

SPLENOSIS MIMICKING GASTRIC GIST: CASE REPORT AND LITERATURE REVIEW

Esplenose mimetizando gist: relato de caso e revisão da literatura

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INTRODUCTION

Splenosis is the "seeding" or auto transplantation of splenic tissue following splenic trauma or surgery⁴. There is implantation of splenic tissue in the form of encapsulated nodules most often in the peritoneal cavity, but it can also occur in the pleural cavity, pericardium, lung, abdominal wall, subcutaneous tissue and in the brain. In the abdomen, it is usually discovered incidentally as an asymptomatic mass.

Gastrointestinal stromal tumor (GIST) is the most common mesenchymal malignancy of the gastrointestinal tract¹⁴, and the stomach is the most common primary site. Symptoms include bleeding, pain, discomfort or an abdominal mass with no symptoms. Surgical resection is the preferred treatment option for resectable GISTs, particularly localized primary tumors⁵. Since most GISTs are submucosal, a definitive pathological diagnosis often cannot be made before surgery.

Is reported a case of a gastric submucosal lesion that was initially suspected for gastric stromal tumor by upper gastrointestinal endoscopy and endoscopic ultrasonography (EUS), and splenosis was finally diagnosed after computed tomography (CT) scan and a Tc-99m labeled heat-denatured red blood cell scintigraphy.

To our knowledge, there are no reported cases of splenosis mimicking a gastric GIST.

CASE REPORT

A 74-year-old male patient was admitted for elective treatment of a gastric submucosal lesion found at upper gastrointestinal endoscopy (Figure

1). He complained of vague upper abdominal pain. Endoscopic ultrasonography revealed a homogeneous bilobular lesion, located in the proper muscle layer of the gastric fundus, measuring 36x25mm and 20x21mm (Figure 2). Since there were large vessels above the lesion, and a high probability of being a GIST warranting surgical resection. A fine-needle aspiration biopsy was not performed.

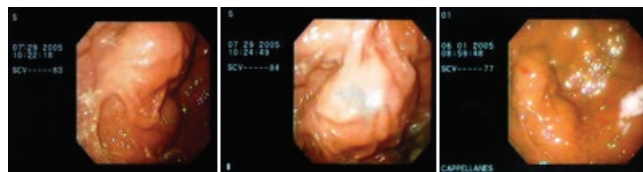


FIGURE 1 - Endoscopy showing an elevated 3 cm bilobular submucosal lesion located in the gastric fundus, covered with normal mucosa

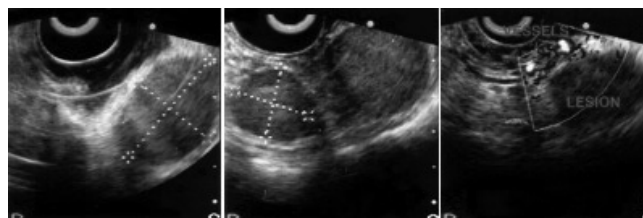


FIGURE 2 - Endoscopic ultrasonography (EUS) showing a hypoechoic bilobular lesion located in the proper muscle layer of the gastric fundus, suggesting GIST. The color Doppler vascular analysis color shows the presence of large vessels above the tumor

The patient's past surgical history was notable in that he had undergone a left colectomy for colorectal cancer 20 years earlier. He also underwent a second operation one year after due to a resectable local recurrence, on which occasion his spleen was also removed.

He had no history of weight loss nor any intestinal symptoms or signs. His physical examination revealed only a large abdominal incisional hernia. Laboratory work-up was unremarkable.

Since the submucosal lesion was highly

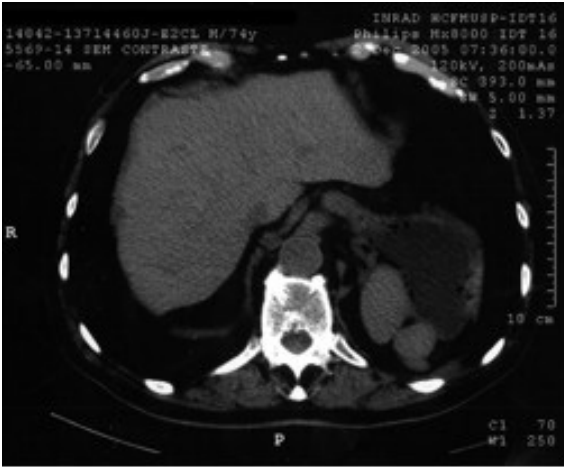


FIGURE 3A - Axial CT scan showing two solid masses attached to the gastric fundus measuring 4,0 and 2,5 cm respectively



FIGURE 3B - Coronal CT scan showing a solid mass attached to the gastric fundus measuring 2,5 cm



