Splenic Rupture and Colonoscopy: Case Report and Review of Literature

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Splenic Rupture and Colonoscopy: Case Report and Review of Literature

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Abstract

Colonoscopy is a very usually diagnostic and therapeutic procedure in the diagnostic of colonic diseases. Most of the time it is secure procedure but complications can occur: hemorrhages (1.8-2.5%) and perforations (0.34-2.14%) are the most common. Others complications include pneumothorax, pneumoediasinum, mesenteric tear and colonic volvulus [1,2].

Splenic rupture is a rare complication that can lead to lethal issue. Since the mid-1970s, 68 cases have been reported in literature. The most commonly held mechanism should be a tension due to manipulations of the colon on pre-existing adhesions [3]. We report here a case of splenic rupture on a patient, following colonoscopy, 20 hours after the surgery, with lethal issue. We also sum up a review of the literature.

Introduction

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Case Report(s)

A 63 year-old man with a past medical history of coronary diseases treated by stenting and pacemaker, double legs amputation, esophagus reflux and appendectomy. The colonoscopy was indicated for diagnosis because of long time of anemia: the surgical intervention was well tolerated despite some difficulties induced by a dolichocolon. The result was not conclusive. During the night after the procedure the patient presented some diffuse abdominal pain with nausea and vomiting.

On the morning, procedure + 12 hours the patient was afebrile, without hematemesis, no proctorrhagia. But, he showed a hemodynamic instability. The physical examination revealed a moderate abdominal distention without guarding. The bowel sounds were normal. Blood tests discovered a decrease of hemoglobin concentration from 10g/DL to 4.4g/DL in 12 hours.

The patient was admitted to the intensive care. After an adequate haemodynamic stabilization and transfusion of 2 units of packed red cells, he was submitted to CT scan without intravenous contrast. The images showed a haemoperitoneum from the spleen to the liver suggesting a splenic rupture and a large fluid collection in the cul-de-sac of Douglas. (Fig.1,2)

While transferring to the surgery unit for splenectomy, the patient had a heart attack. Despite a long attempt to resuscitation, the patient died 20 hours after the colonoscopy.

Discussion

We performed a Pubmed search on splenic injury and selected 55 case reports of splenic rupture injury post colonoscopy.

The first splenic rupture described in literature was in 1974 by Wherry and Zhener.

Patient factors

This complication occurs more frequently in female (69,81%) with a mean age of 63 Y. Most of these women had a previous abdominal surgery. A few of them were treated with systemic anti-coagulant. All the reports underline an increase of the severity of the rupture consequences [2].

The situation of previous abdominal surgery is reported in literature as a major factor leading to adhesions. These adhesions are mostly found between the splenic angle of the colon and the spleen.
Authors suggest that these adhesions would be stretched by the manipulations during the surgery.[1] In other hand, Castelli suggests that a chronic inflammatory illness of the colon or a splenomegaly could also be risk factors for developing a splenic rupture.[4]

Procedure factors
The operative conditions of the usual surgical procedure do not seem to be implicated in this complication because authors report 72.7% of favourable issues[5].
From the literature, we found that the most cited causes of splenic rupture are a polypectomy in 56.1% of cases, a colonoscopy in 36.58% of cases and a biopsy in 7.32% of cases.

Clinical presentation
The painful signs of a splenic rupture are not clearly significative: in most of cases reports the main sign seems to be a pain in the left abdominal upper cadran. Nausea, vomiting with hypovolemia and suddent anemia are often associated with. In front of such a set of clinical signs and without visible signs of hemorrhagia, a spleen rupture must always be suspected and treated in emergency regards to the potential lethal prognostic.
We observed that in 44% of cases, the signs appeared in the 24 hours following the examination.

Diagnosis
The most used paraclinic examination to set the diagnosis is the CT scan (60%): most of the authors consider that it is the most reliable technique[6]. A hemoperitone or a hematosis developped under the spleen capsula are seen in most of the cases.
Other procedure of investigation are cited: laparotomy in 23.63% of cases, echography in 10.90% of cases and in some rare cases angiography has been reported(1.82%)

Treatment
In the literature that we explored, splenectomy is the most related treatment (67, 92%). If the patient conditions are enough stabilized and if the bleeding is not too important, authors choose a conservative treatment in 28.30% of cases. We found a publication reporting a spleen rupture treated by arterial embolisation[7].

Outcome
From the set of publications that we considered, we found 7.27% of lethal issues.

Conclusion
The spleen rupture is a rare complication of the colonoscopy. This issue must be kept in mind in case of abdominal pain following the intervention and especially if the patient had previous interventions causing potentially spleno-colic adhesions. The best estimated diagnosis method is CT scan because of its reliability in front of such pathology. More, CT scan makes possible to explore now in 3D, the surrounding structures of the rupture. It is an appreciable help for choosing the best curative option. This option, depending of the severity of the lesion would be conservative or splenectomy.

References
Illustrations

Illustration 1

CT-scan without intravenous contrast showing fluids perisplenic

Illustration 2

CT-scan abdominal showing a large collection of fluids in the cul-de-sac of Douglas
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