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Case Report

SPLENIC RUPTURE DURING COLONOSCOPY: COMPLICATION OR MEDICAL ERROR? CASE REPORT AND MEDICO LEGAL IMPLICATIONS

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ABSTRACT

Iatrogenic splenic injury during colonoscopy is a rare but known occurrence. Such a rare event raises many issues relating to medical professional liability, since it is not always easy to establish whether the onset of the splenic injury is related to a technical error on part of the operator or simply to a complication. We report the case of a 52-year-old woman who, after undergoing a diagnostic therapeutic endoscopic procedure, suffered an acute spleen rupture, without documented bowel perforation, requiring emergency splenectomy. In the case herein reported, a further medico-legal issue is related to the failure of predicting such a complication, given its rare occurrence in the informed consent form signed by the patient.

1. Introduction

A close review of the scientific medical literature has shown that colonoscopy is one of the most iatrogenic splenic injury-related procedures [1] [2] [3]. This occurs more frequently in female patients within the age range of fifty and sixty [4]. Typically, these age groups are the main target of the oncological screening procedures in accordance with Italian Essential Level of Assistance [5] [6]. Nevertheless, as splenic rupture is a rare complication of the colonoscopy procedure, this case provides the opportunity to address two medico-legal issues concerning the field of informed consent and the difference, with regard to medical professional liability, between complications and medical errors. Indeed, it is important to assess whether the cause of such occurrence may be attributed to a technical error on part of the operator or to an unpredictable and unpreventable complication.

2. Case report

Due to the onset abdominal pain together with diarrhea, the patient underwent a fecal occult blood test with positive result; the patient, with a medical infectious history related to preexisting viral hepatotropic infections, was positive for Epstein Barr Virus (EBV).
After obtaining the informed consent for this specific procedure, she was then advised to undergo colonoscopy: "Sigmoidoscopy + Mucosectomy". During the procedure, a sessile polyp formation was removed until the muscolaris mucosae was exposed, thus a mucosectomy was performed for the histological examination. After the procedure, the patient began to experience diffuse painful abdominal symptoms and difficulty in intestinal gas emission. Vital parameters and laboratory findings were suggestive for hemodynamic instability. Contrast-enhanced CT scan of the abdomen and pelvis diagnosed a splenic rupture with active bleeding (hemoperitoneum).
After providing informed consent, the patient immediately underwent surgery: an almost complete splenic disruption was evident, and an urgent splenectomy was performed, without evidence of perforation of the small bowel and colon.

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The histological examination performed on the removed spleen revealed a "morphological sample consistent with the reported clinical situation of splenic rupture".
The patient was finally discharged on the 7th postoperative day in good general condition.

