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Case Report

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PERITONEAL SPLENOSIS: IMPORTANCE OF THE HISTORY OF SPLENECTOMY FOR DIAGNOSIS

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ABSTRACT

Background: Peritoneal splenosis is a rare entity corresponding to an ectopic auto-transplantation of splenic tissue onto peritoneal cavity. It can be mistaken for carcinomatosis. History of splenectomy is fundamental to make the diagnosis as in our observation reported herein. **Case presentation**: It was the case of a 55-year-old man complaining of chronic constipation. He reported history of right heart failure and an emergency surgery following a road accident occurring during childhood. Physical examination was normal. There was no anomaly in biological assessment or in colonoscopy. However, abdominal ultrasound showed multiple hypoechoic peritoneal nodules evoking peritoneal carcinomatosis. Tumor markers were normal. Abdominal CT revealed the presence of multiple diffuse intra-peritoneal nodules of similar appearance, taking the contrast in a heterogeneous way at early arterial time with homogenization at portal time. What caught our attention in addition to these nodules was the absence of visualization of the spleen. On patient re-examination, he remembered that he had an emergency splenectomy following abdominal trauma caused by her accident when he was seven years. Thus, the diagnosis of peritoneal splenosis was strongly evoked but surgical biopsies were impossible. An abdominal CT control realised six months later, showed an absolute stability of the aspect of peritoneal nodules confirming thus the diagnosis of peritoneal splenosis basing besides on the powerful argument of history of splenectomy. **Conclusion:** Our observation points out that peritoneal splenosis should always be suspected for any patient with a history of splenic trauma or splenectomy presenting with peritoneal nodules at imaging.

KEYWORDS: Splenosis, carcinomatosis, splenectomy.

CASE REPORT

Background

Splenosis is a rare entity firstly named in 1939. It corresponds to an ectopic auto-transplantation of splenic tissue onto other tissues mainly in the peritoneal cavity [1]. It is often asymptomatic and incidentally discovered during surgery, autopsy or imaging.[2] We report herein a new observation of peritoneal splenosis.

Case presentation

A 55-year-old man was referred to us for abdominal pain with chronic constipation getting worse gradually. He didn't complain about asthenia or weight loss. He reported history of pulmonary embolism complicated by pulmonary arterial hypertension with right heart failure. Abdominal examination was normal as was Biological assessment. He underwent colonoscopy that was normal. Abdominal ultrasound showed multiple hypoechoic peritoneal nodules. Peritoneal carcinomatosis was evoked and we started investigations in search of primitive cancer. Upper gastrointestinal endoscopy was normal. Tumor markers ACE and CA 19-9 were normal. An abdominal tomography was performed revealing the absence of the spleen and the presence of multiple diffuse intra-peritoneal nodules of similar appearance. To note some of these nodules were localized in the right flank and the Douglas pouch. These lesions took the contrast in a heterogeneous way at early arterial time with homogenisation at portal time "Fig.1a","Fig.1b". No tumor lesions or digestive thickening were noted. Laparoscopic biopsy was impossible as the patient had serious pulmonary arterial hypertension contra indicating general anesthesia.

On the re-examination of the patient whether he knew that he didn't have a spleen visible at abdominal CT; the patient remembered a serious road accident when he was 7 years old with abdominal trauma leading to an emergency splenectomy. Thus, the diagnosis of peritoneal splenosis was strongly evoked. Six months after, a second abdominal tomography with digestive opacification was undergone to control peritoneal nodules. The same tomographic nodule-aspect was found with normality of colic wall. Despite the impossibility of biopsy realization, diagnosis of peritoneal splenosis was retained in our patient basing on 2 powerful arguments

consisting on history of splenectomy and typical aspect and stability over the time of the peritoneal nodules at abdominal CT in a patient with no deterioration of general state.

