CASE REPORT

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Epidermoid cyst in a wandering spleen

Abstract A wandering spleen and splenic cysts are uncommon conditions in children. A combination of both entities has only rarely been reported in the literature. Another case of this complex pathology in 12-year-old girl is presented. She was initially referred for evaluation of a large abdominal mass. Diagnostic studies raised the suspicion of a hematoma in an abnormally located spleen, but the definitive diagnosis was established at laparotomy. Successful surgical management consisted of total cystectomy and splenopexy.

Key words Wandering spleen · Epidermoid splenic cyst · Splenopexy

Introduction

Traumatic injury is the most frequent surgical pathology of the spleen in children. Other entities, either congenital or acquired, are relatively rare in the pediatric age group. In many instances they present nonspecific symptoms, and thus are diagnosed incidentally or at exploratory laparotomy [1, 7, 8, 10]. A wandering spleen, regarded in children as a congenital anomaly due to an absent or abnormal ligamentous attachment, is the best example of a condition that is often clinically “silent” until a serious complication occurs. Most reported cases of this anomaly presented as acute surgical emergencies due to torsion of the splenic pedicle. In small number of children the finding of an abnormal abdominal mass prompted further diagnostic evaluation that established the correct diagnosis [1, 2, 9, 10].

We report another case of a wandering spleen mimicking an abdominal tumor and associated with an epidermoid splenic cyst. The coincidence of both entities provided diagnostic difficulties, and the true nature of the splenic pathology was confirmed intraoperatively.

Case report

A 12-year-old girl was admitted to the Department of Pediatric Hematology of the Wroclaw University of Medicine for evaluation of an abdominal mass. She presented with a 6-week history of loss of appetite, vague abdominal pain, discomfort, and recurrent respiratory tract infections. One week prior to admission a mid-abdominal mass and a tender, firm induration in the left submandibular area were noted by a referring physician. The previous medical history was unremarkable apart from minor blunt abdominal trauma she had sustained while riding on a bicycle 3 months earlier. Physical examination revealed a large, firm, smooth, and moderately tender tumor in the left lower abdomen. The mass was fairly mobile and measured 12 × 20 cm. There was no hepatomegaly. All laboratory investigations apart from the elevated white blood cell count (18,700/ml) were within the normal range.

An abdominal ultrasound (US) scan demonstrated a sharply-delineated, ovoid, hypoechoic 7 × 8-cm mass in the left lower abdomen adjacent to a homogeneous, smooth mass of echogenicity resembling that of splenic parenchyma. The spleen was not visualized in its typical position. Other intra-abdominal organs appeared normal. Abdominal computed tomograph (CT) showed a large, space-occupying mass extending from the lower pole of the left kidney to the pelvic cavity that displaced the left kidney and iliopsoas muscle posteriorly. A scan with contrast showed a two-compartmental nature of the mass with a large, irregular, low-density lesion within its anterior aspect with no sign of enhancement (Fig. 1). With the provisional diagnosis of an abdominal tumor, the patient was referred to the Department of Pediatric Surgery for an exploratory laparotomy. A repeat US scan performed on the day of admission confirmed an absence of the spleen in its subcostal position and showed downward displacement and transverse rotation of the previously diagnosed lower abdominal mass. It was then suggested to be the abnormally located spleen with an extensive hematoma.

At laparotomy through a transverse supraumbilical incision, the mass was found to be a wandering spleen suspended on a long, mobile, but untwisted pedicle. Within its anterior aspect a whitish, fluctuating, cystic structure was identified. The macroscopic appearance of the splenic parenchyma was entirely normal. Aspiration of the cyst yielded 280 ml yellowish, thick fluid. The cyst was carefully dissected from the splenic parenchyma and totally excised. Its anterior aspect a whitish, fluctuating, cystic structure was identified. The macroscopic appearance of the splenic parenchyma was entirely normal. Aspiration of the cyst yielded 280 ml yellowish, thick fluid. The cyst was carefully dissected from the splenic parenchyma and totally excised. Its inner wall was thick and uneven, with multiple irregular fibrous bands on its surface resembling cardiac chordae (Fig. 2).

Meticulous hemostasis was accomplished and the splenic wound was closed with...
reached a considerable size. We believe that the episode of minor blunt abdominal trauma was an important event in her history, although it is difficult to find an unequivocal explanation for the rapid enlargement of the splenic cyst. Intracystic hemorrhage due to a previous abdominal injury has been postulated by some authors as a possible cause of cystic expansion [4-6, 8, 11]. In our patient the intraoperative findings confirmed the integrity of the cystic wall, and the aspirated fluid did not seem to be an old hematoma. Also, the pathologic examination did not reveal areas of infarction or significant deposits of hemosiderin. Another hypothesis presented by Burrig explained the process of cystic fluid accumulation by the influx of blood cells and high-protein fluid via the stoma-like channels between the lumen and the adjacent splenic tissue [5]. As in our patient markedly dilated lymphatic vessels were found in the pericapsular tissue, the latter explanation seems more plausible. It may be speculated that benign trauma of the abdomen transmitted to the superficially located cyst in the wandering spleen provoked pericapsular inflammation with progressive fluid accumulation.

The nonspecific complaints reported by our patient, the large abdominal mass, and tender perimandibular induration were suggestive of a proliferative disease. Although diagnostic studies did not visualize the spleen in its anatomic position, the finding of a space-occupying lesion with two different components provided a diagnostic dilemma. It has been stressed by several authors that the correct diagnosis of a wandering spleen is often made at laparotomy [1, 2, 10]. In patients with chronic or vague complaints US, liver-spleen scintigraphy, and CT are reported to be the best imaging modalities [1, 7, 9]. The same investigations play a major role in the diagnosis of splenic cystic pathology [6, 8].

The occurrence of a cystic lesion in a wandering spleen has been very rarely reported in the literature. Dachmann et al. mentioned 1 patient in their report of 52 cases of nonparasitic splenic cysts with a true cyst in the lower pole of a mobile spleen, but they did not specify this patient’s age [6]. Blank and Campbell reported a 19-year-old girl in whom a large cystic mass in the lower abdomen was suspended on a long pedicle, although from their description the spleen appeared to be located in the upper abdomen [3].

The rarity of this complex splenic pathology is not surprising, as either entity is known to occur rarely. It should however, be kept in mind by every pediatric surgeon, as our case and those reported by other authors clearly indicate that the true incidence may be higher. In a majority of these patients only the occurrence of serious complications led to the correct diagnosis. Both entities may be clinically silent for many years. Regardless of the mode of presentation, splenic-salvage surgery should be applied whenever possible, as has been emphasized by most authors presenting patients with these splenic disorders [1, 4, 6, 8, 11]. In order to avoid potential serious complications and diminish the risk of trauma to the superficially located and thus unprotected spleen, elective surgery seems to be the best option for all patients with a wandering spleen, splenic cysts, or a combination of both.

**Discussion**

In the case presented we observed the coincidence of two entities: a wandering spleen and a true epidermoid cyst. Neither pathology had produced symptoms until the cyst...