



# Delayed splenic rupture following laparoscopy for tubo-ovarian abscess.

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## Background

Splenic injury is an uncommon but potentially fatal complication of abdominal and pelvic surgery. In this case, a woman re-presented in extremis 8 days following laparoscopic drainage of bilateral tubo-ovarian abscesses (TOAs) secondary to delayed splenic rupture.

## Case

A 44-year-old woman presented to hospital with 2 weeks of lower abdominal pain and abnormal vaginal discharge. She had no significant past medical history; notably, no history of pelvic inflammatory disease, and had 2 uncomplicated vaginal deliveries over 20 years earlier. She had 1 stable male sexual partner, and while they did not use contraception she had recently had negative STI screening.

Transvaginal ultrasound and CT abdomen and pelvis on admission revealed large bilateral TOAs. The patient was commenced on IV antibiotics and underwent laparoscopy the following day, at which point it was found that the right TOA had already ruptured with approximately 2 litres of pus extending into the upper abdomen. The left TOA

was drained, and the abdomen and pelvis was extensively washed out. The patient recovered well and was discharged on a course of oral antibiotics. 8 days following the initial operation, the patient represented to hospital with sudden onset severe generalised abdominal pain. She was febrile to 39°C and tachycardic to 130bpm which was initially concerning for septic shock. Important laboratory findings included a white cell count of  $61 \times 10^9/L$ , platelet count of  $1556 \times 10^9/L$  and haemoglobin of 100g/L which fell to 66g/L within a few hours.

A CT abdomen and pelvis showed a large multiloculated collection surrounding the spleen consistent with a subcapsular haematoma, with fluid throughout the peritoneal cavity, and a recurrence of the left TOA. Following the scan, the patient quickly became haemodynamically unstable and was taken to theatre for an emergency laparotomy, where she was found to have a 4 litre haemoperitoneum. A laceration to the lateral aspect of the spleen was visualised with active bleeding, and an emergency splenectomy was performed.



Initial CT abdomen/pelvis demonstrating large bilateral TOAs



CT abdomen/pelvis on re-presentation showing a near-global multiloculated subcapsular splenic haematoma with hilum intact (ie grade 3 splenic laceration)

Post-operatively the patient recovered well, and the left TOA was drained by interventional radiology 2 days after the splenectomy. She recovered well and was discharged home 14 days following the laparotomy.

## Discussion

Splenic injury is most commonly secondary to trauma (including iatrogenic) and is a recognised but rare complication of intraabdominal procedures. Delayed splenic rupture (i.e. occurring over 48 hours from initial injury) is uncommon, and is associated with much higher morbidity and mortality.

In this case, though the spleen was not visualised at the initial operation, iatrogenic injury remains the most likely cause of this delayed splenic rupture. The multiloculated subcapsular haematoma seen on CT is suggestive of a prolonged period of bleeding. This is in keeping with the expected course of such a complication, with an initial asymptomatic period until the haematoma reaches critical size. Fortunately, the initial diagnostic confusion did not lead to any significant delays. However, this serves as a reminder that splenic injury should be considered in patients with abdominal pain following laparoscopy.