Case Report

A Rare Case of Calcified Non-Parasitic Splenic Abscess

S. Pani[1], Harpriya Kar[2], Sujit Prasad[3], Lisha Suraj[4], Vishal Yadav[5], Gautam Agarwal[6], Anuraddha Koli[7], Reshma Bhoir[8*]

{[1]Professor HOD, [2, 3, 4]Associate Professor, [5]Lecturer, [6,8]Resident, Department of General Surgery} {[7]Resident, Department of Microbiology} MGM Hospital, MGM University of Health Sciences, Kamothe, Navi Mumbai, Maharashtra, INDIA.
Email: - reshmabhoir_33@yahoo.co.in

Abstract Primary splenic abscess is a relatively rare disease. Here we present a case of a 40 year old female who is a case of a calcified non-parasitic splenic abscess.
Keywords: Spleen; Epithelial cyst; Splenectomy; Non-Parasitic.

[*]**Address for Correspondence:**
Dr. Reshma Bhoir, Resident, Department of General Surgery, MGM Hospital, MGM University of Health Sciences, Kamothe, Navi Mumbai, Maharashtra, INDIA.
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INTRODUCTION

They can be parasitic (hydatid), caused by the parasite *Echinococcus granulosus*, or non- parasitic.[1, 2] Non-parasitic cysts are classified as primary (true, epithelial), lined by an epithelial cover (epidermoid, dermoid, and mesothelial) or endothelial cover (hemangioma, lymphangioma), and secondary (pseudocysts, non-epithelial), which are usually of post-traumatic origin.[3,4] Primary splenic cysts comprise 30-40% of the total and are encountered more commonly in children and young adults.[5,6] Most of the cysts are asymptomatic, and they are incidental findings during abdominal ultrasonography. The number of diagnosed splenic cysts seems to rise because of the increased use of abdominal imaging techniques.[7] Laparotomy with splenectomy has been the method of choice for the treatment of primary splenic cysts.[5,8] Today, performance of more conservative surgical procedures has been advised, especially in children and young adults, in order to avoid overwhelming postsplenectomy infection.[4,8]

CASE REPORT

A 40 yr old female came in August 2013 with the chief complaints of chronic dull aching non radiating pain in Left Hypochondrium since 1 year. She had 2-3 episodes of Fever 8 month's back which was treated symptomatically. H/O Typhoid 2 months back. No h/o Vomitting, altered bowel or bladder habits, Malaria, Dengue, chronic anemia or bleeding disorders. On examination she was averagely built, vitally stable. Spleen was enlarged and palpable on left hypochondrium. Rest of abdominal examination was normal. Investigations

- Blood picture WNL
- USG Abdomen + Pelvis - Splenomegaly with calcified cyst of about 15cms x 10cms in Parenchyma of spleen. Other organs normal. No free fluid in abdominal cavity.
- CT abdomen showed a Calcified Splenic Abscess.

The patient was planned to be posted for an Exploratory Laparotomy with Splenectomy. Two weeks prior to surgery Pneumovac vaccine was given. Intraoperative findings – 20 x 10 x 3 cms enlarged Spleen. Other organs were normal. Splenectomy was done. On examining the spleen, Stony hard in the centre and required a lot of pressure to break open the wall. Non foul smelling White Cheesey pus present in cavity (300ml). Pus sent for microbiological culture and sensitivity examination. Specimen sent for histopathology examination. The Pathologist received specimen of spleen weighing 400g and measuring 14x10x1 cm with already cut open cyst measuring 10x9x1 cm. A single cyst was seen the wall of

which was hard and appeared to be calcified. Multiple sections were taken from cyst wall which were decalcified with 5% nitric acid and sections from remaining spleen were also taken. Multiple areas of spleen showed expansion of red pulp and decrease in white pulp. Splenic sinusoids showed congestion. Multiple Sections from cyst wall showed no epithelial lining and only. No evidence of any fungus/ parasite / granuloma seen. On Direct microscopy- Bacteria/ fungal elements not seen. Culture showed no bacterial growth in Aerobic and Anaerobic culture after 48 hrs incubation. ZN smear negative for AFB. RT-PCR negative for M.TB Complex. Field's Stain from exudates- Malarial parasites not seen.

Figure 1: x ray Abdomen Standing - Calcified cyst in Spleen

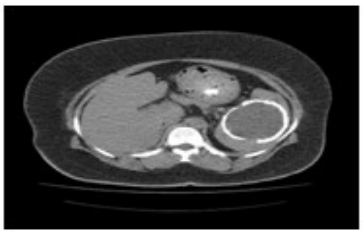

Figure 2: CT Scan – A Calcified abscess of 15cm * 10cm in spleen with no septations.

