

# Postsurgical peritoneal inclusion cyst masquerading as a large pelvic mass

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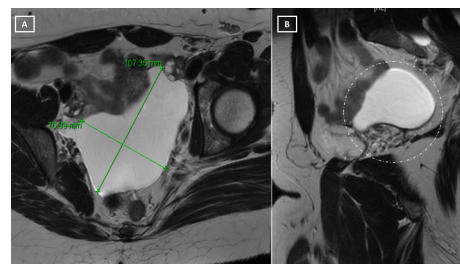
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## DESCRIPTION

A 34-year-old gravida 0 woman presented to the office for an infertility consultation. Her gynaecological history was significant for endometriosis and pelvic pain, for which she had undergone robot-assisted laparoscopic endometriosis resection, presacral neurectomy, lysis of adhesions and an appendectomy approximately 6 years ago. Her hysterosalpingogram and ovarian reserve testing 5 months prior was normal. Transvaginal ultrasonography in the office revealed a clear, fluid-filled mass in the posterior cul-de-sac (figure 1A). The mass appeared distinct from both ovaries (figure 1B,C).

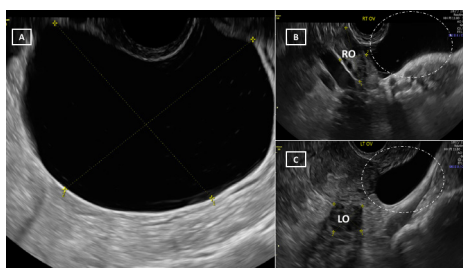
MRI of the pelvis was performed, which showed a large loculated mass measuring 107.4×76.9 mm in the posterior cul-de-sac (figure 2A,B). The mass contained thin septations. No enhancing peritoneal nodules were noted. Her tumour markers were negative. A large peritoneal inclusion cyst was suspected at the site of the prior surgery and the patient was scheduled for laparoscopic drainage and excision of the cyst at an outside institution. However, spontaneous rupture of the cyst occurred prior to laparoscopy. The peritoneal inclusion cyst did not recur over a 4-month observation period.

Peritoneal inclusion cysts are one of the most commonly diagnosed non-ovarian cystic pelvic lesions.<sup>1 2</sup> Often seen in women of reproductive age, peritoneal inclusion cysts can be unilocular or septated, have minimally enhancing walls and may abut or surround one or both ovaries, which generally appear normal.<sup>1 2</sup> Risk factors for these inclusion cysts, as exemplified in this case, include prior abdominal or pelvic surgery, trauma, pelvic inflammatory disease or endometriosis.<sup>1 2</sup> Peritoneal inclusion cysts are typically lined by a single layer of flat to cuboidal mesothelial cells, which have bland nuclear



**Figure 2** (A) T2-weighted MRI, axial section. The fluid-filled peritoneal inclusion cyst is marked with green callipers. (B) T2-weighted MRI, sagittal section. The fluid-filled peritoneal inclusion cyst is shown (dotted white circle).

features.<sup>3 4</sup> The septa may consist of loose fibrovascular connective tissue and sparse inflammatory infiltrate.<sup>3</sup> At times, unusual morphological features may raise suspicion for malignancy, though they are largely benign.<sup>3 4</sup> It is thought that peritoneal tissue may generate proliferative reactions secondary to intra-abdominal inflammation or injury, resulting in cyst formation.<sup>3</sup> While the normal peritoneum can easily absorb physiological peritoneal or pelvic fluid, injury to the peritoneal tissue can impair its ability to absorb any fluid produced physiologically in the pelvic cavity.<sup>3</sup> Differential diagnoses for peritoneal inclusion cysts include other tumour-like lesions of the peritoneum such as mesothelial hyperplasia, non-granulomatous histiocytic lesions, granulomatous lesions and Müllerian lesions.<sup>4</sup> Treatment options for peritoneal inclusion cysts depend on clinical symptoms. Ultrasonographic observation is preferred in asymptomatic



**Figure 1** Transvaginal ultrasonography, sagittal section. (A) A large, fluid-filled pelvic mass measuring 61.6×64.6 mm is noted in the posterior cul-de-sac. (B) The right ovary (RO) is noted to be distinct from the mass (dotted white circle). (C) The left ovary (LO) is noted to be distinct from the mass (dotted white circle).

## Patient's perspective

My case and clinical history can highlight how MRI can be used to diagnose an inclusion cyst in the pelvis.

## Learning points

- ▶ Peritoneal inclusion cysts are one of the most commonly diagnosed pelvic lesions not emanating from the ovary.
- ▶ Peritoneal inclusion cysts may often grow very large, necessitating radiological or laparoscopic evaluation.
- ▶ Risk factors for these cysts include prior pelvic surgery, endometriosis or pelvic inflammatory disease.



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patients.<sup>3</sup> Drainage or aspiration of cysts is a safe and minimally invasive option for persistent cysts. Surgical management in the form of laparoscopy or laparotomy with complete removal of the cyst is generally indicated whenever there is any suspicion of malignancy.<sup>3,4</sup>

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