Giant congenital infected splenic cyst: An interesting case report and review of the literature

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Abstract Splenic cysts are rare lesions. The congenital non-parasitic cysts of the spleen are rarely met in the clinical practice. Primary cysts have a cellular lining that can be caused by congenital events or parasitic infection (*Echinococcus*). Secondary cysts have no cellular lining and may be of hemorrhagic, serous, inflammatory, or degenerative origin. We report a rare case of congenital cyst of spleen in a child aged 10 years treated successfully by splenectomy because of total involvement of the splenic parenchyma along with involvement of hilum by the cyst, and we review the literature.

Keywords Splenic cyst · Splenectomy · Epithelial cyst · Child

Introduction

The congenital non-parasitic cysts comprise about 10% of all splenic cysts [1]. The traditional treatment of splenic cysts had been splenectomy [2, 3]. During the last decade, the recognition that splenectomy has potential for short and long term complications, particularly in children, has led to emphasis on conservation of splenic tissue [4, 5]. Despite the above fact, not all splenic cysts can be treated with partial splenectomy [6].

Case report

A 10-year boy presented to us with a lump in the left hypochondrium, which was gradually increasing in size over the last 7 months. He had pain and intermittent fever for last 15 days. There was history of keeping pet dogs. There was no history of jaundice or trauma in the past. He had never been treated for malaria and had no history suggestive of a hematologic disorder.

On examination, a non-tender well-defined cystic lump was palpable in the left hypochondrium moving well with respiration and the fingers could not be insinuated between the lump and the left costal margin. The superior border of the lump was not felt and firm tissue of 2 cm diameter could be palpated on the inferior aspect. The renal angles were not full. The liver was not palpable and there were no signs of free fluid in abdomen. Clinically a splenic cyst was suspected.

Plain X-ray of abdomen revealed displacement of the stomach bubble to the right and a soft tissue shadow without calcification in the left hypochondrium. USG from outside showed a large cystic mass in the left lobe of liver. However, a repeat USG from our institute showed a cystic mass of

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13 cm × 12 cm × 10 cm size in the left hypochondrium with splenic tissue of around 3 cm thickness on its inferior aspect. There were plenty of internal echoes and the pancreas was not visualized. There was no free fluid in abdomen and kidneys were normal. For further confirmation of our diagnosis, we got a CT scan abdomen (Fig. 1) done which showed—a large splenic cyst of size 13 cm × 12.5 cm × 11 cm exerting pressure effect over adjacent organs. (? Hydatid cyst of spleen). His blood counts, peripheral blood smear, urine, stool, urea, creatinine, blood sugar and LFT were normal.

Fig. 1 CT scan showing the huge congenital splenic cyst

On exploratory laparotomy there was a large cyst of size 15 cm × 13 cm, weighing 1.75 kg arising mainly from upper pole of spleen involving the hilum, displacing the stomach towards the right and the colon inferiorly. There was a nodule of splenic tissue of 3 cm diameter on the inferior aspect of the cyst. The cyst replaced almost whole of the spleen. To facilitate dissection, 1500 ml of brownish fluid was aspirated from the cyst. The decision to perform total splenectomy was taken, as an infected parasitic cyst could not be ruled out.

No drain was kept. Postoperatively the patient was kept on penicillin prophylaxis. Examination of the aspirated fluid showed proteinaceous material, and proteins of 6.6 g%. Fluid culture showed growth of pseudomonas. The histopathology report of the spleen was an epidermoid cyst lined by squamous epithelium. Non-specific inflammatory cell infiltration was seen at places with formation of cartilage at one place. (Fig. 2).

Discussion

Cystic swelling of the spleen can be either parasitic due to hydatid disease or non-parasitic which may be primary or

Fig. 2 Histopathology of congenital splenic cyst

secondary. In 1829, Andral described the first non-parasitic cyst of the spleen [7].

Until 1980, the conventional treatment of non-parasitic cysts was splenectomy; the last decades saw an increasing trend towards partial splenectomy although it is unclear exactly how much splenic tissue is required for normal function [8].

Surgery is primarily recommended for the prevention or treatment of complications. Infection, hemorrhage and rupture have been reported and may be life threatening. In spite of partial splenectomy as the preferred approach, Brown et al. reported that a total splenectomy was required in one out of seven patients, where the cyst was large, encompassing hilum with only tiny island of splenic tissue [6]. This particular report includes a similar case where partial splenectomy was not feasible.

The world literature reveals that infected lesions are treated by splenectomy or by incision and drainage. The multiple adhesions all around and bacterial culture suggested infection of the cyst, which necessitated total splenectomy. The hemorrhage in the cyst could be due to trauma, infection or spontaneous. Hydatid disease is the commonest cause of splenic cyst in this country. The infected hydatid cyst with adhesions all around is difficult to differentiate from infected congenital cyst. In our patient external examination of the cyst did, not rule out the possibility of an infected hydatid cyst and a safer approach of total splenectomy was followed.

Partial splenectomy limited by technical difficulty and risk of recurrence was a more difficult proposition than total splenectomy and long-term antibiotic prophylaxis in our setup. To conclude, the technique has to be individualized to the pathology concerned.

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