3. Discussion

On the grounds of scientific evidence, splenic injury may be of traumatic or iatrogenic nature. In the existing literature, the most frequently related procedure to iatrogenic splenic injury is colonoscopy although it does not represent a common complication (with an incidence of 0.004%).[1] [2] [3]
The risk factors for splenic rupture during colonoscopy may depend on the patient
(splenomegaly, neoplasm, inflammatory bowel disease, pancreatitis, previous systemic infections like EBV) or the operator (biopsy, polypectomy, excess traction, direct trauma). [2] [3]. In addition, several maneuvers performed during colonoscopy, such as hooking splenic flexure to straighten left colon, excess traction of the phrenicocolic ligament, applying external pressure on the left hypochondrium, slide by advancement and alpha maneuver are all known risk factors in splenic injury.
Should abdominal pain persist from the procedure, associated with other signs such as haemodynamic instability, a further assessment of the patient is required. The review of the existing literature has shown that the onset of such clinical symptoms and laboratory results mainly occur within 24 hours from the endoscopic procedure. [1]
Computed tomography of the abdomen is considered the gold standard for a reliable detection of a well-defined splenic injury and in order to identify the best therapeutic option, the two decisive factors are the patient haemodynamic status and the CT scan. On the grounds of such elements, it is possible to differentiate patients to be managed surgically from patients to be administered conservative medical treatment. Splenectomy is often the definitive management of choice.
With reference to the case described herein, on the one hand, the onset of the symptoms and common signs of splenic injury along with the radiological findings of haemoperitoneum following colonoscopy confirm the causal relation between the invasive procedure and the rupture of the splenic capsule; on the other hand, the absence of a perforating trauma of the intestinal wall might represent an important element of exclusion of a technical and rather macroscopic procedural error.
Given that the colonoscopy was carried out without any difficulty, it may be inferred that the rupture of the spleen occurred concomitantly with the procedure. In the case in question, the stretching of the splenic parenchyma and its subsequent rupture was probably due to the traction of the phrenicocolic ligament during the advancement of the endoscope.
The case reported is the starting point for some medico-legal considerations regarding two important issues in medical practice: informed consent and the difference between complications and errors in the medical professional liability setting.
In the specific case, although splenic rupture following colonoscopy is quite a rare complication, splenic trauma incidence is higher than in other procedures and it is associated with the lack of its description and prediction in the informed consent form for the examination signed by the patient [7].
On this occasion, it is appropriate to emphasize the increasing importance of informed consent, currently considered as a real tool to guarantee individuals' right to self-determination. For the first time in Italy, informed consent was defined and specified under Law 219/17 "Regulations in the area of informed consent and advance provisions for treatment" [8]. This "Living Will" Law rules all procedural aspects of informed consent and identifies its three main actors: patients, medical team, and healthcare facilities.
According to the information on colonoscopy provided by SIED (Italian Society of Gastrointestinal Endoscopy) guidelines, ruptured spleen is reported and described as one of the very rare complications. However, the same complication is neither reported nor mentioned in the European guidelines (ESGE). Although in the national guidelines information to patients before the procedure is clearly set out and recommended, in the informed consent form for the endoscopic procedure signed by the patient of the reported case, the complication of splenic rupture is neither described nor mentioned. The form is generic, with nonspecific and incomplete information and noncompliant with the form set out by the national and European guidelines.
The opportunity has been taken to analyze another issue, dealing with medical professional liability and outlining both the concepts of complications and error.
In this regard, the Italian Court of Cassation has set out that in the assessment of medical professionals' liability, healthcare professionals, in order not to be at fault, are required to show that they adopted a conduct compliant with the legem artis, notwithstanding the fact that the injury suffered by the patient was a result of a complication [9]. In practice, the medical concept of "complication" does not constitute in itself an element of exclusion of medical liability. Therefore, is crucial to establish malpractice and complication criteria whose ultimate medico-legal aim is to avoid unnecessary litigations and to deal only with technical error-related lawsuits eligible for proceedings.
In medical clinical practice, the boundary line between complications and medical errors is often a thin line [10]; mistakes inevitably fall within the medical profession, being medical practitioners engaged in making diagnosis and therapies.
An interesting paper about the nature and origins of clinical errors has shown that among hospitalized patients worldwide, 3-16% suffer damage due to medical intervention. Factors that predict that patients will resort to litigation include a prior poor relationship with the clinician and the feeling that the patient has not been kept informed [11].
A further important aspect is the change of the type of error imputable to the physician: in the mid-twentieth century, the concept of malpractice switched from the so-called errors of commission to errors of omission – in short, the physician failed to do something right (and almost always failed to make a diagnosis) [12].

4. Conclusions

Colonoscopy is the most frequently related procedure to iatrogenic splenic injury, although this latter is a rare complication. From a medico-legal point of view, this may represent a source of litigation.
To reduce malpractice claims, it is crucial to provide patients with proper information about the risks during the procedure and a detailed description of each maneuver in the technical report of the intervention.

For a proper assessment of clinicians' liability, it is therefore essential to consider whether the patient was correctly informed, also of his/her clinical status and profile before the intervention, the technical execution of the procedure, and finally to discern whether the adverse event was due to an individual liability or it was absolutely unpredictable and unpreventable.

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