

Splenic trauma following colonoscopy

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SUMMARY: **Splenic trauma following colonoscopy.**

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A case of splenic trauma after colonoscopy is reported. After description of their experience, the Authors report a review of the literature and some considerations about clinical diagnosis and surgical or medical therapy for this pathology.

RIASSUNTO: **Trauma splenico conseguente a colonscopia.**

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Gli AA. riportano un caso di trauma splenico conseguente a colonscopia. Dopo una descrizione della loro esperienza, riportano una revisione della letteratura e alcune considerazioni sulle modalità diagnostiche e di terapia medica e chirurgica.

KEY WORDS: Splenic trauma - Colonoscopy - Surgery.
Trauma splenico - Colonscopia - Chirurgia.

Introduction

Colonoscopy represents a diagnostic method of remarkable importance for large bowel diseases, enough sure and well tolerated. After colonoscopy, the most frequent complications, even if rare, are: the bleeding during polypectomy (generally 1% of the cases) and the perforation, that occurs in 0.1% of cases; trauma of abdominal organs from colonoscopy, particularly of the spleen (8, 9, 11, 18, 19, 26) are extremely rare: Colarian et al. (6) report a frequency of 1/20000 examinations; Espinal et al. (14) report that up to 1997 only 15 cases have been discussed in english literature. Many papers (2, 8, 10, 22, 28), like our work, report only one case.

Very rarely splenic injury has been reported as a complication of ERCP (23).

Case report

The patient was a male, 71 years old, suffering with continuous fever (38-39°C) for 20 days and with abdominal colic pain, espe-

cially in the lower abdominal quadrants; he presented also constipation and for all these reasons he underwent colonoscopy.

During examination he perceived an intense pain to the left hypocondrium, irradiated to the homolateral shoulder; then the operator suspended the colonoscopy. After 12 days, the pain was persistent even if attenuated, the patient underwent a CT examination (Fig.1) that evidenced a subcapsular splenic haematoma (approximately 6 cm of main diameter). In consideration of the patient's age and of the size of haematoma, to avoid the risk of splenic rupture with consequent hemoperitoneum, the patient underwent surgical operation.

Results

At the opening of the peritoneum the adhesions between the omentum and the abdominal wall were found. The spleen was tenaciously adherent to the colon and to the diaphragm; moreover, in the space between the gastric fundus and the upper splenic pole, approximately 300 cc of coagulated blood were found. A splenectomy was performed.

At the pathologic examination (Fig. 2) the spleen presented a normal size (12x9x5 cm) but with a tearing of approximately 6 cm, towards the diaphragmatic face, communicating with a pseudocyst with irregular walls containing blood clots and necrotic tissue.

The patient had regular postoperative course and after 7 days he was discharged.

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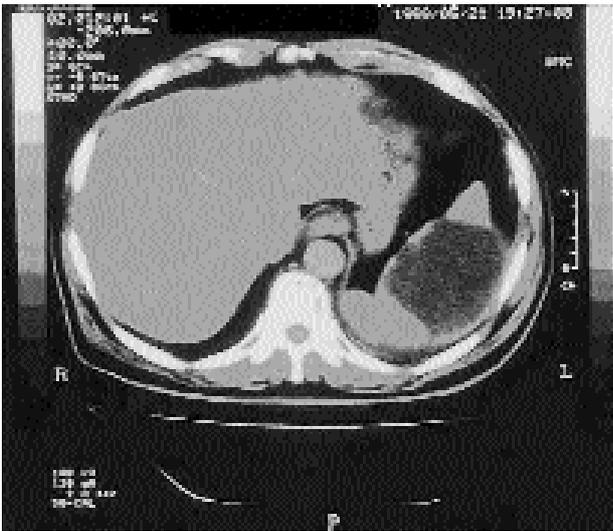


Fig. 1 - CT shows splenic subcapsular haematoma.

