CASE REPORT

Largest Reported Pseudocyst of Spleen: A Case Report and Review of Litaerature

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SUMMARY

Splenic pseudocysts are rare clinical entities characterized by a lack of cellular lining. They may be of hemorrhagic, serous, inflammatory or degenerative in origin. Patients who become symptomatic usually require surgical intervention in the form of total or partial splenectomy. We report a case of giant pseudocyst treated successfully by splenectomy and review the literature.
Keywords: Splenic Pseudocyst, Splenectomy.

INTRODUCTION

Splenic cysts are rare with around 800 cases reported in the world literature[1]. Cysts of the spleen can be classified as parasitic and non-parasitic. Non-parasitic cysts can be further classified as true cysts and pseudocysts. True cysts are those with an epithelial lining and include epidermoid cysts, epithelial or congenital cysts. Pseudocysts donot have an epithelial lining and are usually post-traumatic or inflammatory /degenerative[2]. It is important to distinguish pseudocysts of spleen from other benign/malignant splenic cysts, especially from hydatid cysts in order to follow the right management plan. Splenic cysts mostly remain asymptomatic and require treatment only when they become large enough to cause symptoms. The treatment is usually surgical either in the form of total or partial splenectomy depending upon various factors which will be discussed in our case report.

CASE REPORT

A 39 years old married female was admitted in surgical unit 2 Jinnah Hospital Lahore in October 2014 with the complaints of mass in the upper abdomen which was progressively increasing in size for past one year. The mass was associated with dull abdominal pain and postprandial discomfort. There was no history of trauma, fever, anorexia or weight loss. Clinical examination revealed a large (20X18cm in size), cystic, intra-abdominal lesion in the region of left hypochondrium and epigastrium that was smooth surfaced, well defined, non-tender and moved with respiration. Rest of the systemic examination was normal.

The patient underwent both routine and specific (to rule out hydatid disease) biochemical and serological work up which was normal. Abdominal ultrasound showed a huge cystic lesion 18X17cm with internal debris and soft tissue component arising from the spleen. CT scan showed a large cystic lesion approximately 24X22 cm in size present in the region of the left hypochondrium but indiscernible from the spleen (Fig. 1 and 2). Chest radiograph showed slight elevation of left hemi diaphragm.

Considering the size of the lesion and symptoms of the patient we planned an elective splenectomy after immunizing the patient against Strep.Pneumonia, Meningococcus and H. Influenza. The patient was explored through a left upper abdominal transverse incision. A giant cyst measuring 27X20 cm (Fig.3,4) was found arising from the spleen and almost completely replacing the splenic parenchyma, having dense adhesions with the left hemi diaphragm, lateral abdominal wall and stomach. The mass was excised in toto (Fig.5). Cut section revealed a unilocular cystic lesion containing yellow colored, odorless, thick, creamy fluid with smooth internal lining (Fig. 6,7,8). Histopathology revealed that the cyst wall was composed of dense fibrous tissue lined by macrophages. No epithelial lining identified and no evidence of granulomatous inflammation or malignancy seen (Fig. 9,10). The patient was discharged on the 4th post-operative day after uneventful recovery and now 3 months after surgery she was found to be doing well.

DISCUSSION

Splenic pseudocysts account for about three quarters of all the non-parasitic splenic cysts. They are unanimously deemed to develop as a result of splenic trauma with intraparenchymal or sub-capsular splenic hematoma formation. Sometimes they may arise after splenic infarcts, degenerative changes or infections such as malaria, mononucleosis and tuberculosis[3-7] but in our patient we failed to elicit any cause for the formation of a

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giant cyst. The diagnosis of pseudocyst is generally based on radiological examination(USG, CT scan, MRI) as well as various hematological, biochemical, bacteriological and serological tests to rule out other causes of splenic cysts especially Echinococcus granulosus infestation.

Amongst the radiological investigations ultrasound is useful for determining the site, size and nature of splenic cysts. CT scan gives more detailed information regarding the location of the cyst, splenic architecture and relation of the cyst with adjacent viscera. MRI is usually employed when Ultrasound and CT scan findings are inconclusive[3,4,5,8,9].

Aspiration of the fluid from the cyst does not differentiate true from false cysts or sub classify the congenital cysts[10]. Histopathology of the splenic wall is the only confirmatory test to establish whether the cyst is primary or secondary (no cellular lining) and determine its precise nature[11].

Concerning the clinical presentation, most of the cysts (30-60%) are asymptomatic and diagnosed incidentally[12,13]. The splenic pseudocysts are a type of cysts, which cannot be clinically distinguished from other types. The cysts do not produce symptoms unless they are oversized[12,14]. Most of the pseudocysts are unilocular (80%) and they vary in size (1-16 cm). Large cysts may cause atypical pain and heaviness in the left hypochondriac region due to the distention of the splenic capsule or space occupying mechanism within the abdominal cavity or they may present as a palpable mass[12,15]. Symptoms secondary to pressure on surrounding organs such as nausea, vomiting, flatulence and diarrhea may gradually appear. Pressure on the cardiorespiratory system may cause pleuritic pain or dyspnea while irritation of the left diaphragm may cause persistent cough. Occasionally, splenic cysts may present with complications such as infection, rupture and hemorrhage[13,16].

