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Case Report

Isolated fallopian tube torsion: two case reports of a rare entity

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ABSTRACT

Isolated fallopian tube torsion is a rare entity that is difficult to diagnose, as its clinical presentation is often highly nonspecific. Early diagnosis is important to avoid damage or loss of the fallopian tube or even the ovary, as this diagnosis occurs predominantly in women of child-bearing age. Imaging may be helpful in suggesting this difficult diagnosis, with confirmation of this entity made in the operating room. Treatment can range from detorsing the tube to salpingectomy or even salpingo-oopherectomy. Here, we present two cases of isolated fallopian tube torsion, followed by a discussion of its imaging findings.

1. Introduction

Isolated fallopian tube torsion is a rare and difficult diagnosis, as the clinical presentation can be highly nonspecific, often leading to a delay in diagnosis. Imaging can be helpful in suggesting this diagnosis, thus possibly preventing tubal, or even ovarian, damage or loss, in patients, the majority of whom are of child-bearing age. Here, we present two cases of isolated fallopian tube torsion.

2. Case report 1

A 21-year-old G0P0 female, with no significant past medical history, first presented to an outside hospital emergency department after experiencing sharp, nonradiating left pelvic pain for a few days, accompanied by nonbilious, nonbloody vomiting. She denied any fever, change in appetite, diarrhea, changes in quantity or quality of vaginal discharge, or vaginal bleeding since her last menstrual period, which was 2 weeks prior to presentation. Her last sexual encounter was weeks ago, and she reported having had one lifetime sexual partner and occasional condom use. She had no history of sexually transmitted illnesses.

At her first hospital encounter, she was evaluated by gynecology and underwent an ultrasound that demonstrated a left pelvic "cyst", thought to be a physiologic part of her menstrual cycle, and was discharged home. Still with significant pain, the patient presented days later to her regular gynecologist, who performed an ultrasound and sent her to our emergency department for further evaluation.

In the emergency department, the patient was afebrile with normal vital signs. The physical examination was notable for a soft abdomen without rebound or guarding. The pelvic examination performed by the gynecology resident demonstrated white discharge, minimal cervical motion tenderness, and leftward deviation of the cervix, with tenderness to the abdomen with deep palpation. With regard to laboratory values, she had no leukocytosis. Her urine pregnancy test was negative, and the urinalysis was unremarkable. A CA-125 level was mildly elevated at 65 (normal range 0–35).

A transabdominal and transvaginal ultrasound was performed for evaluation of the patient's pelvic pain. Ultrasound of the pelvis demonstrated a unremarkable uterus and right ovary, with normal color Doppler flow and waveforms demonstrated within the right ovary. The left ovary demonstrated normal morphology and color flow with normal arterial and venous waveforms on color Doppler and spectral Doppler imaging (see Fig. 1). In the left adnexa, separate from the left ovary and superior to the urinary bladder, there was a large round anechoic structure with avascular internal septations and faint internal echoes (see Fig. 2). The walls of this structure did not demonstrate increased vascular flow. There was a small amount of simple pelvic fluid.

A contrast-enhanced MRI was then performed for further evaluation. The contrast-enhanced MRI of the pelvis demonstrated the ovaries to be normal in appearance and grossly symmetric in size bilaterally (see Fig. 3b). In the left adnexa, there was a large round T2-hyperintense structure abutting a second, smaller T2-hyperintense structure within the left pelvis that appeared to be attached to, though separate from, the left ovary, suggesting a tubular etiology rather than a single purely cystic

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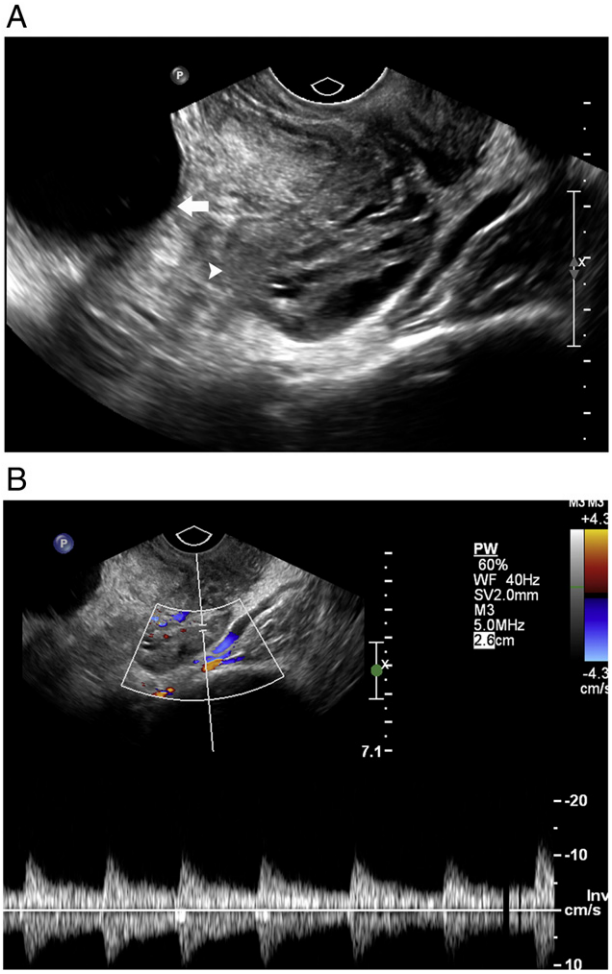

Fig. 1. (A) Transvaginal grayscale imaging of the left ovary demonstrates normal morphology of the left ovary (arrowhead). Superior and completely separate from the left ovary is a cystic mass, partially included on this image (arrow). (B) Transvaginal imaging of the left ovary with color Doppler and spectral Doppler flow demonstrates normal arterial waveform within the left ovary.

