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## Infected secondary cyst of spleen (Non parasitic cyst)

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### Abstract

Acquired Splenic cysts are uncommon and found in only less than 1% of splenectomy specimen received for study. They vary greatly in size with average size of 10 cm in diameter. A case of acquired splenic cyst in a 54 year old man probably following a trivial trauma is being presented.

**Keywords:** Spleen, cysts, splenic cysts, secondary splenic cysts, epidermal cyst of the spleen

### Introduction

Splenic cyst which is a very uncommon entity is found comparatively more frequently in men in third decade of life. They can be primary or secondary cysts. They are frequently asymptomatic but can present as an abdominal mass with pressure symptoms and pain. The present case was diagnosed as an infected secondary splenic cyst <sup>[1]</sup>.

### Clinical History

A 54 year old male presented with abdominal mass for 1 month and abdominal pain for a day in surgery OPD. The patient was evaluated and clinically diagnosed as ruptured splenic cyst with peritonitis. The computed tomography of abdomen gave the impression of a ruptured splenic cyst. Following laparotomy procedure, the cyst was excised in piecemeal. The above specimen was studied histologically in detail.

### Gross Morphology



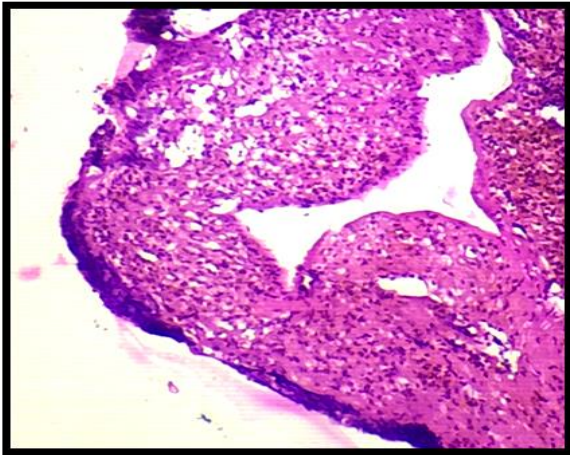
**Fig 1:** Multiple grey black soft tissue pieces, where, some appeared membranous in nature.

### Microscopy Description

Multiple sections studied reveal splenic tissue with necrotic debris densely infiltrated with inflammatory cells composed of degenerated pus cells, lymphocytes and few macrophages. Also seen is a portion of cyst wall, the lining of which is not discernible at most of the places. However in some areas, cyst wall appears like flattened squamous cells. Foreign body most probably vegetable matter is also seen surrounded by purulent exudate. Histological features are suggestive of Infected Secondary Cyst of Spleen.

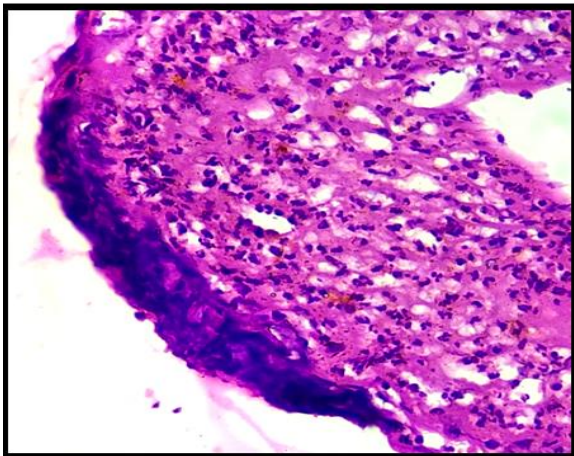
**Microscopy**

**Figure 2: H&E-10X**



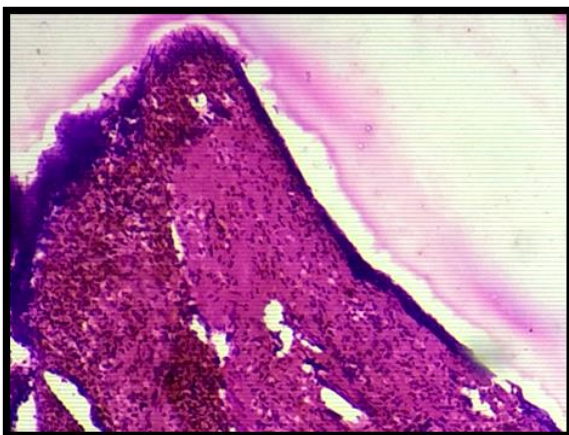
**Fig 2:** A cystic structure the wall of which is partially lined by compressed squamous epithelium.

