EPIDERMOID CYST OF THE SPLEEN: CASE REPORT

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The classification, incidence, and clinical, radiologic, and scintigraphic findings of benign nonparasitic splenic cysts are presented with a case report of epidermoid cyst of the spleen.

Cysts of the spleen are rare causes of splenomegaly, and epidermoid cysts of the spleen are rare among the splenic cysts. Fifty-six cases have been published (*1*), 22 of which involved patients under 15 years of age.

In 1829, Andral (*2*) reported the first case of a splenic cyst, which he found at autopsy. Fowler's classification (*3*) for splenic cysts first appeared in 1940 and was modified by McClure and Altemeier (*4*) in 1942. Over the past 30 years case reports outlining either etiologic factors and pathogenesis or improved methods for preoperative diagnosis have appeared (*5*). The following is a report of an epidermoid cyst of the spleen. The classification, incidence, and clinical, radiographic, and scintigraphic findings are presented. Epidermoid masses in the left upper quadrant of the abdomen are rare and spleen scintigraphy is considered a valuable tool in the diagnosis of obscure abdominal masses (*6*).

LITERATURE DATA

Classification. Nonparasitic splenic cysts were classified by Fowler (*7*) as follows:

I. Primary (with cellular lining)
   A. Congenital
   B. Traumatic
   C. Inflammatory
   D. Neoplastic
      1. Epidermoid
      2. Dermoid
      3. Lymphangioma
      4. Hemangioma

II. Secondary (with no cellular lining)
   A. Traumatic
   B. Degenerative
   C. Inflammatory

Splenic cysts are classed as primary or secondary depending on the presence or absence of a cellular wall lining. Secondary cysts, or pseudocysts, are considered false cysts that arise after trauma, inflammation, or vascular insult to the spleen (*8*).

In 1958 Martin (*9*) offered a simplified clinical classification system in which nonparasitic primary cysts are divided into congenital and neoplastic:

I. Primary (true cysts)
   A. Parasitic
   B. Nonparasitic
      1. Congenital
      2. Neoplastic

II. Secondary (false cysts)

This classification has been endorsed in several recent reports (*10,11*).

Incidence. Over two-thirds of the splenic cysts throughout the world are parasitic hydatid cysts caused by Taenia echinococcus (*3*), which is very rare in this country (*8*). Pseudocysts are four times more frequent than nonparasitic true cysts (*9,12*). Hemangioma is the most common primary cyst (*13,14*) and dermoid is the rarest (*3*).

Epidermoid cysts account for 10% of nonparasitic cysts (*3,9,15*). Such cysts have been found at ages from 6 months to 50 years; two-thirds of the reported cases occurred in the second and third decades (*16*). The rarity of this clinical entity is substantiated by Custer (*17*), who found only five epidermoid cysts of the spleen in 5,000 autopsies.

Clinical findings. Nonparasitic splenic cysts may be completely asymptomatic or may present with acute abdominal symptoms (*5*): either pain in the left upper quadrant of the abdomen or increasing abdominal girth (*18,19*). The average duration of symptoms was found by Lee and Arnspiger to be 1.49 years (*20*). All clinical symptoms can be explained by the displacement of surrounding struc-

Received April 30, 1975; revision accepted Sept. 26, 1975.

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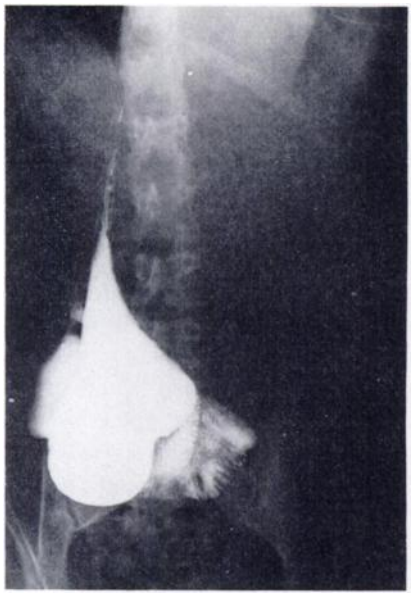

FIG. 1. Upper gastrointestinal study shows rightward displacement of stomach and duodenal loop.

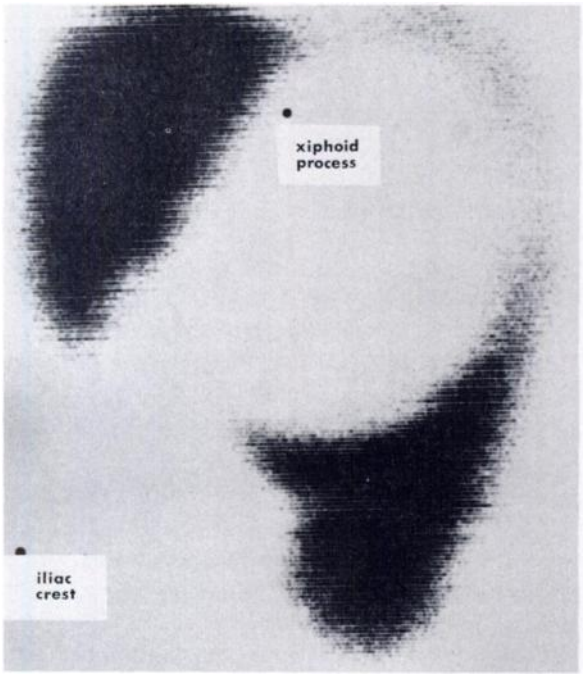

FIG. 2. Anterior scintiscan shows splenomegaly and splenic defect.

tures by the enlarging splenic mass (*21*). Physical examination usually reveals a palpable mass in the left upper quadrant of the abdomen, generally nontender. The sizes of the other abdominal organs must be carefully evaluated because of their significance in the differential diagnosis.

