

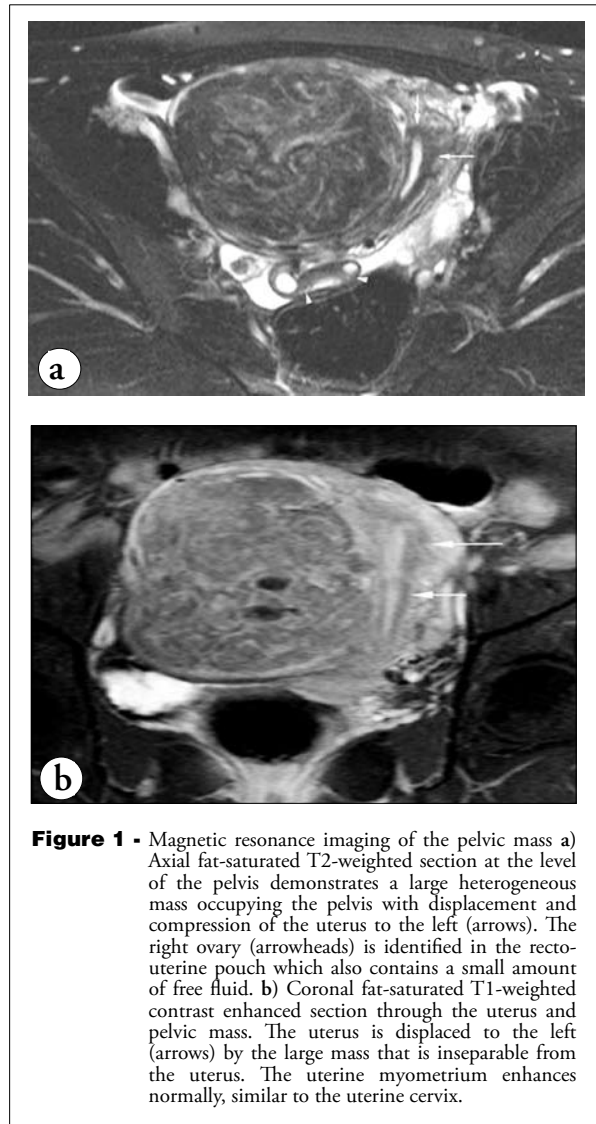
## Torsion of a non-gravid uterus with leiomyoma mimicking broad ligament leiomyoma

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Torsion of a gravid uterus is rare, but torsion of a non-gravid uterus is rarer.<sup>1</sup> The leading cause of torsion of a non-gravid uterus is leiomyoma. Magnetic resonance imaging (MRI) could be helpful in the diagnosis of torsion in some cases.<sup>2</sup> We report a case of uterine torsion in which an anterior leiomyoma mimicked a broad ligament leiomyoma on imaging studies.

A 36-year-old woman was referred to our institution with a history of abdominal mass and menorrhagia for 2 years. She had frequency of micturition and intermittent lower abdominal pain for 2 months, which was relieved by analgesics. There was no other significant medical or surgical history. On abdominal examination, a mobile, firm mass corresponding to 20 weeks gravid uterus was palpated, arising from the pelvis and extending towards the right side. The MRI of the pelvis reported 13x9x8 cm heterogenous pelvic mass, with internal areas of necrosis and vascularized septae, with feeding vessels originating from the uterine vessels. The mass was displacing and compressing the uterus to the left side. The radiological diagnosis was a broad ligament leiomyoma (Figure 1). A myomectomy was planned. At laparotomy, the uterus was 20 weeks gestational size, with a large leiomyoma occupying the right iliac fossa. The left round ligament and fallopian tube were seen anteriorly. The right round ligament, fallopian tube and infundibulo-pelvic ligament were deviated posteriorly, with rotation of the whole uterus in a clockwise direction by 90°. After detorsion of the uterus, it was revealed that the huge anterior-fundal leiomyoma had caused uterine torsion and was mimicking a broad ligament leiomyoma on imaging studies. Myomectomy was performed and round ligament plication was carried out to prevent re-torsion as the right round ligament was over-stretched.

Uterine torsions are usually a surprising finding during laparotomy, and are rarely diagnosed pre-operatively.<sup>1</sup> The broad, round, and uterosacral ligaments hold the uterus in its position firmly. Uterine torsion is defined as a rotation of uterus along the long axis by more than 45°. Torsion usually occurs along the transition between the body of uterus and cervix. In more than 60% of cases, the rotation is clockwise.<sup>4</sup> Most cases of torsion are associated with leiomyomas, though there are few reported cases of uterine torsion due to huge ovarian cysts.<sup>1,3</sup> There are no specific symptoms, or signs that may lead to the diagnosis of



**Figure 1** - Magnetic resonance imaging of the pelvic mass a) Axial fat-saturated T2-weighted section at the level of the pelvis demonstrates a large heterogeneous mass occupying the pelvis with displacement and compression of the uterus to the left (arrows). The right ovary (arrowheads) is identified in the recto-uterine pouch which also contains a small amount of free fluid. b) Coronal fat-saturated T1-weighted contrast enhanced section through the uterus and pelvic mass. The uterus is displaced to the left (arrows) by the large mass that is inseparable from the uterus. The uterine myometrium enhances normally, similar to the uterine cervix.

uterine torsion.<sup>5</sup> Abdominal pain is the usual symptom. It may vary from mild to severe or acute pain with shock, depending on the degree of the rotation and the speed at which the torsion develops. Other presentations could be vaginal bleeding, urinary tract and gastrointestinal symptoms. Our patient had urinary tract symptoms and mild abdominal pain of 2 months duration.

A recent report by Matsumoto et al<sup>2</sup> showed that in cases of uterine torsion, MRI with delayed or venous phase contrast-enhanced images may demonstrate an intensely enhancing uterine cervix, in the absence of enhancement of the uterine corpus. The absence of enhancement is due to impaired blood supply to the uterine corpus, and is likely to be present only in cases of complete torsion with uterine infarction. This finding is not easily detected by ultrasonography or computed tomography, but is best diagnosed by MRI. In our

case, MRI did not show this finding as the torsion was only 90° and had not completely impaired the uterine circulation.

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