

Splenic Rupture Post Radical Hysterectomy: A Case Report and Review of Literature

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INTRODUCTION

Splenic rupture is a rare post-operative complication in both the gynaecological and obstetric practice. There have only been a handful of cases in the literature of splenic rupture post gynaecological surgery including hysterectomy, caesarean section, laparoscopy and also following ruptured ectopic pregnancy [1]. In this article, we describe a case report of a woman who had delayed presentation of splenic rupture ten days post-radical hysterectomy.

CASE PRESENTATION

A 72 year old woman presented to the emergency department with hypotension, tachycardia and abdominal distension. Ten days prior to her admission, she had undergone a laparotomy, total hysterectomy, bilateral salpingo-oophorectomy, omentectomy and pelvic lymph node dissections for right ovarian cystadenocarcinoma. On admission, her physical examination showed bruising to the left side of the neck and face. Her haemoglobin level was 53 g/dl with a lactate of 5.16mmol/L

The on-call gynaecologist was informed immediately. More detailed history revealed that two months prior to her operation, she was also diagnosed with pulmonary embolism and was started on therapeutic anticoagulant. Furthermore, she also had a fall on her left side for which she attended emergency department and was sent home three days prior to her operation.

She immediately undergone a computed tomography (CT) scan which showed sub-capsular splenic haemorrhage and haemoperitoneum (Figure 1).

Subsequently, she underwent an emergency laparotomy along with the surgical team and revealed a 1200ml of blood loss intra-abdominally and a ruptured spleen with an evolving haematoma. This led to a splenectomy. The patient made an uneventful recovery and was discharged home a week later after the surgery. Further histology investigation of the spleen did not suggest any pathological cause of the rupture.

DISCUSSION

In the general population, spontaneous splenic rupture is relatively rare and can be potentially life-threatening if diagnosis is not made quickly. The causes of splenic rupture can be categorised into two groups:- 1) Traumatic- comprised the majority causes of splenic rupture (90%) and 2) Pathological causes of certain underlying diseases- comprised of approximately 10% of the causes. The three most common causes of spontaneous splenic rupture are malignant haematological diseases, viral infection and local inflammatory process caused by neoplastic disorder [2]. Other causes could include medications (e.g. anticoagulation), anatomic abnormalities (e.g. splenic cysts, infarction and hamartomata) and rheumatological disease. Other rarer causes include splenic artery aneurysm, Gaucher's disease, Wilson's disease and pheochromocytoma [3]. Interestingly, there are also reports of splenic rupture following procedures such as colonoscopy, electroconvulsive therapy, implantation of automatic defibrillators, shock-wave-lithotripsy, transoesophageal echocardiograph, ERCP (endoscopic retrograde cholangiopancreatography) [4].

Considering the many causes of splenic rupture, we theorised three reasons for the cause of splenic rupture in our case report; Firstly, the laparotomy procedure could have involved handling the greater omentum which in turn may have pulled on the splenic blood vessels and splenocolic ligament. A literature review by

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Figure 1: Sagittal view of CT scan showed sub-capsular splenic haematoma and haemoperitonium.

Bertoglio *et al.* who reports delayed presentation of splenic injury following diagnostic colonoscopy suggested traction on the splenocolic ligament and peritoneal adhesions have been advocated as possible cause [5]. Secondly, the patient had a trauma from a fall she had on her left side three days prior to her surgery. Amonkar *et al.* mentioned that splenic rupture is most commonly encountered after blunt abdominal trauma [6]. Lastly, the patient was also on anticoagulant due to previous pulmonary embolism, which has also implicated as a cause of splenic rupture [7]. We also considered neoplastic disorder as a potential cause of splenic rupture in our case report as the patient had undergone the operation due to right ovarian cystadeno-carcinoma, however post splenectomy histology did not show any signs of pathology as mentioned earlier.

Furthermore, our literature research revealed only six case reports of splenic rupture following abdominal hysterectomy [8] and one case report following laparoscopic radical hysterectomy [7]. The earliest report was by Hoffman in 1972 [9] and recently by Frąckowiak *et al.* in 2014 [10]. Our case report provides additional literature support to the occurrence of rare post-operative complication; splenic rupture following abdominal hysterectomy.

CONCLUSION

Based upon our case report and literature research, we feel that it is important for clinicians to consider differential diagnosis of splenic rupture for patients who present with haemodynamic instability (*i.e.* shock) for any post gynaecological procedure. Certainly, this is after consideration of common causes including post-

operative infection and haemorrhage of actual surgical wound site. The importance of collaboration of both gynaecological and surgical team in the management of such patients.

Radiological investigations also play a major role in diagnosis of splenic rupture especially in the absence of trauma. Computed tomography (CT) scan facilitates the diagnosis as it has at least 95% sensitivity and specificity for the diagnosis of splenic rupture [10].

CONFLICT OF INTEREST

No conflict of interest declared.

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