Radiographic and scintigraphic findings. If the splenic cyst is large, the main finding will be a large space-occupying lesion in the left upper quadrant. First there will be evidence of splenomegaly. If a spleen is very large, it may not be readily recognizable on abdominal films. The left diaphragm may be elevated. The stomach, the duodenojejunal junction, the splenic flexure of the colon, and the left kidney may be displaced downward and occasionally to the right, as shown by contrast studies (*19,22,23*). McNamara et al (*24*) considered that displacement of the stomach to the right, rather than superiorly, anteriorly, or to the left was more consistent with a splenic mass than with pancreatic or retroperitoneal masses. Contrast studies, such as upper gastrointestinal series, barium enema, or intravenous pyelogram, confirm the presence of a mass in the left upper abdomen and may locate the mass at the spleen.

With these diagnostic procedures alone, however, a correct preoperative diagnosis of splenic cyst has been quite rare (*13*). Needle aspiration of the mass in the left upper abdomen and splenography have been described, but an abdominal catastrophe due to damage of a hydatid cyst still may occur with these techniques. Splenic scintigrams using ^{198}Au-colloid, ^{51}Cr-tagged red blood cells, or ^{99m}Tc-sulfur colloid have been recommended as very valuable tools in the diagnosis of obscure upper abdominal masses (*24–26*). Selective abdominal arteriography is also emphasized for definitive diagnosis (*13,27*).

CASE REPORT

A 19-year-old girl was admitted with the finding of a large supraumbilical mass in the upper abdomen. She had first noted the mass 4 months before admission, and since then it had gradually increased in size. It first became painful 11 days before admission. The mass was movable and seemed to be on the left side. She had no other symptoms. Menarche was at age 12. There had been no previous surgery. Family history was noncontributory.

On examination she looked as if she were 7 months pregnant. She appeared slightly pale. In the markedly distended upper abdomen a bloated mass was felt, slightly to the left side. Liver size was normal. The spleen was thought to be not palpable.

The white blood count was 6,000 per mm^3, hemoglobin 12.2 gm per 100 ml, hematocrit 36%, and platelet count adequate. A screening test for renal function gave normal results. Chest radiograph was normal. An intravenous pyelogram disclosed a large uncalcified mass in the left upper abdomen, extending across the midline into the right upper quadrant and measuring about 20 $\times$ 25 cm in diameter. The left kidney was displaced inferiorly. An upper gastrointestinal series revealed marked displacement of the

FIG. 3. Left lateral scintiscan of spleen shows defect anteriorly.

stomach and duodenojejunal junction to the right (Fig. 1). A barium enema showed downward displacement of the splenic flexure of the colon. A splenic scan with ^{99m}Tc-sulfur colloid (3 mCi) was performed; routine anterior, posterior, and left lateral views showed a large oval area, 19 cm in diameter, devoid of activity in the medial posterior aspect of the spleen. It occupied the upper two-thirds of the organ, but left a rim of normal splenic activity in the uppermost aspect (Figs. 2 and 3). This intrasplenic defect was believed to represent the above-described mass, which had very markedly enlarged and had displaced normal splenic tissue. The liver was normal in every respect. Neither arteriography nor ultrasonography was performed.

At laparotomy a very large cyst of the spleen, occupying the entire left upper abdomen, was found. Prior to removal of the spleen, 3,300 ml of serous fluid were aspirated by trocar and cannula.

The excised organ measured 26 × 16 × 8 cm and weighed 1,400 gm. The capsule was smooth. The decompressed cyst measured 15 × 8 cm and still contained some cloudy reddish-yellow fluid. The inner surface was yellowish white with a focal trabecular pattern. The microscopic diagnosis was epidermoid cyst of spleen. The postoperative course was uneventful and the patient was discharged 8 days after the operation.

CONCLUSIONS

This case is reported because of the relative rarity of this type of cyst and because it presents such characteristic findings as young age group, female, and the absence of acute symptoms except for the space-occupying lesion in upper abdomen, its recent rapid growth, and vague abdominal pain. The spleen scintigram is felt to be the most contributory diagnostic tool in that it pinpoints the location of the mass, which in conjunction with the displacement of the stomach to the right, is most suggestive of a splenic mass. Although not performed in this case, an ultrasonic scan of the left upper abdomen would have been most useful. Such findings (i.e., a splenic mass with ultrasonic cystic pattern) would definitely point toward inclusion of epidermoid cyst of the spleen in the differential diagnosis.

ACKNOWLEDGMENTS

I thank Allan Ashare, Chairman of Radiological Sciences at Wright State University School of Medicine, for reviewing this paper and Harold Tharp for permission to use this case.

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