An unusual case of repeated splenectomy: traumatic rupture of an accessory spleen in a previously splenectomized patient

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The traumatic rupture of an accessory spleen is a very rare condition and only few cases have been reported in the literature. We describe the case of a 51-year-old man undergone splenectomy for trauma several years before, who developed hemoperitoneum due to a laceration of a voluminous accessory spleen, following an accidental two-meter fall. As a conservative management of the injury was not possible, an accessory splenectomy was then required. Thus, a briefly review of the literature about this uncommon topic was performed.

KEY WORDS: Accessory spleen, Laparotomy, Trauma

Introduction

Accessory spleens (spleniculi) are congenital formations present in only 10-30% of the general population, more commonly in patients with hematological disorders. They may enlarge after splenectomy and, as they have a function absolutely identical to the normal spleen, they can sometimes be affected by the same diseases of the parent organ. An accessory spleen must be differentiated by the splenosis that is a post-splenectomy auto-transplantation of splenic tissue, mostly in the abdominal cavity, constituted by multiple, widespread and small nodules. The side of the accessory spleens is usually near the spleen loggia, along the gastrocolic, gastrosplenic, splenocolic and splenophrenic ligaments, close to the tail of the pancreas, even though other different locations in the abdominal cavity have been reported.

Case Report

A 51-year-old man was admitted to Emergency Room after an accidental two-meter fall. Thirty-three years before he had splenectomy for a traumatic splenic rupture. At that time, residual accessory spleens, the bigger of which was 9 cm in diameter, were identified in the left hypocondrium and left in place. At the admission, he showed pain in the left abdomen with irradiation to the sacral region; his vital signs were normal and stable. The inspection of the abdomen revealed a well-healed midline upper abdominal incision. His abdomen was soft, with left upper quadrant and lateral posterior tenderness to palpation, but no peritoneal signs. Routine laboratory showed a slightly elevated white blood cell count (11,94 x 10^3/µl). Hemoglobin, electrolytes, liver and kidney function tests were normal. Chest and lumbosacral spine X-ray work-up was negative for traumatic injuries. An abdominal ultrasound showed a thin layer of effusion in the pouch of Morison and between the upper pole of the hypertrophic accessory spleen (9 cm in maximum diameter) and the diaphragm. An abdominal contrast-enhanced computed tomography demonstrated the presence of multiple acces-
sory spleens in left hypochondrium, the largest of which presented a large laceration, arterial pseudoaneurysm, and a huge hematoma (Organ injury Scale: III) (Fig. 1).

The patient was hemodynamically stable and consequently had a non-operative management (NOM) including selective angiography in order to embolize the residual splenic artery that vascularized the accessory spleens (splenic angioembolization, SAE). The angiography demonstrated a tightened stenosis of the celiac trunk at its ostium and a very tortuous course of the residual splenic artery, with several pseudoaneurysms in its contest. Despite several attempts, the selective catheterization of the splenic artery was unsuccessful. Therefore, surgery was carried out. At laparotomy, after evacuation of 1000 ml of fresh blood, two accessory spleens became evident: the first was about 2 cm in diameter and was undamaged; the second was about 9 cm and had a capsular rupture with a large hematoma. The latter was surgically removed. The postoperative course of the patient was uneventful and he was discharged on the seventh postoperative day.

Discussion

Single or multiple accessory spleens are found in 10% to 30% of autopsies. They are usually congenital small round organs, with histology and function identical to the normal spleen. With dimensions ranging from 1 to more than 10 cm, they are most often found in the splenic hilum and ligaments, the tail of the pancreas, and, rarely, in the omentum or mesentery. In emergency, ultrasound and computed tomographic scans of the abdomen are the most useful diagnostic methods to identify accessory spleens, even though they are not specific for a precise diagnosis of splenic tissue. In fact, in elective situations, they can be misleading and therapeutic decisions solely based on these tests are discouraged (4). Thus, in election, the best way to show the remaining splenic tissue after splenectomy is with a nuclear medicine scintigraphy scan with heat-denatured 99mTc-labeled red blood cells or with Tc-99m colloid. The rupture of an accessory spleen could be spontaneous or traumatic. A spontaneous laceration of accessory spleen can be caused by idiopathic, or more frequently, secondary causes, such as hematological disease, primitive or secondary neoplasms, infectious processes and vascular abnormalities. On the contrary, there are only seven reports of a traumatic rupture of an accessory spleen. For this reason, to our knowledge, our case is the eighth reported in literature. However, among them, only one documented the rupture of an accessory spleen in prior splenectomy. In that case, the patient was hemodynamically stable and had a successful NOM. In our case, an initial NOM was carried out, but it required a SAE for the presence of multiple pseudoaneurysms in the contest of the lacerated accessory spleen. Unfortunately, SAE was unsuccessful because of technical aspects (an extreme tortuosity of the splenic artery supplying the accessory spleen) and consequently the patient underwent surgery. Even though an accessory spleen is identical to the normal splenic tissue, including a well-formed capsule and fibrous trabecula, there are no data in literature about their level of resistance and hardness comparing to the normal ones. Moreover, we can speculate that an injured accessory spleen could be at more risk to failure a NOM in patient with stable vital signs. In case of NOM failure, surgery could be performed openly or laparoscopically, if the patient's clinical condition allows it and eventual further intact accessory spleens must be left in place.

In conclusion, it is useful to think about the possibility that an accessory spleen might be lacerated following a blunt abdominal trauma. An accurate anamnesis of the surgical history of the patient is mandatory in case of trauma. A CT scan with contrast is the best and easiest technique to obtain the diagnosis in emergency. In case of hemodynamical stability, a NOM with an eventual SAE could be carefully carried out. Otherwise, the surgical removal of the lacerated accessory spleen must be evocated.

Riassunto

La rottura traumatica di una milza accessoria rappresenta una condizione del tutto eccezionale: infatti, solo pochi casi sono riportati in letteratura. In questo articolo, pre-
sentiamo il caso di un uomo di 51 anni, già sottoposto diversi anni prima a splenectomia per trauma, che ha presentato, in seguito ad una caduta accidentale da circa due metri di altezza, un emoperitoneo dovuto alla lacerazione di una voluminosa milza accessoria. Non essendo stato possibile portare avanti un trattamento conservativo, il paziente è stato sottoposto ad intervento chirurgico con asportazione della milza accessoria. Abbiamo quindi riportato una revisione della letteratura riguardo questo argomento alquanto inusuale.

References


