Isolated Fallopian Tube Torsion (IFTT): Differentiation Between a Common Versus a Rare Pelvic Pathology

Abstract
Isolated fallopian tube torsion (IFTT) is a rare cause of pelvic pain that occurs when the fallopian tube rotates around itself, without ovarian torsion. IFTT is typically diagnosed during laparoscopic evaluation of the pelvis, where salpingectomy or de-torsing of the fallopian tube may occur. In this study, the authors report the imaging findings of IFTT in the setting that a ruptured appendix was initially presumed.

Isolated Fallopian Tube Torsion (IFTT)
IFTT is a rare cause of pelvic pain in women during their reproductive years and in young adolescent females. It has a reported incidence of 1.1:5 million and was first described by Bland-Buckland in 1830. This condition is so rare, that there are only approximately 35 cases described in the literature involving pediatric and adolescent females.

Case Report
A 9-year-old female was seen at a local hospital for pelvic pain and vomiting. After being evaluated, the patient was discharged from that facility. The next day, the patient’s mother brought her daughter back to the same facility, as the patient’s symptoms were not improving. At that time, the patient had a non-radiating, non-projecting palpable mass in the right lower quadrant (RLQ) and the patient had a ruptured appendix. The appendix was diagnosed with MDCT, and the patient was subsequently taken to the operating room for laparoscopic appendectomy.

Case Report (cont’d.)
After reviewing all the images, the radiologist recommended a pelvic magnetic resonance imaging (MRI) examination be performed to help further characterize the fluid collection in the pelvis. The MRI was performed and revealed a right-sided hematocele, enlarged right ovary, and diffuse inflammation of the tissues in the pelvis (Figure 7), concerning for a right tube-ovarian torsion. The appendix appeared enlarged, but not inflamed and the left adrenal structures appeared normal.

Fig. 7  Ultrasound imaging of the right lower quadrant demonstrating an enlarged appendix, peri-appendiceal fluid, and surrounding fat (presumably an abscess) was seen in what appeared to be the posterior cul-de-sac measuring 7.4 x 4.7 x 3.4 cm (Figures 4, 5, & 6).

Discussion
IFTT is a difficult pathology to distinguish, as the symptoms mimic other pathologies, to include appendicitis, hemorrhagic ovarian cyst, pelvic inflammatory disease, and ovarian hyperstimulation syndrome.

Intrinsic risk factors for developing IFTT include a salpingectomy, tubo-ovarian torsion. The appendix having a spiral orientation, or due to the mesosalpinx having an abnormal length. Extrinsic masses like an ovarian or paratubal cyst can also increase the risk for developing IFTT.

The literature reports that torsion of the right fallopian tube is more commonly found compared to the left side. This may be due to the left salpinx being treated to the sigmoid colon and mesentery, or it may be due to the right lower quadrant being more commonly evaluated to rule out appendicitis.

Even though this condition is rare, it is treatable with surgical intervention, if the condition is diagnosed and treated in an efficient manner. Finding the diagnosis quickly is key to getting the patient to surgery, if necessary. Figure 11 demonstrates a decision tree that can assist clinicians in deciding when to send a patient to the operating room for laparoscopic evaluation. If it is decided to perform surgery, there are criteria based, on findings seen, as to whether a salpingectomy will be performed (Figure 12).

References