et al. Primary splenic lymphoma presenting as a large cyst. *Radiat Med.* 1994;12:42-5.
- [8] Takabe K, Al-Refaie W, Chin B, Chu PK, Baird SM, et al. Can large B-cell lymphoma mimic cystic lesions of the spleen? *Int J Gastrointest Cancer.* 2005;35:83-8.
- [9] Lam KY, Tang V. Metastatic tumors to the spleen: a 25-year clinicopathologic study. *Arch Pathol Lab Med.* 2000;124:526-30.
- [10] Schon CA, Görg C, Ramaswamy A, Barth PJ. Splenic metastases in a large unselected autopsy series. *Pathol Res Pract.* 2006;202:351-6.
- [11] Comperat E, Bardier-Dupas A, Camparo P, Capron F, Charlotte F. Splenic metastases: clinicopathologic presentation, differential diagnosis, and pathogenesis. *Arch Pathol Lab Med.* 2007;131:965-9.
- [12] Delaunoy T, Peny MO, Mignon M, Dili A. Splenic metastasis from gastrointestinal neoplasms: a review. *ActaGastroenterol Belg.* 2012;75:3-4.
- [13] Urrutia M, Mergo PJ, Ros LH, Torres GM, Ros PR. Cystic masses of the spleen: radiologic-pathologic correlation. *Radiographics.* 1996;16:107-29.
- [14] Kaza RK, Azar S, Al-Hawary MM, Francis IR. Primary and secondary neoplasms of the spleen. *Cancer Imaging.* 2010;10:173-82.
- [15] Morgenstern L. Nonparasitic splenic cysts: pathogenesis, classification, and treatment. *J Am Coll Surg.* 2002;194:306-1
- [16] Robbins FG, Yellin AE, Lingua RW, Craig JR, Turrill FL, et al. Splenic epidermoid cysts. *Ann Surg.* 1978;187:231-5.
- [17] Kiran George N.*, GayatriBalachandran, L. N. Mohan. A rare gigantic primary epithelial cyst of spleen in an adolescent boy