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Spontaneous rupture of the spleen

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ABSTRACT

Introduction : Non-traumatic ruptures can be fatal, the diagnosis is sometimes difficult. They often reveal an underlying pathology, notably infectious, tumoral or hematological. The clinical presentation is usually acute, but progressive forms are possible. The majority of patients are splenectomized.

Materials and Methods: We report a case Spontaneous rupture of the spleen in the department of Emergency visceral surgery.

Results: Our patient was admitted to the emergency room with diffuse abdominal pain of sudden onset with onset of epigastric pain and incoercible vomiting rupture five days before days the consultation with clinical examination: conscious patient stable on the hemodynamic and respiratory plan The examination noted generalized abdominal defense the hernial orifices were free, apyrexial, and sensitization of the left hypochondrium. The laboratory investigations was normal. X-ray of the abdomen without preparation (ASP) was without particularities.

The abdominal CT scan showed a medium-sized hemoperitoneum on probable splenic the patient were operated in the emergency room, approached by laparotomy with the exploration we found a medium-sized hemoperitoneum on probable splenic rupture ,A splenectomy was performed.

Conclusion: Spontaneous rupture of the spleen is a rare entity whose diagnosis is difficult in the absence of a traumatic context. It can be life threatening. Ultrasound and CT scans help to orient the diagnosis.

The overall mortality is about 20% and seems to be mainly related to the delay in diagnosis and/or the severity of the underlying pathology. Infectious etiologies, dominated by Infectious mononucleosis, and

hematological etiologies, dominated by hematological malignancies, together account for more than half of the cases.

Key words: Subcapsular splenic hematoma, non-traumatic, hemoperitoneum

INTRODUCTION

Spontaneous splenic hematoma is rare but can be fatal [1]. Mortality is often related to the delay in diagnosis and therapeutic management, as well as the risks associated with the severity of the underlying pathology [2,3]. They can occur in a normal or pathological spleen. Treatment often consists of splenectomy.

Non-traumatic rupture of the spleen is a very rare entity, which is life-threatening in the absence of early and appropriate management. The overall mortality rate is estimated at 10-15% [1], as this condition is still poorly understood by most physicians in the face of an acute abdomen. It may be idiopathic or a complication of an infectious, neoplastic or hematological disease [2].

The majority of cases reported in the literature are secondary to an infection, especially in adults. We report the case of a patient admitted to the emergency room for an acute abdomen without any trauma, and we will also present a review of the current literature on this rare entity.

PATIENT ET OBSERVATION

The patient was a 54-year-old chronic smoker admitted to the emergency room with diffuse abdominal pain of sudden onset with epigastric onset and incoercible vomiting, apyretic, and sensitization of the left hypochondrium. The biological workup was normal. X-ray of the abdomen without preparation (ASP) was without particularities.

The abdominal CT scan showed a spontaneously hyperdense heterogeneous formation opposite the greater curvature of the stomach, fairly well limited in places, non-enhanced after injection of contrast agent, measuring approximately 80x73 mm. This formation seems to be at the expense of the upper pole of the spleen which is enlarged, deforming its contours at this level. There is a discrete infiltration of fat all around. Small appearance of the splenic artery and vein, which are however permeable, without extravasation of contrast agent on this examination. Medium to large hemoperitoneum located at the perihepatic level, Morisson's space, in the splenic hilum, in the parieto-colonic gutters and in the pelvis. Absence of pneumoperitoneum as Conclusion: CT scan of a medium-sized hemoperitoneum on probable splenic rupture (Figure 1).

