Section: Pediatrics

Case Report

RARE CASE OF ANTENATAL SPLENIC CYST PRESENTING AS ABDOMINAL MASS

Sucharitha[1], Dinesh Banur Onkarappa[2], Swapna Rani Bade[3]

[1]Specialist Pediatrician, NMC Royal Womens Hospital, Abudhabhi UAE
[2]Consultant Pediatrics, Yasclinic, Khalifa city Abudhabi, UAE
[3]General Practitioner, Pediatrics Yasclinic, Khalifa city,Abudhabi UAE

Received : 02/01/2024
Received in revised form : 28/01/2024
Accepted : 14/02/2024

Keywords:
Antenatally diagnosed abdominal mass, splenic cysts, marsupialization.

Corresponding Author:
Dr. Sucharitha,
Email: drsucharithareddyg@gmail.com

DOI: 10.47009/jamp.2024.6.1.348

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2024; 6 (1); 1763-1765

Abstract

Splenic cysts are rare in all age groups and there are a few reports in the world literature. Primary cysts occur more frequently in children and young adults comprising around 25% of all non-parasitic splenic cysts. Here we report a 10 months old baby with antenatally diagnosed abdominal cyst. Ultrasonography of the abdomen postnatally showed anechoic cyst arising from the splenic hilum which was confirmed by diagnostic laparoscopy at the age of 4 months. As the cyst was growing in size, laparoscopic marsupilisation was done at the age of 10 months. Histology confirmed benign epidermoid cyst.

INTRODUCTION

Splenic cysts are rare findings in children particularly the youngest with an incidence of <1% although prevalence is increasing due to widespread use of abdominal imaging.[1,2] Usually classified as type 1 (primary or true cyst) with cellular lining and type 2 cyst, false cyst without cellular lining. Type 1 is further classified as parasitic or non-parasitic. Non-parasitic cysts are classified as congenital and neoplastic.[3-6] Diagnosis is by USG abdomen, CT and MRI. A non-operative approach is accepted choice if diameter of cyst is less than 5cm, as they often resolve.[7-10] Cysts larger than 5cm in diameter or symptomatic, surgical intervention is the option.[11-13] When a splenic cyst has been identified, the choice of therapeutic approach is challenging. Every possible effort to preserve splenic tissue and spleen saving techniques with laparoscopic techniques are recommended.[14-19]

CASE REPORT

We report a rare case of progression and management of antenatally diagnosed splenic cyst. Baby was born full term and had an uneventful Neonatal Course. Antenatal scan showed anechoic cystic area in the left hypochondrium which was postnatally confirmed to be 3.09 x 2.77 cm cystic lesion (figure 4) appearing near the splenic hilum. Cyst did not show any solid echoes or vascularity. Given the findings, a differential diagnosis of mesenteric cyst/enteric duplication cyst/splenic cyst was considered. Child was serially followed till four months of age with regular ultrasound scan with no variation to the size of the cyst.

A diagnostic laparoscopy was done at four months of age, which confirmed the splenic cyst at level of lower pole of the spleen. The cyst was incorporated within the splenic tissue. Child was planned for close follow-up to watch for further increase in the size of cyst with anticipation of self-resolution.

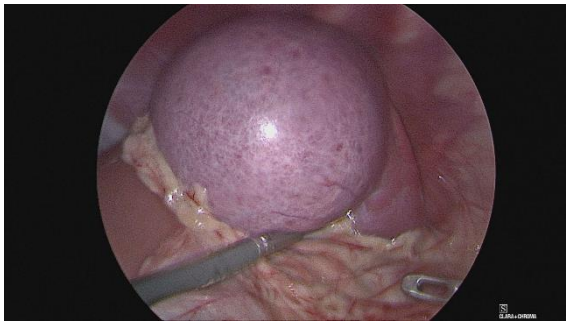

Figure 1: Intraoperative image of splenic cyst.

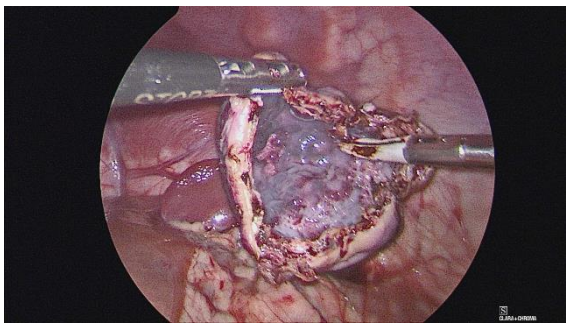

Figure 2: Laparoscopic marsupilisation of the splenic cyst.

MRI done at six months of age showed increasing size of the cyst to 5cm x 4.9 cm at the lower pole of the spleen indenting on the stomach. There was no

ISSN (O): 2687-5365; ISSN (P): 2753-6556

appreciable postcontrast enhancement or internal septations.

A repeat scan at 9 months of age showed increase in the size of the cyst to 5.5 x 5.1 x 5.6 cm (figure 5), there was multiple projections noted in the lumen of the cyst. Child however remained asymptomatic.

