

Laparoscopic splenectomy for an intra-parenchymal epithelial cyst

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ABSTRACT

An epithelial splenic cyst is a rare clinical entity. Symptomatic, larger cysts of 5 cm in diameter should be treated to relieve symptoms and prevent complications that may develop. Laparoscopic treatment has become common in surgical practice and is used as a standard method in surgical procedures of the spleen. A 28-year-old male patient underwent a laparoscopic splenectomy due to the presence of a symptomatic splenic cyst of about 8 cm in size with an intraparenchymal localization. Pathological evaluation diagnosed an epithelial cyst. Two months of follow-up were uneventful. A laparoscopic splenectomy is the standard method of surgical treatment for epithelial splenic cysts if the localization of the cyst is not suitable for spleen-preserving surgery.

Keywords: Epithelial cyst; laparoscopic surgery; spleen.

Introduction

Splenic cysts are rare and often diagnosed incidentally. There is an epithelial layer in true primary splenic cysts and they are frequently caused by parasitic infections.^[1] Non-parasitic cysts are divided into two groups as congenital and neoplastic; epithelial cysts are regarded as congenital and are also diagnosed rarely.^[2] It has been recommended that symptomatic splenic cysts larger than 5 cm should be treated for their rupture, bleeding, and infection potential.^[3,4] The optimal surgical treatment modality of non-parasitic splenic cysts still remains to be a controversial issue. Today improved surgical techniques and instruments have resulted in the standard utilization of laparoscopic surgery in diseases of the spleen.^[5,6] This study presents the case of a patient who received laparo-

scopic splenectomy because of an epithelial cyst with intraparenchymal localization.

Case Report

The 28-year-old male patient was referred to our clinic because of an incidentally diagnosed splenic cystic mass about 3 months before. The patient's evaluation revealed no known chronic diseases, medication administration, and history of trauma. No special condition was seen during his physical examination as well. The patient's body mass index (BMI) was 30.4 kg/m² and his laboratory parameters were within normal range. Ultrasonic evaluation showed that the size of the spleen was 20 cm and an anechoic cystic structure of about 71x48 mm on the upper pole within the parenchyma was seen. Contrast-



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enhanced computer tomography (CT) demonstrated hypodense cystic mass of 75x55 mm with +10 HU density and smooth borders, localized in the superior-posterior area of the spleen, showing a growth pattern in the parenchyma (Fig. 1). *Echinococcus*- antibody titer was negative. Serum carbohydrate antigen 19-9 (CA 19-9) and carcinoma-embryonic antigen (CEA) levels were within

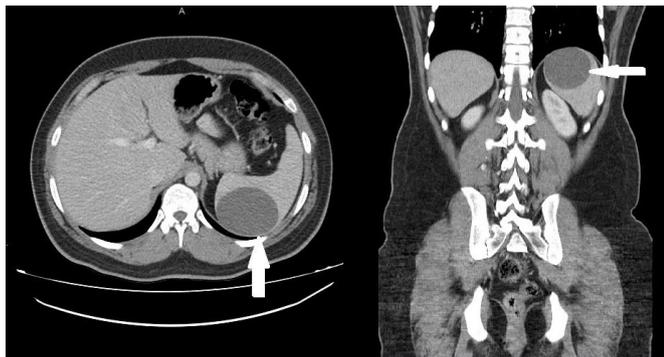


Figure 1. Computed tomographic appearance of epithelial cyst.

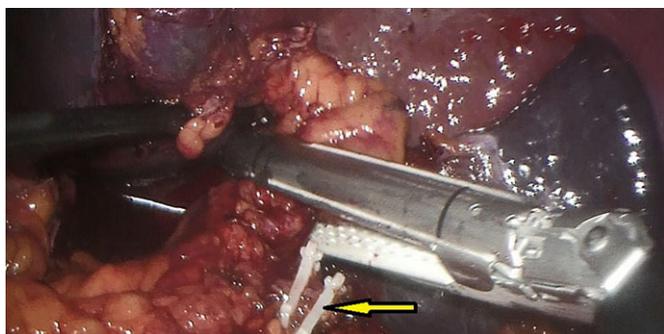


Figure 2. Image taken during surgery. The yellow arrow shows the clips placed in the lower pole vessel.