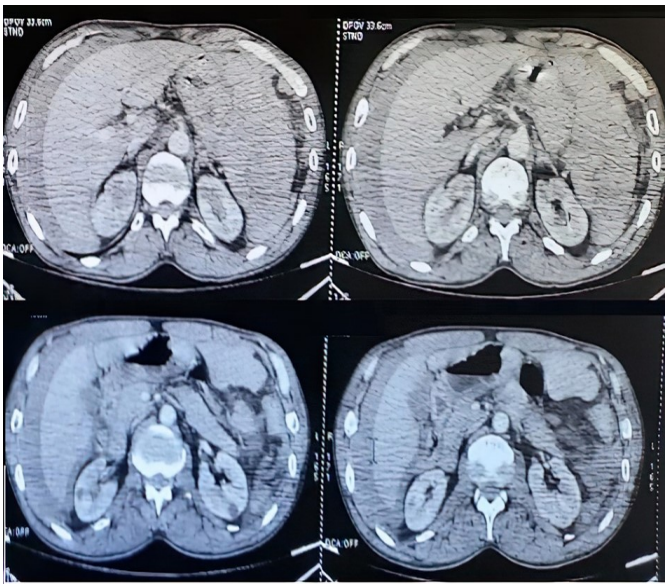

Figure 1: Abdominal CT scan C-C+: a medium-sized hemoperitoneum on probable splenic rupture

The patient was operated on urgently because of the clinical and radiological picture

Surgical exploration showed a medium-sized hemoperitoneum on probable splenic rupture (Figure 2). A splenectomy was performed.

Figure 2: Spleen macroscopically after splenectomy

The etiological investigation in our patient was negative. There were no clinical or paraclinical signs in favor of cirrhosis. The absence of clinical and biological infectious syndrome or travel abroad made an infectious origin unlikely. Systemic disease or hematology were a priori ruled out.

The surgical procedure was performed on a scheduled date with a correct anaesthetic pre-assessment; the procedure was performed by an assistant professor in general surgery and two residents in the same specialty.

The patient was a chronic smoker with no other particular medical history and concerning the access to care for our country for emergency pathologies the access is fast except for particular cases.

The operation was performed in the operating room of the visceral emergency.

The patient declared to be discharged on the 5th postoperative day with removal of drainage and postoperative follow-up without particular incident and clean dressing .

The patient was satisfied with the intervention and the improvement of his health in the short and long term.

DISCUSSION

Spontaneous rupture of the spleen is a poorly defined entity, the causes of which are not well known and the treatment remains controversial. Swiss authors have analyzed 632 publications (845 patients) between 1980 and concerning adult victims of a spontaneous rupture of the spleen, often revealed by a surgical emergency picture

It may be an acute form with hypovolemic shock, or a subacute form with diffuse abdominal pain predominantly on the left, associated with hypotension and anemia [8, 11].

These circulatory disorders are due to blood spoliation, which is hemoperitoneum. This hemoperitoneum, occurring outside of trauma, poses a problem of etiological diagnosis.

Spontaneous ruptures occurring during explorations (colonoscopy, transesophageal cardiac ultrasound, etc.) were excluded.

Spontaneous splenic ruptures were classified into 2 main categories according to whether an etiology was found or not. No etiology was found in 59 subjects (7%), which is the case of our patient, whose

spleen was normal. One etiology was found in 711 subjects (84%), two etiologies in 69 subjects (8%) and three in 6 others (1%) for example: splenic tuberculosis, sarcoidosis and hemophagocytosis). The 3 most common etiologies were hemopathies (non-Hodgkin's lymphoma), viral diseases (infectious mononucleosis - IMN) and neighborhood inflammation (pancreatitis), which together were responsible for 42% of the cases of spontaneous splenic rupture.

On arrival at the emergency room, in the presence of pain and hemorrhagic shock, the hemoperitoneum was diagnosed by ultrasound, CT scan, or even peritoneal dialysis puncture. As for the diagnosis of spontaneous splenic rupture, it was made during laparotomy (42%), by CT scan (32%), ultrasound (19%), or even at autopsy (5%).

The existence of abdominal pain and massive painful splenomegaly points to splenic involvement that must be confirmed urgently by ultrasound, which is the first-line examination. However, CT scan has a better sensitivity for lesion assessment [10].