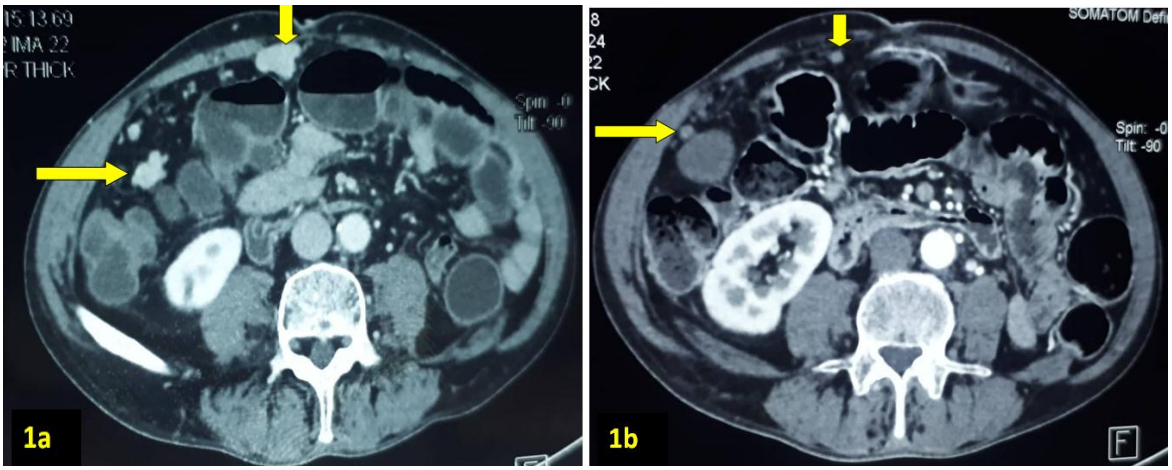

Fig. 1a, Fig. 1b: Contrast-enhanced computed tomography scan of peritoneal splenosis showing in the portal phase, oval nodules of homogeneous density with clear limits (arrows) and no infiltration of fat around.

DISCUSSION

Splenosis is a rare condition usually occurring after splenic capsule rupture. It generally complicates abdominal trauma more frequently than surgical wound or regulated splenectomy. In our case, the patient had an emergency splenectomy following a road accident at childhood. During splenosis, fragments tissue released can be grafted any where in the abdominal cavity.[3] Unlike accessory or supernumerary spleens, which generally are vascularized by branches of the splenic artery, the vascularization of these nodules is ensured by small arteries from the surrounding tissues.[2] Splenosis can be either abdominal and then, located to the mesenter, omentum, peritoneum and intrahepatic[4] or extra-abdominal such as in the thorax, the pelvis and even in the brain[3,5] Although incidentally discovered in almost cases, peritoneal splenosis can in one hand cause abdominal pain secondary to torsional infarction or spontaneous rupture[6] and in the other hand be responsible of a mass effect on adjacent structures leading to bowel obstruction since these nodules may increase in size. In the case of our patient, constipation was the revealing symptom and was probably due to intestinal compression by splenosis nodules. In ultrasound, the PS nodules appear hypoechoic and homogeneous, with clear limits and a posterior strengthening of the echoes.[3] In abdominal tomography, these nodules are hypo or isodense and have an enhancement kinetic similar to that of the spleen with a heterogenous aspect at arterial phase followed by homogenisation at portal time.[7] This is in agreement with tomographic data of our patient. Non invasive techniques were developed to confirm PS diagnosis such as 99m Technetium heat-damaged erythrocyte scintigraphy.[8] It has a strong positive predictive value for splenosis since it has a preferential uptake in splenic tissue. However, these methods are not usually available and the definitive way for confirmation still histopathological examination showing normal splenic tissue. It also allows elimination of differential diagnosis as endometrial nodules, adenomas and benign desmoid or fibromatous tumors.[9] In the case of our patient, despite the impossibility of realization of biopsies, the diagnosis was made on typical appearance of peritoneal nodules with stability in CT scan and especially the history of abdominal trauma with splenectomy. Our case is in agreement with the study of de Lara et al. demonstrating the importance of the patient history for the diagnosis of splenosis..[10]

CONCLUSION

Our observation points out that peritoneal splenosis should always be suspected for any patient with a history of splenic trauma or splenectomy complaining about digestive symptoms especially when particular peritoneal nodules are revealed at imaging.

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