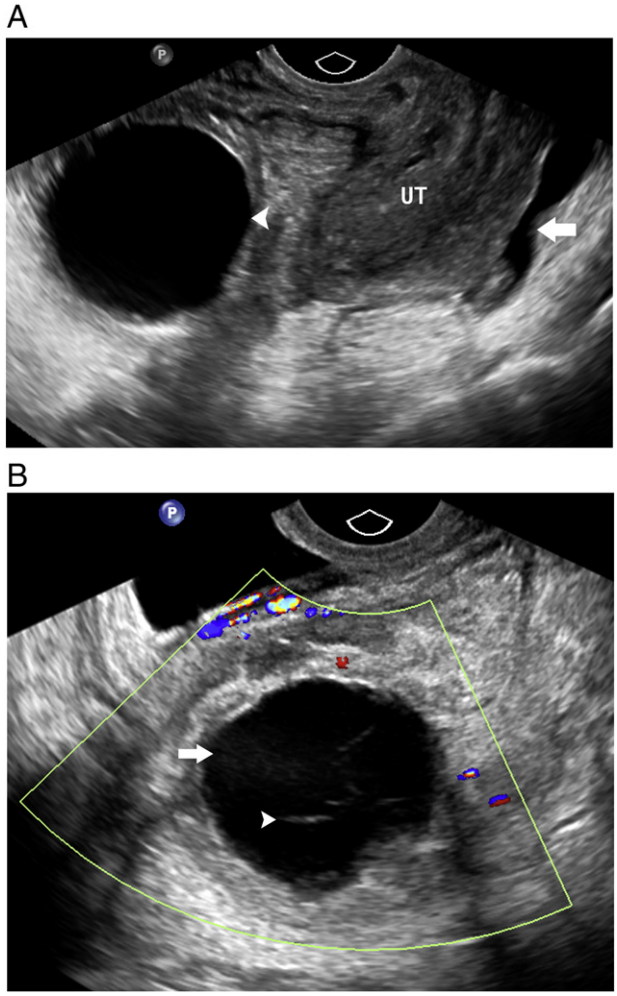

Fig. 2. (A) Transvaginal grayscale imaging in the left adnexa demonstrates a large, round anechoic structure (arrowhead) superior to the uterus (labeled UT). There is a small amount of free pelvic fluid (arrow). (B) Transvaginal imaging of the left adnexa with color Doppler flow demonstrates a cystic mass containing thin internal septations (arrowhead) and faint internal echoes (arrow). There is no increased vascular flow associated with this mass.

structure (see Fig. 3a). On postcontrast imaging, the adnexal lesion demonstrated enhancement of the walls of the lesion without evidence of papillary projections or large soft tissue components (see Fig. 4b). No pelvic or inguinal lymphadenopathy was identified.

The patient was evaluated by gynecology and hematology/oncology for this pelvic mass, and the decision was to send her to the operating room as there was concern for cystic ovarian neoplasm extending exophytically off the left ovary with complex internal enhancement. The preoperative diagnosis was pelvic pain with pelvic mass. In the operating room, there was no evidence of ovarian neoplasm. The left fallopian tube was noted to be torsed about itself and around the left ovary, with multiple adhesions identified, including the omentum adherent to the left pelvic sidewall. The left fallopian tube was noted to be extremely dilated and necrotic. The left ovary and remainder of the gynecologic organs were normal in appearance. The decision was made to undergo a left salpingectomy and lysis of adhesions, with a postoperative diagnosis of isolated left fallopian tube torsion with necrotic tissue. The patient tolerated the remainder of the procedure well and was discharged home in stable condition the following day.

Pathology demonstrated hemorrhagic fallopian tube walls and fimbriae with engorged vessels (see Fig. 5). The low signal seen within the wall of the fallopian tube on the T2-weighted precontrast MRI images (see Fig. 3a) likely represents intramural hemorrhage, which was confirmed on pathology. The engorged vessels are believed to account for the significant internal enhancement seen on MRI. Interestingly, there had not been significant internal flow within the fallopian tube walls on ultrasound, which may be secondary to intermittent torsing and detorsing of the tube versus operator-dependent selective sampling of the fallopian tube on ultrasound.

3. Case report 2

A 28-year-old G2P0 female, presented to our emergency department with left-sided abdominal and flank pain that began that day while at work and had progressively worsened over time. She described the pain as sharp and cramping that was 10 out of 10 in severity, worsened when standing up or walking. Her pain was associated with dysuria, chills, and dizziness. She denied any fever, vomiting, hematuria, change in appetite, diarrhea, changes in quantity or quality of vaginal discharge, or vaginal bleeding. She had no history of sexually transmitted illnesses.

In the emergency department, the patient was afebrile with normal vital signs. The physical examination was notable for tenderness at the left flank, though she had no costovertebral angle tenderness. With regard to laboratory values, she had no leukocytosis. Her urine pregnancy test was negative. The urinalysis demonstrated large blood.

Given her clinical presentation and presence of blood on the urinalysis, the decision was made to proceed with a noncontrast CT of the abdomen and pelvis, with high suspicion for renal stones. A renal stone