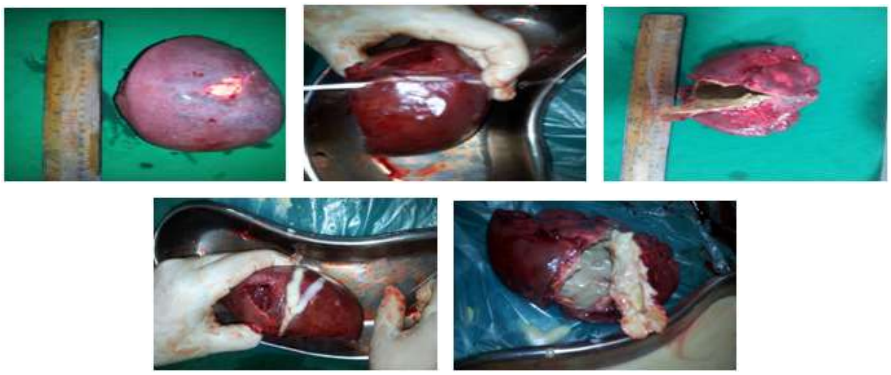

Figure 3: Intraoperative Pictures of the Splenic Abscess with cut surface showing White Cheesey Pus.

DISCUSSION

Benign true non-parasitic splenic cysts cannot be clinically distinguished from other types of splenic cysts. They have an inner lining of epithelial cells and are usually of congenital etiology.[3,6] Pseudocysts have an inner lining of connective tissue and are usually secondary to blunt trauma or hemorrhage in the splenic parenchyma, but they may also be of infectious and degenerative origin.[9,10] Both types of splenic cysts do not produce any specific symptoms, until they reach a significant size. Large cysts may cause atypical pain and heaviness in the left hypochondriac region, due to distension of the capsule or space-occupying mechanisms within the abdominal cavity, or they may present as a palpable mass.[3,5,9] Symptoms secondary to pressure on surrounding organs, such as nausea, vomiting, flatulence, and diarrhea may gradually appear. Also, pressure in the cardiorespiratory system may cause pleuritic pain or dyspnea, and irritation of the left diaphragm may cause persistent cough.[10] Occasionally splenic cysts may present with complications, such as infection, rupture and hemorrhage.[9,11] When a lump is detected in the left upper quadrant of the abdomen, it is necessary to exclude any disease associated with splenomegaly, mononucleosis, and fever of unknown origin, hemolytic anemia, chronic leukemias, collagen vascular disease, and liver diseases.[12] Serological studies are useful in excluding most of the above-mentioned diagnosis. In our cases hematological, biochemical, and serological investigations were negative. Angiography is useful in differentiating a splenic cyst, which is usually avascular, from solid malignant tumors (lymphoma, sarcoma), which usually have neoplastic vasculature in a disorganized pattern.[10, 13] Ultrasonography is able to see that the cysts are either anechoic or hypoechoic and they have a smooth thin wall[14], whereas solid tumors are either isoechoic or hypoechoic. In addition, computerized tomography and magnetic resonance imaging may give most of the necessary information, regarding the morphology of the cyst, the composition of the cystic fluid, the location in the spleen, the position of the cyst and its relationship with the surrounding tissues.[5, 7,10] Calcifications of both the primary and secondary cysts are frequently found, which are useful in diagnosing cysts from other causes of splenomegaly.[5] In our cases, ultrasonography and computerized tomography had preoperatively set the

diagnosis of solitary calcified splenic cyst. Due to the increased risk of complications in splenic cysts with a diameter larger than 4-5 cm should be managed surgically.[9,11,15] because conservative options, such as percutaneous aspiration or sclerosis, do not result in long-term control.[5, 8, 16] There are different types of surgical treatment according to the patient's age and the size, location and nature of the cyst. The classical approach to splenic cysts has been open complete splenectomy.[5, 8, 17] However, there was a trend towards more conservative surgery after the 1970s, because of the appearance of overwhelming life-threatening septicemia, especially in children who underwent splenectomy.[5, 10, 18] Indeed, the spleen plays an important role in hematopoiesis, immune function, and protection against infections and malignancies.[5,19] Today the optimal treatment options are partial splenectomy, total cystectomy, marsupialization, or cyst decapsulation (unroofing), accessed either by open laparotomy or laparoscopy[5, 11, 19, 20, 21] However, any type of conservative procedure is difficult to perform, if the cyst is very large, is located in the splenic hilum, or is covered completely by the splenic parenchyma (intrasplenic cyst), or if there are multiple cysts (polycystic cases): in these cases, a complete splenectomy should be performed either using the open or the laparoscopic approach.[1,21,22,23] In conclusion, splenic cysts larger than 5 cm or symptomatic ones should be treated surgically, trying to preserve as much of splenic parenchyma as possible. If the cyst is very large and almost completely covered by splenic parenchyma, or if it is located in the splenic hilum, complete splenectomy is recommended, because of the risk of intractable bleeding from the spleen. Partial cystectomy (unroofing) could be an acceptable procedure in the majority of other cases. The laparoscopic approach seems to be a safe procedure, having all the benefits of minimally invasive surgery.

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