**Figure 3: H&E-20X**



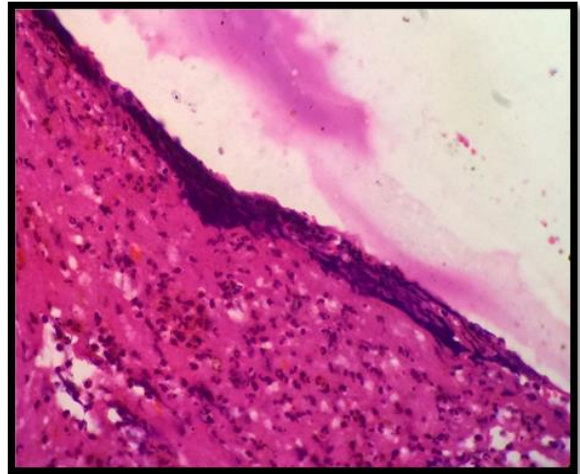
**Fig 3:** The cyst wall holds necrotic material along with inflammatory exudates.

**Figure 4: H&E-10X**



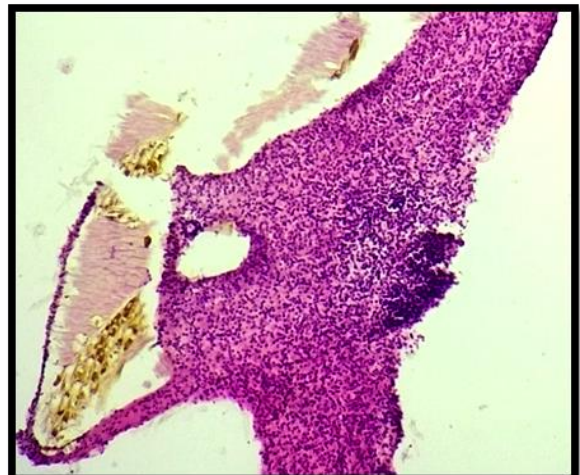
**Fig 4:** Portion of the cyst with similar lining. The wall holds necrotic splenic tissue with haemorrhage.

