—Case Reports—

Asymptomatic Multiple Splenic Cysts in a Pulmonary Neoplasm Patient

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Abstract

Splenic cysts are rare, and their treatment remains challenging. A 66-year-old man scheduled to undergo surgical treatment for a pulmonary neoplasm was found with abdominal computed tomography and ultrasonography to have multiple cysts in the body of the spleen. He underwent pulmonary wedge resection, and histological examination showed that the lesion of the left lung was an adenocarcinoma. The patient recovered without complications after the operation. Because the splenic cysts were small and caused no abdominal symptoms, the patient was advised to undergo careful follow-up. Large splenic cysts warrant surgical treatment, whereas careful follow-up is recommended for small asymptomatic splenic cysts.
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Key words: cysts, lung neoplasms, computed tomography, spleen

Introduction

Splenic cysts are rare. Previous studies have reported a prevalence of 0.07% in 42,000 autopsies[1], and in 0.5% to 2.0% of the population[2]. The first report of a splenic cyst was by Berthelot in 1790[3], and a second cyst, found at autopsy, was reported by Andral in 1829[4]. We report an asymptomatic splenic cyst that was discovered incidentally with the preoperative examination for a pulmonary neoplasm.

Case Report

A 66-year-old man complained of intermittent cough productive of sputum which had not responded to treatment with antibiotics for 9 months. He was afebrile and without pain or fatigue. He had no history of abdominal pain or trauma or a recent visit to a farm. The results of hematological and coagulation examinations were normal. The blood calcium level was 2.2 mmol/L (normal range: 2.1–2.6 mmol/L), and the erythrocyte sedimentation rate was 6 mm/h (normal range: <20 mm/h). Chest roentgenography and computed tomography revealed a mass in the upper lobe of the left lung (**Fig. 1**). The patient was referred to our hospital for surgical treatment of a pulmonary neoplasm. However, preoperative computed tomography showed 3 cysts in the red pulp of the spleen measuring 10 × 1 mm, 12 × 8 mm, and 16 × 9 mm, with a fourth, smaller cyst at the superior pole (**Fig. 2**). Ultrasonography showed that the spleen was of normal size despite the multiple cysts. The patient underwent pulmonary wedge resection, and histological examination showed that the lesion of the left lung was an adenocarcinoma. He recovered

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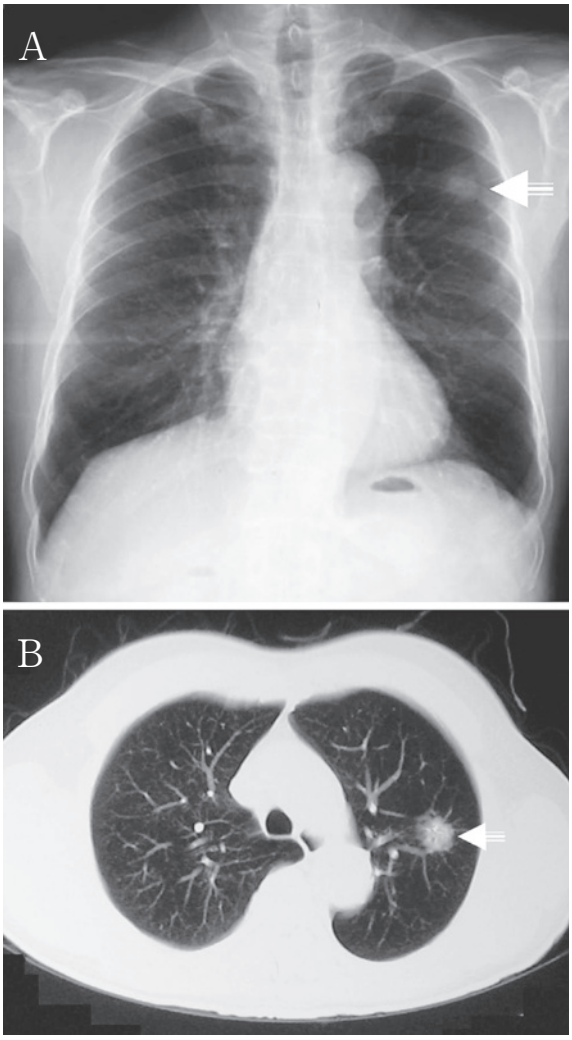

Fig. 1 (A) Chest roentgenogram and (B) computed tomogram revealed a mass **(arrow)** measuring 1.8 cm in diameter in the upper lobe of the left lung.

