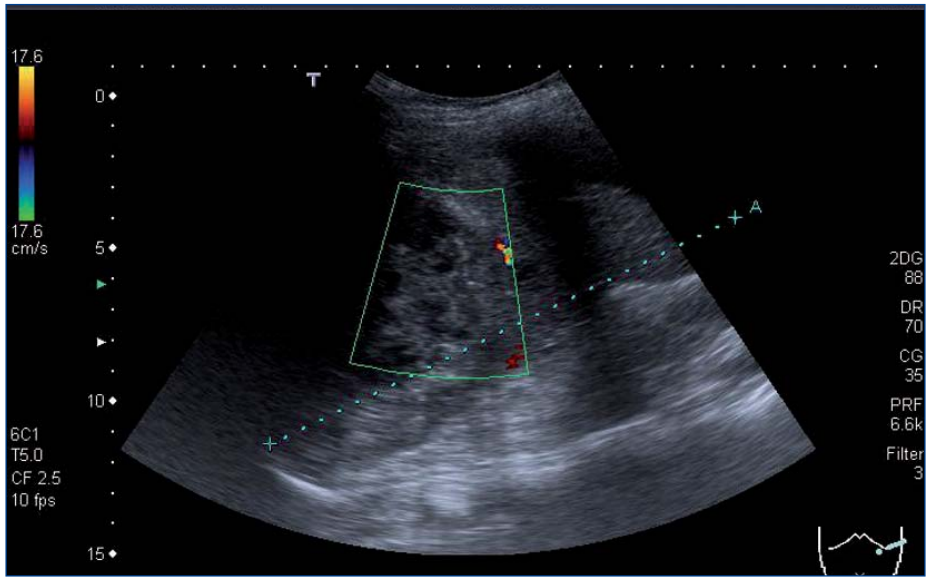
# Spontaneous splenic rupture in the postpartum period

## Introduction

The spleen is the most common intra-abdominal organ to rupture because of its soft consistency, mobility and the tendency to enlarge (Orloff and Peskin, 1958). Immediate splenic rupture is usually associated with abdominal trauma (Orloff and Peskin, 1958) and 25–30% of intra-abdominal injuries are the result of splenic rupture (Doody et al, 2005). Spontaneous splenic rupture is rare and commonly occurs in a spleen with an underlying pathology. This article reports the first case of a spontaneous rupture of a splenic epidermoid cyst in the postpartum period.

***Figure 1. Ultrasound scan showing complex focal lesion in the spleen.***




## Case Report

A 24-year-old woman, who was 8 weeks postpartum, presented to the surgical emergency unit with sudden onset of severe generalized abdominal pain. Apart from a previous ovarian cyst, there were no other significant past medical problems. She denied any recent abdominal trauma or strain.

On examination, the patient had a very tender upper abdomen. Ultrasound scan demonstrated free fluid in both the abdomen and the pelvis. It also showed a large complex focal lesion in the spleen, close to the hilum, measuring 80x76 mm (*Figure 1*). Conservative management was planned initially, but surgery was performed as the patient developed signs of generalized peritonitis along with severe pain in both shoulders. A diagnostic laparoscopy revealed massive haemoperitoneum and bleeding from the upper pole of the spleen (grade II splenic rupture). Haemostasis could not be achieved, and hence a splenectomy was performed via an upper midline laparotomy. The patient made an uneventful recovery. Appropriate vaccinations were given post splenectomy (*Haemophilus influenzae*, *Neisseria meningitides* and pneumococcus).

On macroscopic examination, the spleen measured 160x120x75 mm and weighed 342 g (*Figure 2*). Transverse section revealed a unilocular cyst of 85–90 mm in diameter containing haemorrhagic material. Histological examination revealed that the cyst was an epidermoid cyst and showed the presence of both old and new clots. Further additional history from the patient after splenectomy disclosed an admission to the medical ward 4 weeks after her delivery with left shoulder pain, left-sided chest pain and left-sided neck pain that was worse on movement and with cough. There was no history of trauma or fall. She was stable haemodynamically and all her haematological investigations were normal. She was treated as having musculoskeletal pain, given analgesics and was discharged home on the day of presentation. She had two further episodes of left shoulder pain that were treated similarly at a different hospital.

## Diagnosis

From the history and the histological findings, it can be assumed that the first event of spontaneous rupture of the epidermoid cyst might have occurred 4 weeks after delivery. It could have been a minor event resulting in a contained haematoma. A subsequent event after a further 4 weeks could have led to the complete rupture of the cyst, causing massive haemorrhage and leading to this patient's presentation with an acute abdomen.

## Discussion

To the best of the authors' knowledge, this is the first case of spontaneous rupture of splenic epidermoid cyst in the postpartum period to be reported. Cysts of the spleen are classified as pseudocysts

***Figure 2. Spleen at laparotomy.***

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or true cysts. True cysts comprise parasitic and non-parasitic cysts (Morgenstern, 2002). About 10% of non-parasitic cysts of the spleen are epidermoid cysts (Senocak et al, 1989). They are uncommon and are congenital in origin (Morgenstern, 2002). They commonly present with left upper quadrant pain, but may also present with peritonitis following rupture, either traumatic or spontaneous (Morgenstern, 2002).