FIGURE 3C - Sagittal CT scan showing a solid mass attached to the gastric fundus measuring 2,5 cm

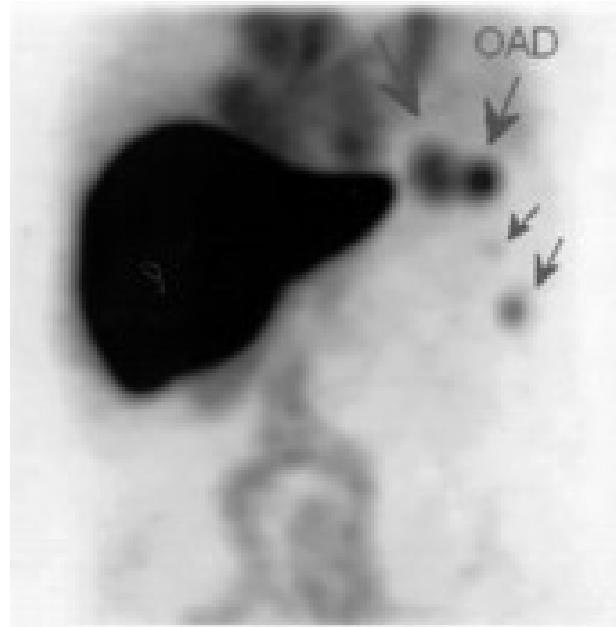


FIGURE 4 - Technetium Tc 99m-tagged red blood cell radionuclide scanning showing two large capitation areas in the topography of the gastric fundus, and two smaller capitations underneath

suspicious for a stromal tumor, abdominal CT scan was performed for staging. Despite being done without intravenous contrast injection due to past history of allergy, CT scans revealed two abdominal masses measuring 4,0 cm and 2,5 cm attached to the gastric fundus suggesting splenosis (Figure 3A, 3B and 3C).

A technetium Tc 99m-labeled red blood cell radionuclide scan showed splenic tissue in the epigastrium, left lower and upper quadrants, confirming the diagnosis of splenosis (Figure 4).

Colonoscopic surveillance showed a small colonic polyp found later in the pathologic examination to be a hamartomatous.

The patient was discharged from the hospital since at that moment, he refused surgical treatment of the incisional hernia.

DISCUSSION

Splenosis can be detected in 16 - 67 % of patients who experienced traumatic splenic rupture¹⁸. Usually it does not lead to any clinical symptoms^{2,15,16}, especially thoracic splenosis². However, some patients may experience a painful abdominal or pelvic mass¹². More rarely, it can lead to complications such as intestinal obstruction¹, gastrointestinal bleeding¹ and the relapse of hematological diseases, mainly autoimmune thrombocytopenia⁶. Even intraperitoneal hematoma from trauma to splenic implant and

hydronephrosis due to ureteral compression have been reported¹⁷.

The average interval between the splenic injury or surgery and the diagnosis of splenosis is 18 years⁸. In the present case, this interval period was 20 years.

In this case, initial endoscopy was performed for the investigation of dyspeptic symptoms in an old patient. Interestingly, endosonographic findings were suggestive of gastric GIST, on the basis of the location of the lesion in the fourth (muscular) gastric layer.

Surgical resection is the first-line treatment for resectable GIST, particularly in localized primary tumors. Imatinib is the standard treatment for advanced and metastatic disease^{9,14}.

In this case, the initial suspicion of a malignant disease led to CT scan staging. This examination then suggested the diagnosis of splenosis, even though intravenous contrast was not used due to previous history of allergy. Unfortunately, CT is unable to differentiate between other tumoral lesions, even with the injection of intravenous contrast.

The method of choice for establishing the diagnosis is Tc-99m labeled heat-denatured red blood cell scintigraphy^{2,3,11}. 99m Technetium sulfur colloid scintigraphy can also be used¹⁹, but the former is more sensitive and specific⁷. In this case, in addition to confirming the suspected diagnosis, this technique showed other pathological foci in the abdomen compatible with splenosis that had not been previously identified.

Surgical removal of splenosis is considered unnecessary¹⁹. The implanted splenic tissue offers some degree of protection against bacterial infection lowering the frequency of post-splenectomy sepsis¹⁰. This may be especially important in patients with hematological diseases¹³. Surgical treatment therefore should be reserved for symptomatic patients^{12,16}, complications or when the accurate diagnosis cannot be made¹².

As illustrated by this report, diagnosis of gastric stromal tumors may be very difficult to confirm and splenosis should be considered as an alternative diagnosis in patients with previous spleen surgery. Diagnostic refinement in this case not only allowed accurate diagnosis but also prevented the patient to undergo unnecessary surgical resection.

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