Fig. 2 Plain abdominal computed tomographic scan showing multiple small cysts **(arrows)** in the red pulp of the spleen.

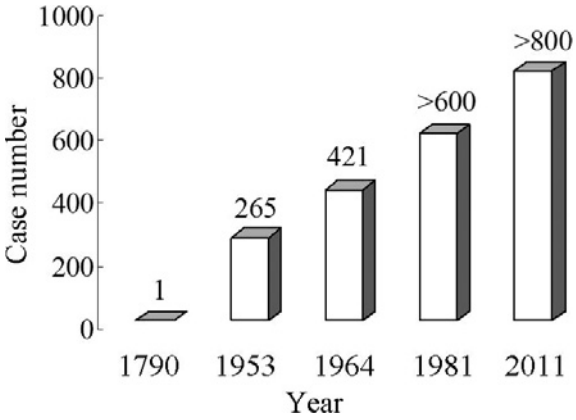

Fig. 3 The increasing number of splenic cysts over the years.

without complication after the operation. Because the splenic cysts were small and caused no abdominal symptoms, the patient was advised to undergo careful follow-up.

Discussion

Splenic cysts are rare. More than 70% of cases of splenic cysts are asymptomatic, and the diagnosis is often made incidentally on routine abdominal examinations[5]. To date, about 800 cases of splenic cysts have been reported, and 300 of these cases were congenital[6,7] **(Fig. 3)**. Fowler[8] proposed that splenic cysts be classified as primary or secondary depending on the presence or absence of a cellular wall lining[4]. In 1958, Martin[9] proposed a simplified system that classified nonparasitic primary cysts as congenital or neoplastic. Morgenstern[1] proposed a third system that classified cysts on the basis of origin as congenital, neoplastic, traumatic, or degenerative, rather than on the basis of whether an epithelial lining was present; he also postulated that most nonparasitic splenic cysts are congenital and that any antecedent trauma is usually incidental.

True cysts comprise 30% to 40% of all splenic cysts and are more commonly found in children and young adults[10]. Splenic cysts tend to have a female predominance[11] and are found in patients with a mean age of 44.77 years (range, 20–62 years)[12]. Splenic cysts grow slowly and have a long period of asymptomatic latency. Most patients with splenic cysts experience minor, nonspecific symptoms related to the mass effect of the cyst. When the cyst is enlarged it may affect adjacent viscera and cause such conditions as renal arterial compression with systemic hypertension, rupture of other organs,

spontaneous cutaneous fistulization, and segmental portal hypertension[1]. The size of splenic cysts range from 6 to 15 cm[12]. Mild discomfort and pain in the left upper quadrant are the most common symptoms[13]. The diagnosis is made on basis of a thorough patient history, including a history of remote trauma[14], and a physical examination. Ultrasonography, computed tomography and magnetic resonance imaging offer reliable evidence for diagnosis[15].

Small, asymptomatic, true splenic cysts may warrant conservative treatment and careful follow-up[16]. However, when a splenic cyst is symptomatic or larger than 4 to 5 cm, surgical treatment is needed because of the increased risk of complications[17]. Total splenectomy, partial splenectomy, and cystectomy have all been reported as adequate treatments for splenic cysts[18]. Recently, spleen-saving procedures have been advocated because of the immunological functions of the spleen[19]. Laparoscopy has become a useful alternative to open splenectomy for a wide variety of splenic disorders[20]. Other treatments, such as catheter drainage or sclerosis, are usually not recommended because of the associated high risks of recurrence and infection[19]. Surgical options are based on the size of the cyst, its relation to the splenic hilar vessels and parenchyma, and the amount of healthy splenic tissue[21].

The present patient had no symptoms despite the presence of multiple splenic cysts. The spleen remained of normal size and showed no signs of infection. He was advised to undergo careful follow-up.

In conclusion, splenic cysts are rare. Asymptomatic patients with splenic cysts of a limited size should undergo regular follow-up. To prevent potential complications, a surgical approach is warranted if a symptomatic cyst becomes enlarged.

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