The dimensions of the pseudocyst in our patient were 27x20cms as can be seen in the figure 3 and 4. After thoroughly reviewing the literature we could not find a pseudocyst of such great size reported by any other clinical team. We therefore believe that we have successfully treated the largest splenic pseudocyst todate.

There are numerous surgical options for the treatment of splenic cysts. The primary therapeutic goal in all the options is aimed at abolishing the cyst, averting complications and precluding recurrence. Review of the literature shows factors like location of the cyst, patient age, presence of unrelenting symptoms, nature of the cyst, size of the cyst and patients general conditions as basic criteria for patient selection in relation to various surgical interventions available[4,5,7].

Different surgical modalities may be employed for treatment of nonparasitic splenic cysts which include total splenectomy (indicated for very large cysts, those covered by the splenic parenchyma completely or located at the hilum)[17], partial splenectomy (when atleast 25% of splenic parenchyma can be spared) partial cystectomy (deroofing, fenestration) ,marsupalization of the cyst and percutaneous drainage[17]. Each of these procedures has its own merits and demerits and may be carried out through conventional open laparotomy as well as laparoscopically. Patient selection is therefore important. Those patients who undergo total splenectomy should be vaccinated against Strept Pneumonia, Meningococcus, H Influenza B prior to surgery so as to reduce the risk of post-splenectomy sepsis.

CONCLUSION

Pseudocysts of the spleen are rare lesions encountered in surgical practice. A high index of clinical suspicion, comprehensive clinical evaluation and appropriate utilization of laboratory and radiological imaging is mandatory in achieving the accurate diagnosis. Total splenectomy is the treatment of choice for large cysts but where applicable minimally invasive and spleen preserving procedures should be carried out.

Author's contribution	KS	HAC	ZZH	AFAK
Research concept & design				
Data analysis & interpretation				
Writing the case report				
Critical revision of article				
Final approval				