As the cyst was increasing in size with possible anticipation of complications like rupture / infection / pressure symptoms, child underwent uneventful Laparoscopic marsupialization of the splenic cyst.

Biopsy of the cyst showed nucleated squamous cells with few anucleate keratinizing squamous cells suggestive of an epithelial cyst.

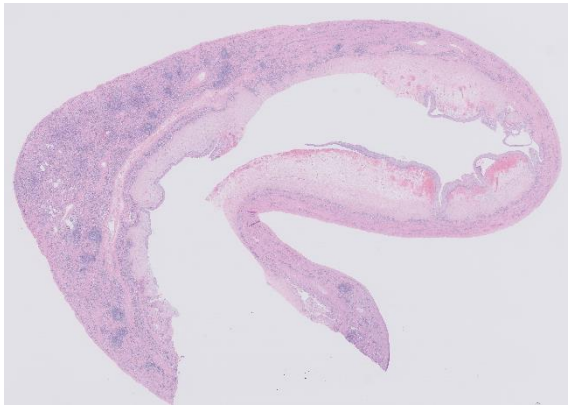

Figure 3: Histopathological examination of the cyst lined with nucleated squamous cells with few anucleate keratinizing squamous cells.

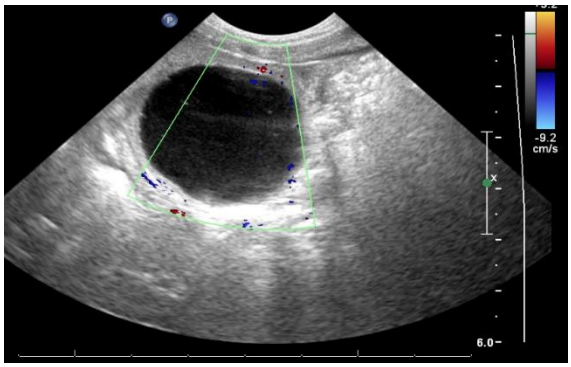

Figure 4: Postnatal ultrasound image of the abdominal cyst.

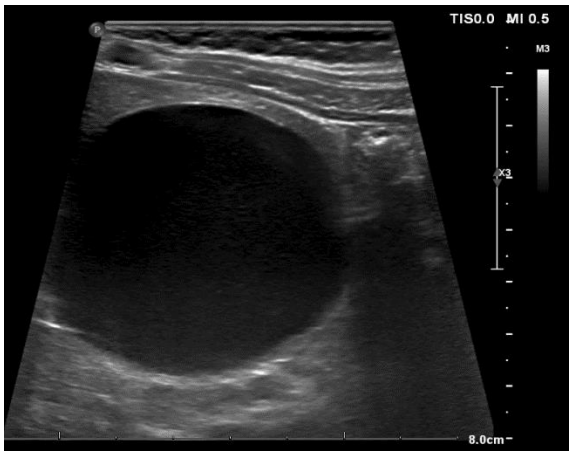

Figure 5: Ultrasound image of splenic cyst at the age of 9 months.

DISCUSSION

Splenic cysts are very rare with an incidence of <1% and usually an incidental finding.[1,2] Epithelial cysts are the most common type of congenital splenic cyst with a global incidence of 7:10,000 reported in the review of autopsies, males common than females.[5,6] Epidermoid cysts are the rarest of all primary splenic cyst accounting for 10% of the splenic cyst. They result either from embryonic inclusion of the epithelial cells from the adjacent structures with cystic dilatation,[3,4,7,8] or a result of invagination of the capsular surface mesothelium.[8,10] Sometimes epidermoid cyst can also follow, trauma with metaplasia within the mesothelial cyst.[11]

An algorithm for the classification of splenic cyst is presented in the below flow chart 1.[5,6]

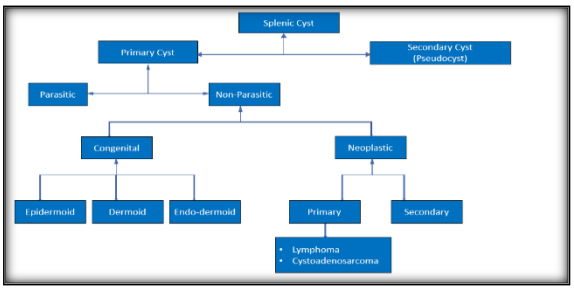

Chart 1: classification of splenic cyst

Differentiation of type I and type II cyst can be difficult, certain characteristics such as echogenicity from the debris/calcifications are helpful for identifying the pseudocyst.

In our case ultrasound revealed unilocular and anechoic lesion with the smooth cyst wall appearance and trabeculated glistening interior lining.[12]

Differential diagnosis for splenic cysts are splenic hemangiomas, hamartomas, splenic abscess and primary and secondary lymphomas

Diagnosis is by Ultrasound, CT and MRI Abdomen and blood investigations like Carbohydrate antigen, CA19-9(13,7) (Which is usually elevated in Epidermoid Splenic cysts and will be normalised once excision of the cyst Done) CA-724(14) fluid level indicates the splenic cyst could be mucinouscystic neoplasm of pancreatic in origin.

