

## Per operator finding of spontaneous rupture of the spleen: a case report

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### Abstract

Spontaneous rupture of the spleen is an uncommon cause of haemoperitoneum. The diagnosis is difficult especially in premenopausal patient. We report a case of patient operated with an indication of ruptured ectopic pregnancy and whose peroperator finding was a rupture of the spleen instead at the Centre Hospitalier Dominicain Saint Martin de Porrès, Yaoundé – Cameroon. She was a 28 years old, brought on consultation with acute abdominal pain, without amenorrhoea nor per vaginal bleeding. On physical examination, there was tachycardia and abdominal tenderness. The pregnancy test was negative and the pelvic ultrasound was relevant with a suspected ruptured ectopic pregnancy. We performed a laparotomy. The peroperator findings were a haemoperitoneum and a linear tear of spleen capsule. We did a splenectomy and the post operator follow up was unremarkable.

**Keywords:** Spleen rupture; Haemoperitoneum; Laparotomy; Cameroon

### 1. Introduction

Spontaneous rupture of the spleen is a rare clinical situation. It represents an etiology of haemoperitoneum in premenopausal women and stands out as a differential diagnosis of ruptured ectopic pregnancy: gynecological emergency par excellence.

We report the case of a patient brought to the emergency ward and operated on for an unrecognized spontaneous rupture of the spleen

### 2. Case presentation

We present a 28-year-old patient, G3P1021 on the 27th day of the cycle, consulting for spontaneous onset of severe abdominal pain and with vomiting. The pain at the beginning was hypogastric, and then quickly spread to the whole abdomen with radiation to the right shoulder. There was no per vaginal bleeding. She has had a past history of chlamydial STIs a year earlier.

On clinical examination, there was tachycardia at 120/min and abdominal tenderness. The gynecological examination was unremarkable.

The pregnancy test was negative and the pelvic ultrasound revealed the presence of an abundant particulate peritoneal effusion, a right adnexal mass reminiscent of a gestational sac and an empty uterus.

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We performed an emergency laparotomy under general anesthesia. We visualized a normal sized uterus, a haemoperitoneum of approximately 2000cc, a large polycystic right ovary measuring 6x4x4 cm, a normal left ovary and tube and a 2 cm linear rupture of the spleen capsule. We performed a splenectomy.

The postoperative follow up was unremarkable and the patient was discharged on the 5th day with a prescription for pneumococcal, meningococcal and Haemophilus influenza vaccines.

The spleen was of normal size. The pathologic analysis had not been done.

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### 3. Discussion

Spontaneous rupture of the spleen is a rare condition with a mortality rate ranging from 15 to 70% depending on the different etiologies [1,2]. Orloff and Peskin in 1958 [2] made it possible to propose diagnostic criteria for spontaneous rupture of the spleen, which include: the absence of previous trauma, the absence of pathology that could affect the spleen, the absence of splenic adhesions and the need for a normal spleen on anatomical, histological and infectious work-up.

Thus, a distinction is made between traumatic ruptures and non-traumatic or spontaneous ruptures of the spleen. Sowers et al [2] noted that 15% of patients with blunt trauma of the abdomen had delayed rupture of the spleen and could wrongly be considered as spontaneous rupture of the spleen. In such cases, the trauma is sometimes minimal to the point of going unnoticed by the patients.

Other causes of spontaneous rupture of the spleen include malaria, systemic diseases such as amyloidosis, mononucleosis, ruptured splenic aneurysm, malignant haemopathies, bleeding disorders and anticoagulant treatment [3-5]. Lamerton A [6] in 1983 described a case of rupture of the spleen at the 14th week of pregnancy due to exostosis of the 10th rib. In our case, the spleen had a normal size and in the absence of pathological analysis, we retained the hypothesis of a delayed rupture probably by a neglected trauma even if the patient always denied the existence of any trauma.

Clinical presentation of ruptured spleen include [2]: left upper quadrant pain, Kehr's sign (scapular pain), abdominal tenderness and hypovolemic shock. The singularity of our case is that the patient immediately described a hypogastric pain which wrongly directed the diagnostic discussion towards a gynecological etiology. In addition, the pelvic ultrasound reported the presence of haemoperitoneum and adnexal mass suspicious in appearance of a ruptured ectopic pregnancy. Nana et al [7] in a publication on rupture of the spleen due to domestic violence in pregnancy reminded the importance of a good history taking.

Computed tomography has a sensitivity and specificity of 95 to 97% respectively in the diagnosis of splenic rupture [1,2]. In our case, the urgent nature of the clinical presentation prevented us to request a CT scan.

Management includes a conservative approach and a non-conservative approach. The radical approach can be done by laparoscopy or laparotomy and the procedure performed is splenectomy. The conservative approach is abstention. The criteria for conservative treatment include subcapsular rupture of the spleen, hemodynamic stability of the patient and the possibility of blood transfusion [8]. In our case, the patient's hemodynamic status was a contraindication to conservative treatment. Ravera et al [9], comparing patients treated with a conservative approach and those treated with a non-conservative approach, noted in their series a similar duration of hospitalization in the two groups. He also noted that patients treated with the non-conservative approach required 3 units of blood versus 1.1 units of blood for transfusion. In our case, we did not use any blood transfusion.

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### 4. Conclusion

Spontaneous rupture of the spleen is a rare etiology of hemoperitoneum in young patients. Medical practitioner should keep it in mind when addressing any case of suspected ruptured ectopic pregnancy.

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### Compliance with ethical standards

#### *Disclosure of conflict of interest*

The authors declare that there is no conflict of interest regarding the publication of this paper.

*Statement of informed consent*

Informed consent was obtained from the participant included in the study.

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