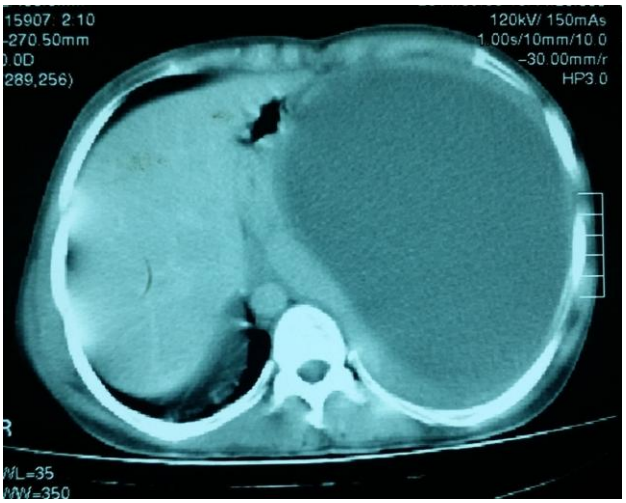

Fig. 1

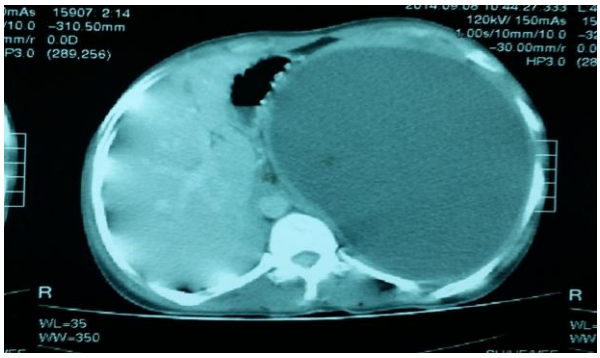

Fig. 2

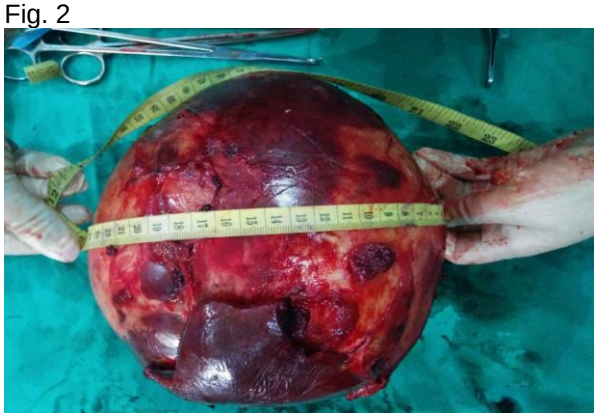

Figure 3. Dimensions of the pseudocyst

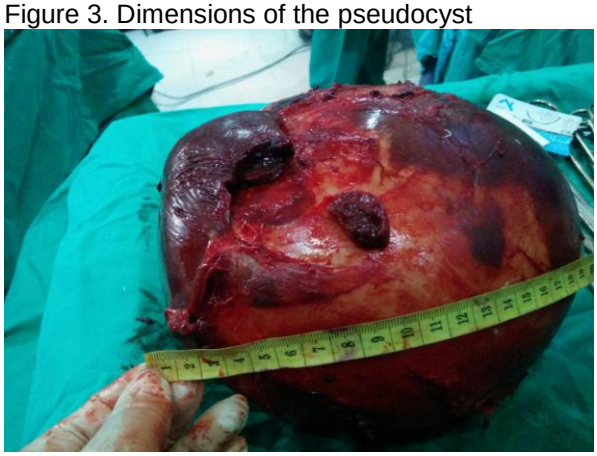

Fig. 4: Dimensions of the pseudocyst

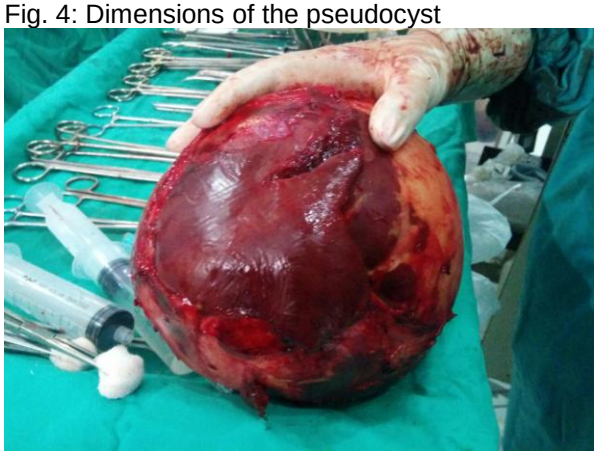

Fig. 5. Intact excised pseudocyst

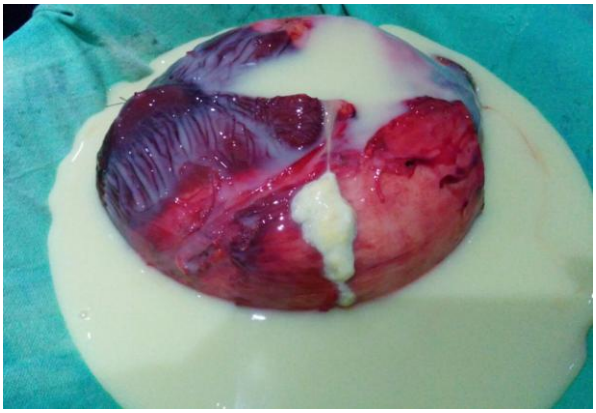

Fig. 6. Thick creamy aspirate from the cyst.

Fig. 7. Internal view of the cyst lining.

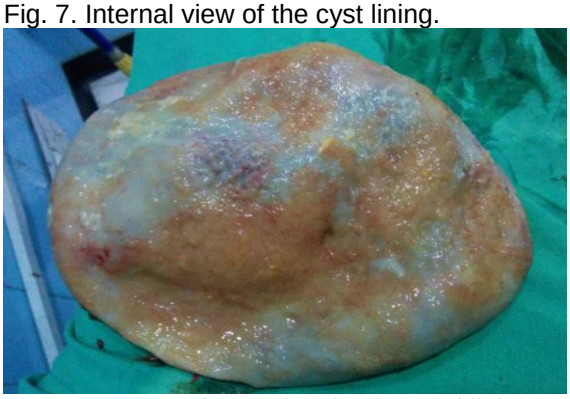

Figure 8. Everted cyst showing internal lining

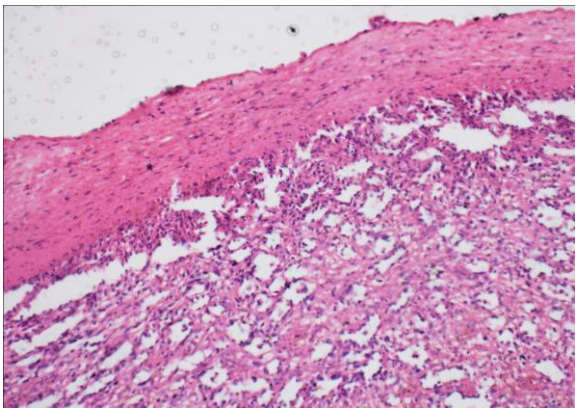

Fig 9: Microscopic view of Pseudocyst

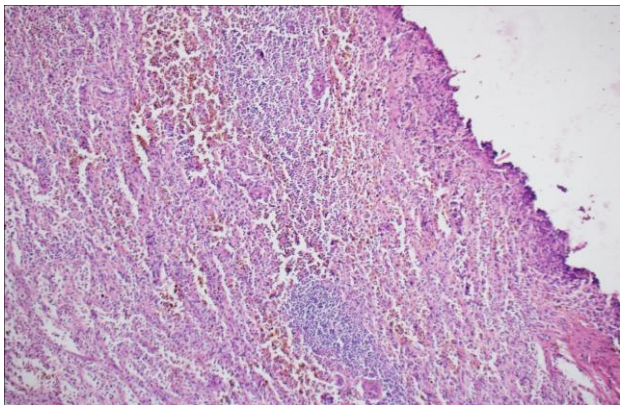

Fig. 10. Microscopic view of Pseudocyst

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