An algorithm for the management of splenic cyst is presented in the below flow chart 2.[15-19]

ISSN (O): 2687-5365; ISSN (P): 2753-6556

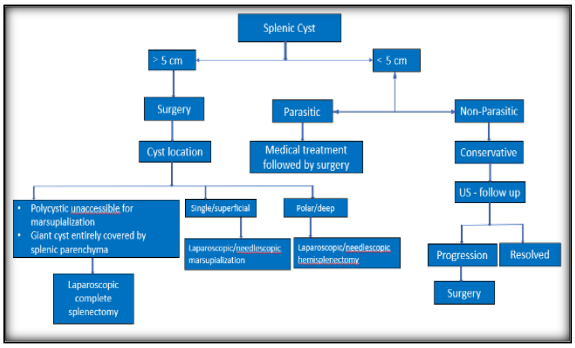

Chart 2: Management of splenic cyst

In our case as the cyst was superficial, increasing in size and was more than 5cm, laparoscopic marsuplialization was done.

CONCLUSION

Splenic cysts are extremely rare. Antenatally diagnosed splenic cyst should be closely followed up for enlargement as it can cause complications. Although difficult, when possible attempt should be made to differentiate between true cyst and pseudocyst by radiological findings. True cysts have the potential to grow-and-may need a surgical excision or marsuplialization as in our case.

REFERENCES

1. Macheras, A, Misiakos, EP, Liakakos, T. Non-parasitic splenic cysts: A report of three cases. World J Gastroenterol 2005; 11: 6884-6887.
2. Robbins, FG, Yellin, AE, Lingua, RW. Splenic epidermoid cysts. Ann Surg 1978; 187: 231-235.
3. Ingle SB, Hinge Ingle CR, Patrike S. Epithelial cysts of the spleen: a minireview. World J Gastroenterol2014;20:13899–903.
4. Marjanović, ZO, Djordjević, IM. Epidermoid splenic cysts in children and adolescents [article in Serbian]. ActaChirIugosl 2008; 55: 63-67.
5. Robertson F, Leander P, Ekberg O. Radiology ofthe spleen. EurRadiol. 200 I; 11:80-95
6. Martin, JW. Congenital splenic cysts. Am J Surg 1958; 96: 302-308.
7. Sakamoto Y, Yunotani S, Edakuni G, et ai. Laparoscopic splenectomy for a giant splenic epidermoid cyst: report of a case. Surg Today. 1999; 29: 1268-1272.
8. Ough YD, Nash HR, Wood DA. Mesothelial cysts of the spleen with squamous metaplasia. Am J ClinPathol. 1981;76:666-669
9. Kaiwa Y, Kurokawa Y, Namiki K, et ai. Laparoscopic partial splenectomies for true splenic cysts. A report oftwo cases. SurgEndosc. 2000;14:865.
10. Sakamoto Y, Yunotani S, Edakuni G, et ai. Laparoscopic splenectomy for a giant splenic epidermoid cyst: report of a case. Surg Today. 1999; 29: 1268-1272.
11. Robertson F, Leander P, Ekberg O. Radiology ofthe spleen. EurRadiol. 200 I; 11:80-95.
12. Robbins FG, Yellin AE, Lingua RW, et al. Splenic epidermoid cysts. Ann Surg1978;187:231–5.
13. Sakamoto Y, Yunotani S, Edakuni G, et ai. Laparoscopic splenectomy for a giant splenic epidermoid cyst: report of a case. Surg Today. 1999; 29: 1268-1272.
14. Sperti C, Pasquali C, Guolo P, et ai. Serum tumor markers and cyst ftuid analysis are useful for the diagnosis of pancreatic cystic tumors. Cancer. 1996;78:237-243.
15. Smith ST, Scott DJ, Burdick JS, et a!. Laparoscopic marsupialization and hemisplenectomy for splenic cysts. J LaparoendoscAdvSurg Tech A. 2001;11:243-249.
16. Tagaya N, Oda N, Furihata M, et ai. Experience with laparoscopic management of solitary symptomatic splenic cysts. SurgLaparoscEndoscPercutan Tech. 2002;12:279-282.
17. Trondsen E, Naess PA, Erichsen A, et ai. Laparoscopic treatment of splenic cysts. TuJsskrNorLaegeforen. 2002;122:906-907.
18. Balzan SM, Riedner CE, Santos LM, et a!. Posttraumatic splenic cysts and partia! splenectomy: report ofa case. Surg Today. 2001;31:262-265.
19. Thorvaldson J, Birkeland S. Splenic cysts. TldsskrNorLaegeforen. 1981;101 :1641-1643.

ISSN (O): 2687-5365; ISSN (P): 2753-6556