**Figure 5: H&E-20X**

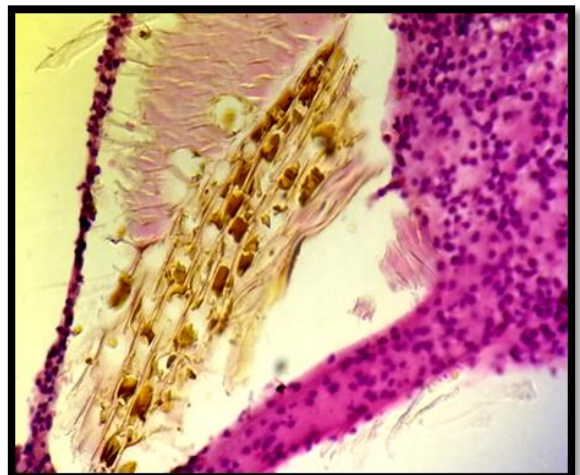


**Fig 5:** Portion of the lining wall, which is lined by compressed squamous epithelium.

**Figure 6: H&E-10X**

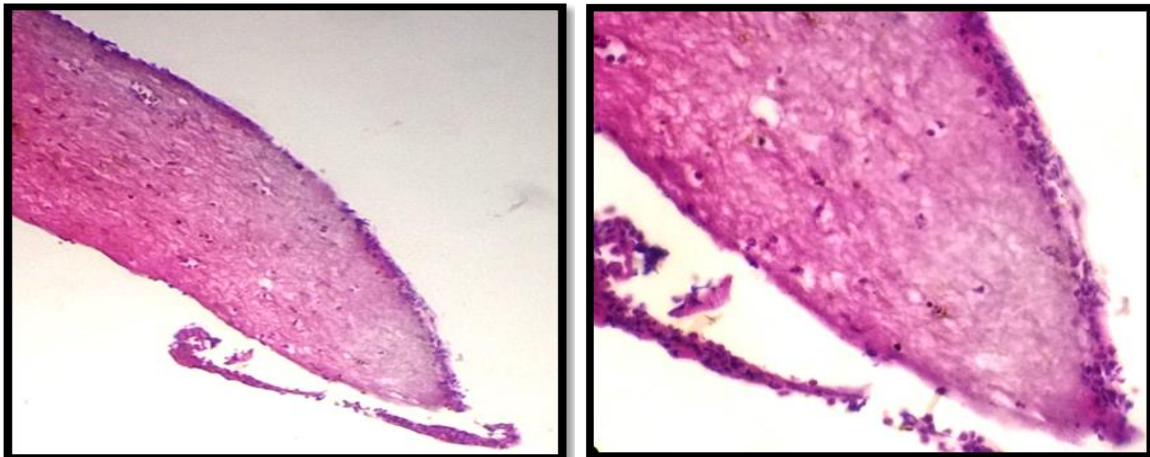


**Figure 7: H&E-20X**



**Fig 6, 7:** An embedded vegetable matter foreign body set against the background of purulent exudate.



**Figure 8: H&E-10X****Figure 9: H&E-20X****Fig 8, 9:** Necrotic splenic tissue.

### Discussion

Different types of cysts can occur in spleen. Splenic cysts can be true/ primary or false/ secondary splenic cysts. True cysts include epithelial and parasitic cysts [2]. True cyst [mainly epithelial cysts] accounts for 20% of splenic cysts and the remaining 80% comprise of false cysts. Epithelial cysts are seen in children and young adults with slight male predominance [3]. They can be asymptomatic or cause some mass effect. Complications are rupture of the cyst and secondary infection. Epithelial cysts, otherwise called epidermoid cysts are usually congenital cysts of the spleen and are generally benign cysts. Epithelial cysts are due to embryonic inclusion of tri-dermal derivatives from other structures or arise following a history of trauma causing a subclinical tear in the spleen with mesothelial entrapment [4]. Malignant transformation is rare. On gross examination, there can be single or multiple cysts. The cyst is usually approximately of 10cm in diameter. The cyst wall is coarsely trabeculated and glistening, filled with clear or turbid fluid [5]. Cholesterol crystals are also to be seen. On microscopic examination, the cyst wall is lined by stratified squamous epithelium either keratinized or non-keratinized. There is absence of skin appendages and rete ridges [6]. Other types of epithelium may be present rarely such as flattened, cuboidal, or transitional epithelium. Parasitic cysts in spleen resemble their counterparts elsewhere. The most common parasitic cyst of spleen is Hydatid cyst. False/ secondary/ pseudocysts are cyst which lack a definite cellular lining. They occur most commonly in children and young adults. They are usually asymptomatic. Rarely they can assume large size and even rupture leading to hemoperitoneum. The theory of origin of this cyst is thought to be liquefaction of hematomas [following trauma] but it is not conclusive. Other theories are cystic degeneration of hamartoma, infarct, or angioma, or from denudation of epithelial cysts. On gross examination, the cyst wall is smooth or shaggy but not trabeculated and filled with opaque or cloudy fluid. Calcification is frequently seen in wall. A definite epithelial lining is absent [7].

Here this patient who presented with symptoms of acute abdomen was done ultrasonogram abdomen and found to be having probably ruptured splenic cyst and operated. The

splenic tissue with cyst in piece meal was sent to department of pathology for histopathological evaluation [8].

### Infected Secondary Cyst of Spleen

15 days later, in the following postoperative period the patient developed again pain abdomen which was found to be due an abscess in the operated site which was drained and sent for cytological examination. The picture was that of purulent exudate. With higher antibiotics and enhanced nutritional supplements the episode subsided. After six months follow-up, he is found to be healthy without any sequelae.

### Conclusion

Splenic cysts being a rare finding, that too with a foreign body inside the cyst makes the diagnosis an unusual and even more important one.

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