Ultrasound and computed tomography are commonly used for diagnosis. Cysts <5 cm in size can be treated conservatively, however, large cysts are treated surgically (Morgenstern, 2002). Partial or total splenectomy is the preferred treatment, and in this era of laparoscopic surgery, laparoscopic splenectomy is also being performed in both elective and emergency situations.

Spontaneous rupture of the spleen is rare in pregnancy and even rarer in the postpartum period. In a review by Denehy et al (1988) of all splenic ruptures in pregnancy and puerperium, only 2.75% were spontaneous ruptures in the puerperium. However, to date there are no reports of spontaneous rupture of a splenic epidermoid cyst in the postpartum period. This patient presented initially 4 weeks after delivery and twice subsequently with left shoulder pain. In a review of non-parasitic splenic cysts over a period of 28 years, only one patient presented with left shoulder pain (Morgenstern, 2002). This shows that left shoulder pain is an extremely rare presentation of splenic cysts. This patient had associated pain in the left side of the neck, which was misleading; thus the initial diagnosis of musculoskeletal pain can be justified.

The histology, apart from showing an epidermoid cyst, also showed the presence of old and new clots within the spleen. This supports the hypothesis that the first episode of left shoulder pain could have been caused either by haemorrhage into the splenic cyst or by contained minor splenic rupture.

## Conclusions

This case report highlights the fact that, although rare, splenic pathology should be considered in patients presenting with recurrent left shoulder pain. Similarly, spontaneous splenic rupture should be considered in the differential diagnosis of peritonitis in the postpartum period. BJHM

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Denehy T, McGrath EW, Breen JL (1988) Splenic torsion and rupture in pregnancy. *Obstet Gynecol Surv* **43**(3): 123–31

Doody O, Lyburn D, Geoghegan T, Govender P, Monk PM, Torreggiani WC (2005) Blunt trauma to the spleen: ultrasonographic findings. *Clin Radiol* **60**(9): 968–76

Morgenstern L (2002) Nonparasitic splenic cysts: pathogenesis, classification, and treatment. *J Am Coll Surg* **194**(3): 306–14

Orloff MJ, Peskin GW (1958) Spontaneous rupture of the normal spleen; a surgical enigma. *Surg Gynecol Obstet* **106**(1): 1–11

Senocak ME, Kale G, Hicsonmez A, Buyukpamukcu N (1989) Epidermoid cyst of the spleen. *Turk J Pediatr* **31**(3): 233–7



# An unusual cause of nausea and altered bowel habit

A 64-year-old man with a history of bipolar disorder presented with a 2-month history of nausea and mild diffuse abdominal discomfort. He reported alternating episodes of constipation and diarrhoea. He also had mild anorexia and had lost a little weight. He was taking a combination of lithium and antidepressants. Physical examination was normal. Gastroscopy was normal and flexible sigmoidoscopy revealed severe sigmoid diverticular disease.

## Discussion

The barium enema revealed a fistula from the tip of the appendix to the sigmoid colon (*Figure 1*).

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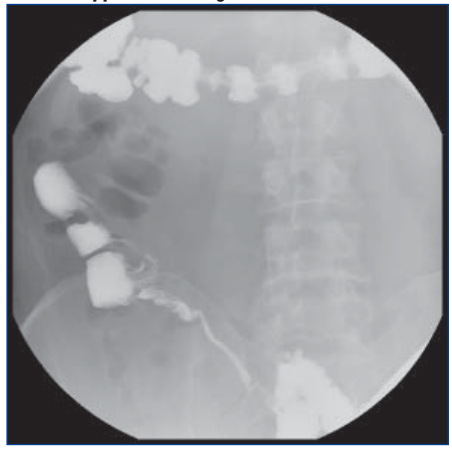
Acute appendicitis is not uncommonly complicated by the formation of fistulae with adjacent organs, including bowel and bladder. Appendico-cutaneous fistulae are also well-described and gastrointestinal bleeding as a result of fistulation through to the aorta or its branches has been reported.

***Figure 1. Barium enema demonstrating fistula between appendix and sigmoid colon.***



Most cases of sigmoido-appendiceal fistulae occur secondary to appendicitis, but rarely this may be caused by diverticulitis (Libson et al, 1984; Yiangou and Holme, 1998). In the latter, patients tend to be older and often have a long history of symptoms and signs of diverticular disease. The opening of the fistula in the sigmoid colon may be identified on colonoscopy, although this may be difficult to distinguish from a diverticular orifice and may be situated in the base of a diverticulum. In patients with evidence of sepsis or severe symptoms, surgical resection of the appendix and diseased sigmoid colon is usually required, but individuals with mild symptoms may be managed conservatively (Yiangou and Holme, 1998). In this case, the patient's symptoms were mild and he declined surgery. BJHM

Libson E, Bloom RA, Verstandig A et al (1984) Sigmoid-appendiceal fistula in diverticular disease. *Diagn Imaging Clin Med* **53:** 262–4

Yiangou C, Holme TC (1998) Sigmoido-appendiceal fistula due to diverticulitis. *J R Soc Med* **91:** 544–6