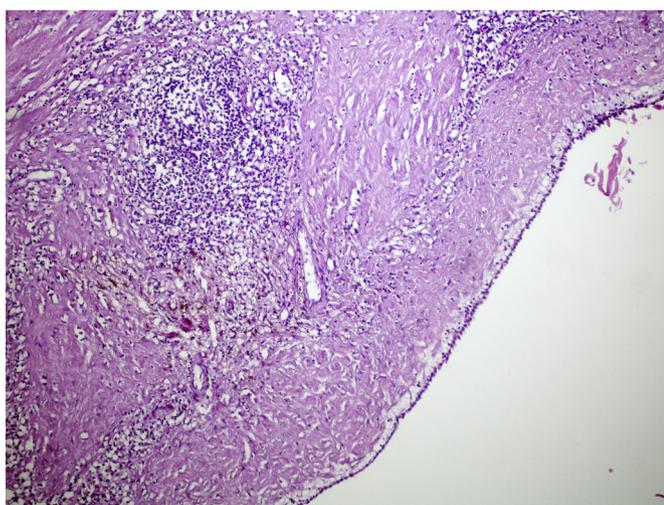


Figure 3. Pathological appearance of epithelial cyst. Epithelial (primary) splenic cyst. Microscopically, the wall is lined by cuboidal (mesotheliumlike) epithelium (H&E, X100).

normal ranges. Although the patient was informed of the fact that there was the risk of rupture and bleeding in spite of his asymptomatic mass and percutaneous drainage and surgical options were recommended, he opted for remaining in follow-up and refused invasive procedures. The patient presented to our outpatient clinic again with a complaint of left upper quadrant pain 3 months after diagnosis. In control ultrasonography; the cyst size was 82x54 mm and the cyst content was seen to be intense. An interventional radiology consultation was performed. However, localization of the percutaneous drainage was not appropriate. Surgical treatment was decided to perform and patient's informed consent was obtained. The patient was vaccinated against encapsulated bacteria. Laparoscopic splenectomy was performed under general anesthesia, in the right semilateral decubitus position, with 4 trochars placed in the left subcostal area. Spleen-preserving surgery was not performed as the cyst was localized in the parenchyma and could not be visualized from the outside (Fig. 2). The patient was discharged uneventfully on the 3rd postoperative day. The result of the pathological evaluation was reported to be primary epithelial splenic cyst (Fig. 3). The patient is now in his second follow-up month without any complaints.

Discussion

Splenic cysts are rare and their incidence was ascertained to be 0.007 % by a review covering 42,327 autopsy cases.^[7] Percentage eighty of the cysts are pseudo-cysts with no true cellular lining. True spleen cysts contain a covering cellular inner layer. Parasitic cysts mostly formed by *E. Granulosus* are seen thrice more in this group than the other true cyst group, the congenital group.^[2,8] Epithelial splenic cysts are regarded as congenital and although various theories have been claimed for their formation, the issue has not been clarified yet.^[3] Epithelial splenic cysts are often diagnosed in the second and third decades. It is relatively more frequent in the female sex. Its clinic is mostly asymptomatic and the most common symptom is pain in the upper left quadrant. Life-threatening bleeding brought about by rupture can rarely be seen and clinical picture proves to be noisier in case of a bleeding within the cyst and infection.^[2-4,8] Ultrasonography (US) and CT are often used in diagnosis, while magnetic resonance (MR) helps less frequently. Epithelial splenic cysts are characteristically unilocular anechoic lesions with smooth, well-defined margins. Splenomegaly can accompany in larger

cysts.^[3,8] They appear as smooth bordered, spherical, thin-walled, and with water-like attenuation in CTs.^[2]

Follow-up proves to be the appropriate option for asymptomatic cysts smaller than 5 cm. Treatment is recommended for symptomatic cysts larger than 5 cm. Although it has been stated that cysts larger than 5 cm could be followed-up if they were asymptomatic, the general tendency is to perform procedures for treatment.^[1,3,9] Treatment modalities pertaining to percutaneous drainage and sclerotherapy have not become standardized because of recurrence. In a recent study by Akhan et al.,^[9] the authors have reported 29.2% recurrence rate. Laparoscopic procedures have such advantages as less postoperative pain, shorter hospitalization, faster recovery, better cosmetic results, and lower morbidity rates. Laparoscopy has thus become the standard method for the treatment of splenic diseases. Spleen protective surgery has been recommended in suitable cases because of the significant immune functions of the spleen. Spleen protective surgery should be preferred for epithelial cysts on the lower and upper poles with lesser parenchymal depth, and not localized in the hilus.^[2,5,6] Total splenectomy is a safe method if the cyst is encircled by spleen parenchyma, dense adherence to surrounding tissues, localization of the hilus, and multiple cysts.^[3] We had planned spleen protective laparoscopic surgery for our patient but the cyst could not be visualized as it was intraoperatively surrounded by the parenchyma of the spleen. Therefore, laparoscopic complete splenectomy was performed as the parenchymal depth was close to the hilus referring to the fact that the resection plane could not be formed safely.

Consequently, epithelial splenic cysts are rarely seen in surgical practice. Laparoscopic treatment has become the standard treatment in pathologies of the spleen because of its lower morbidity rates and shorter hospitalization.

Surgeons should make an effort to perform spleen protective laparoscopic surgery but if it is not possible splenectomy will be suitable for safe surgery.

Disclosures

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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