The etiological diagnosis is a crucial step in establishing the therapeutic course, and this was the case in 352 subjects (42%). Splenomegaly was reported in 79% of the 591 patients for whom the size or weight of the spleen was mentioned (the average weight was 700 g). Of the 774 patients for whom treatment was specified (excluding spontaneous splenic rupture findings at autopsy), 660 underwent surgery (651 splenectomies and 9 splenic conservative surgeries) with 49 deaths (7.4%). The remaining 114 underwent medical treatment (including Infectious mononucleosis and malaria), with 16 secondary splenectomies for iterative bleeding and 5 deaths (4.4%).

A total of 96 patients died (12.2%); predictive factors for mortality were hematologic disease, age (> 40), and large spleen. Although the influence of surgical or conservative treatment on survival could not be demonstrated, an increase in mortality was noted in patients operated after an initially conservative treatment [15].

In another literature review carried out by Kianmanesh et al. after a search on computerized databases, 194 cases of spontaneous rupture of the spleen were published since the 1960s. This research reveals that spontaneous rupture of the spleen is twice as frequent in men. The age ranges from 2 to 81 years (mean = 42 years). In about one third of the cases there are signs of shock at the first examination, as was the case for our patient. In 8% of the cases, the patients die before being operated and the diagnosis is only made at autopsy. In 85% of cases, patients are treated by splenectomy [16]. In 7% of patients (mostly in the context of Infectious mononucleosis) conservative medical treatment without surgery was attempted [9-18]. Although this analysis covers a period of about 40 years, postoperative mortality can be estimated at 14%, giving Non-traumatic rupture of the spleen an overall mortality of 20% [8].

Non-traumatic ruptures of the spleen (NTRS) can occur in 0.1% to 0.5% of patients without associated trauma [5]. The first cases of spontaneous splenic rupture were described by Rokitansky [4] in 1861 And Atkinson [7] in 1874.

The actual cause of the rupture is not yet well identified. Three mechanisms have been implicated in the process: the increase in intrasplenic tension linked to cellular hyperplasia and engorgement; compression by the abdominal musculature during

efforts to sneeze, cough or defecate; vascular occlusion by hyperplasia of the endothelial reticulum responsible for infarction associated or not with a subcapsular hematoma [6].

Non-traumatic rupture of the spleen is twice as common in men. The age ranges from 2 to 81 years (mean = 42 years). In about one third of the cases, there are signs of shock at the first examination. In 8% of cases, patients die before surgery and the diagnosis is only made at autopsy [9].

The causes of Non-traumatic rupture of the spleen [9] are dominated by infectious and hematological diseases, which represent more than half of the cases. Infectious causes (30%) are usually represented by NID and malaria, while hematological causes (27%) are mostly represented by hematological malignancies. Other causes are much rarer: solid or benign tumors of the spleen (11%), digestive pathologies (pancreatitis, portal hypertension) (10%), rheumatological causes (4%) and renal failure at the dialysis stage (3%). In almost 5% of cases, no etiology and no notion of trauma were found, as in the case of our observation [9].

Therapeutically, splenectomy is the radical treatment for spontaneous splenic rupture. Nevertheless, the morbidity of splenectomy, the improvement of surgical techniques and intensive care, and the role of the spleen in the immune response allow us to propose a conservative treatment. This seems to be an alternative under certain conditions: hemodynamic stability, recourse to transfusion of less than 2 red blood cells, regular daily clinical and biological monitoring, rest and hospitalization in a department close to a surgical center [12].

CONCLUSION

Spontaneous rupture of the spleen is a rare entity whose diagnosis is difficult in the absence of a traumatic context. It can be life threatening. Ultrasound and CT scans help to orient the diagnosis.

The overall mortality is about 20% and seems to be mainly related to the delay in diagnosis and/or the severity of the underlying pathology. Infectious etiologies, dominated by Infectious mononucleosis, and hematological etiologies, dominated by hematological malignancies, together account for more than half of the cases.

However, a two-stage rupture is possible. Diagnosis is based on ultrasound or abdominal CT scan. Treatment is splenectomy, with conservative treatment being offered only to selected patients with Infectious mononucleosis.

CONSENT WRITTEN

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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