

are not visible on standard radiographs but are clearly shown on CT scan include faintly calcified ureteric calculi and low-density foreign bodies such as certain types of glass<sup>4</sup> and also fish bones.<sup>4</sup>

The two cases described clearly show that CT scanning is the modality of choice for demonstrating Teflon felt when this has been used as an implant. Following these incidents, a case can be made to lobby the manufacturers of Teflon felt to investigate colouring the felt in

such a way that it is readily macroscopically distinguishable from other implantable materials.

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3. de la Fuente A, Augudo O, Sanchez R, Fernandez JL, Moriones I. Repair of left ventricular rupture after mitral valve replacement: use of Teflon patch and glue. *Ann Thorac Surg* 1999;67:1082-1083.
4. Emby DJ. Retained glass fragments in body tissues. *S Afr Med J* 2009;99(12):858-859.

## Rupture of an ovarian artery aneurysm following normal vaginal delivery

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### Introduction

Ruptured ovarian artery aneurysms are extremely rare, occurring during the peripartum or early postpartum periods. Only 11 cases have been reported in the English literature; the following represents the 12th.

### Case report

A 30-year-old woman presented at the casualty department 12 days after having given birth to a healthy baby via normal vaginal delivery. She complained of increasing pain and a mass in her right flank. There were no complaints of nausea, vomiting, dysuria or abnormal bowel habits. On examination, the patient was acutely distressed, in severe pain and

anaemic with an Hb of 5 g/dl. Her blood pressure was 151/71 mmHg and her pulse 125/minute. Physical examination revealed a severely distended abdomen with features of peritonitis.

Abdominal ultrasound revealed a large abdominal fluid collection; a CT scan was therefore requested. A contrast-enhanced CT scan demonstrated a large homogenous retroperitoneal fluid collection in the right flank, with a 25mm rounded, intensely enhancing focus located close to the inferior border of the collection (Fig. 1). The collection displaced the bowel to the left and inferiorly, and the liver superiorly.

The differential diagnosis included a ruptured ovarian artery aneurysm. As soon as the patient was stable, she was taken for ovarian



*Figs 1a and b. Axial and coronal contrast-enhanced CT image of the abdomen demonstrating large right retroperitoneal abdominal and pelvic haematoma (stars) with right-sided focal area of contrast extravasation at the expected location of the right ovarian artery (arrow). Ascites also present.*

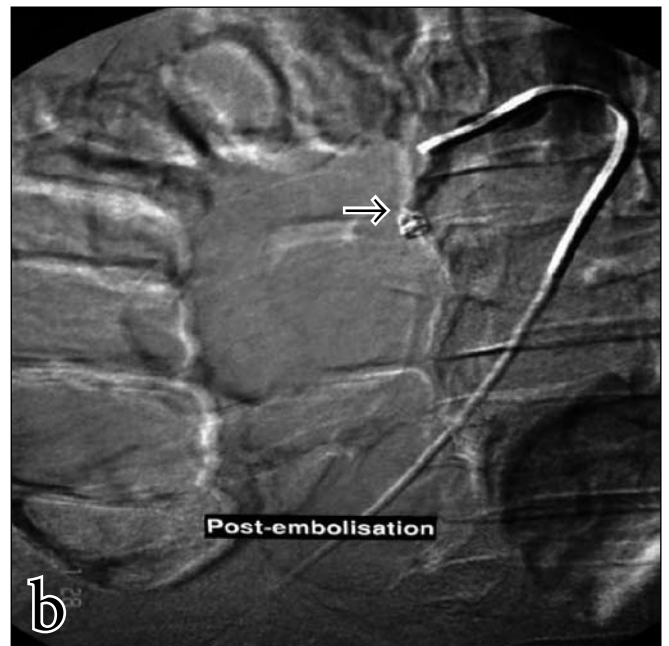
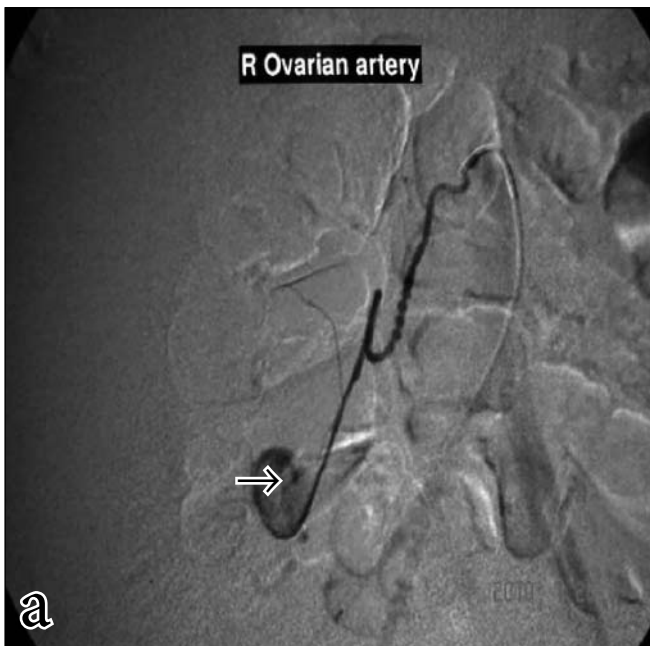


Fig. 2a. Angiogram demonstrating ovarian artery aneurysm/contrast extravasation (arrow). Fig. 2b. Following successful coil embolisation of the right ovarian artery (arrow).

artery embolisation, which was successfully accomplished (Fig. 2). She recovered well in the ward.

### Discussion

In their review of pregnancy-related ruptured arterial aneurysms, Barret *et al.* list in decreasing order of frequency those of intracranial, aortic, splenic, renal and ovarian artery origin. Of these, the ovarian artery location is by far the least frequent, with only 11 cases recorded in the English-language literature.<sup>1</sup>

The pathogenesis of these lesions is poorly understood, with hemodynamic and hormonal factors suggested.<sup>2-4</sup> Systemic haemodynamic changes that occur in pregnancy include increased cardiac output and blood volume. Systemic hypertension is common, and significant swings in blood pressure are thought to result from compression of the abdominal aorta by the gravid uterus in the supine position. Also, enlargement of the uterus with dilatation of the pelvic arteries cause increased uterine blood flow. Burnett and Carfrae<sup>2</sup> have postulated that during the normal process of involution that occurs during the postpartum period, a segment or segments of the ovarian circulation may fail to involute, predisposing to aneurysm formation in subsequent pregnancy.

Concerning hormonal factors, Barret *et al.*<sup>1</sup> noted the results of both animal and human studies suggesting that the pregnancy-related alterations in steroid hormones may cause a variety of arterial changes, including intimal hyperplasia, thickening of the media associated with

smooth muscle hyperplasia, fragmentation of reticular fibres and loss of normal corrugation of elastic fibres.

The most common symptom of rupture of ovarian artery aneurysm is acute flank pain or abdominal pain.<sup>3,4</sup> A ruptured ovarian artery aneurysm may be surgically treated by adnexectomy or ligation proximal and distal to the point of rupture.<sup>1,3</sup> Arterial embolisation is now developing as an alternative therapy.<sup>5</sup>

### Conclusion

Although rupture of an ovarian artery aneurysm is an extremely rare event, it is life-threatening and is often associated with a non-specific clinical picture. Awareness of this entity and a high index of suspicion may lead to early diagnosis and treatment. Intravenous contrast-enhanced multidetector CT with two-dimensional reconstructions is an excellent imaging technique for rapid and safe evaluation, and may be the examination of choice for such patients.

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