Discussion

Splenic trauma following colonoscopy is a rare condition depending on a direct trauma due to the passage of the instrument in the splenic flexure or the stretching of the splenicocolic ligament with avulsion of the splenic capsule, especially in patients with the left colonic bowel inflammatory diseases and with tenacious adhesions between flexure and the spleen (before the endoscopy the careful patient's history is important). The lesion in this case is the avulsion of the splenic capsule or, more rarely, the splenic rupture (1-3, 4, 6, 7, 13, 14, 16, 17, 21, 22, 25, 27, 28, 30), especially if capsule is thickened and/or with fibrosis (32). The rupture is a potential deadly complication, particularly in those patients with a late symptomatologic onset and treatment (5, 20).

Patients who incur in such iatrogenic damage, in the greater part of the cases within the first hours from the colonoscopy, complain of pain to the abdomen, particularly at the upper quadrants and, moreover, they present signs and symptoms due to intra-abdominal hemorrhage; but, because the rarity of the event and since some patients present mild/late symptoms or the symptomatology is attributed to the gaseous distension of the colon, the diagnosis often is delayed. Very rarely, it has been reported a correct diagnosis only at laparoscopy (8). Gores (15) sustains that the greatest aid to an early diagnosis is the knowledge of this complication.

If the haemodynamic conditions of the patients often determinate the timing and the kind of therapeutic option, a correct diagnosis by images is also necessary to plan a proper therapy. The direct X-rays examination of abdomen could suggest the presence of great haematoma and can exclude above all the most com-

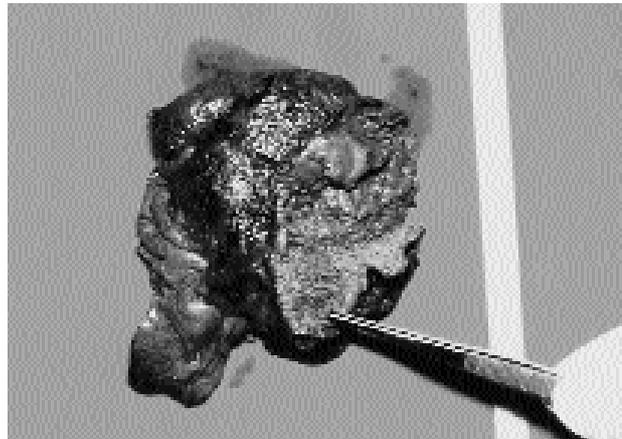


Fig. 2 - Surgical specimen.

mon complications like perforation. Ultrasounds (US) could be used in order to demonstrate the laceration of the capsule, the haematoma and/or small hemorrhagic clusters; however the gas put in during the colonoscopy can limit its use.

Sometimes diagnosis was established by US or by angiography or by paracentesis. But, in the greater part of the cases, in analogy with our patient, CT examination of the abdomen is essential for the correct diagnostic of this pathology. CT is essential to decide the conservative or surgical treatment because it's able to demonstrate well-contained splenic lesions (lacerations, hematoma) or more potentially deadly lesions as perisplenic clots and hemoperitoneum.

In fact, although the treatment of choice remains the surgical operation (the lesion is often the avulsion of the splenic capsule), a conservative approach (2, 24, 27) could be taken in consideration in those cases with elevated operating risk. Conservative treatments are broad spectrum antibiotics and hemodynamic correction and monitoring.

Persistent pain and signs of acute abdomen, hemodynamic instability, leukocytosis and acute anemia have to be evaluated first to exclude intestinal perforation (33) and external bleeding. Then, the endoscopist/the surgeon should consider splenic trauma in all patients with abdominal pain and acute anemia without evidence of intestinal perforation or external bleeding. Early recognition and prompt/proper management are essential to a favourable outcome.

Conclusions

The splenic rupture following colonoscopy is exceptional and produces diagnostic difficulties. Often the clinical pattern that could be evocative, is underrated and attributed to the gas presence in the colon. The adhe-

sions or an excessive traction or the presence of a lesion at the splenic colonic flexure is the mechanisms that can contribute to splenic rupture. The CT is the most sensitive and specific imaging technique for a correct diagnosis. Although the treatment of choice is the surgical operation, a

conservative therapy could be considered in those patients with elevated operating risk or in stabilized patients with subcapsular haematoma. Nevertheless, the prevention of the splenic injury is an increased awareness and a correct positioning of the patient (31) during colonoscopy.

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