

Characteristics of Separated Oviducts Deformation on an MRI or CT Scan

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ABOUT THE STUDY

In women of reproductive age, Isolated Fallopian Tube Torsion (IFFT) is a rare cause of acute pelvic pain. Preoperative diagnosis is rarely performed, despite the fact that early surgery is required to preserve women's fertility. The goal of this study is to identify simple and reproducible imaging features for IFFT diagnosis on sectional imaging. Between January 2008 and December 2021, we conducted a retrospective, cross-sectional study on patients diagnosed with IFFT in our center. Two radiologists reviewed the CTs and MRIs of 16 patients with surgically proven IFFT retrospectively and independently to identify the relevant findings for the diagnosis. The average age of the patients was 29 years (range: 13-63 years). Only four patients (25%) received conservatory care. On CT and MRI, two IFFT patterns were discovered. The first pattern (n=6, 37%) was a U-shaped or C-shaped thin-walled hydrosalpinx with a median diameter of 3 cm. The second pattern (n=10, 63% of the time) included an extra-ovarian cyst next to a soft tissue mass containing the twisted tube and vessels. The ipsilateral ovary was normal in 15 patients (94%). Pathological reports revealed hematosalpinx in three patients with tube necrosis (19%). For all criteria, interobserver agreement was substantial or good. In an emergency setting, an association of simple and reproducible features can aid in the diagnosis of IFFT on sectional imaging: identifying these features may help to avoid a delayed surgical treatment which could jeopardise women's fertility. Isolated Fallopian Tube Torsion (IFFT) is a rare type of adnexal torsion that accounts for 9 to 19% of all adnexal torsions, depending on the series. Adnexal torsion is difficult to diagnose clinically because of its nonspecific presentation. Symptoms typically include abdominal or pelvic pain, nausea and vomiting, and, in rare cases, a mild inflammatory syndrome. However, early detection is critical to preventing irreversible damage to the tube, which could affect women's fertility.

Although Ultrasonography (US) is the first-line imaging modality used to investigate pelvic pain in women of reproductive age, Computed Tomography (CT) is frequently used in the emergency

department because torsion may overlap with other more common entities. For example, renal colic or appendicitis. Magnetic Resonance Imaging (MRI) can also provide useful guidance in cases of doubtful diagnosis and help young women avoid pelvic radiation exposure. While the presence of an ovarian mass or edoema of the ovarian parenchyma is highly suggestive of adnexal torsion in the clinical context of acute pelvic pain, these features are usually absent in IFFT, making the diagnosis difficult on imaging.

The purpose of this study was to describe the CT and MRI imaging features of IFFT and to assess interobserver agreement. The standard care provided in a single high-volume tertiary hospital was the subject of this retrospective cross-sectional study. This study was approved by the Institutional Review Board (Committee for the Protection of Persons) and the requirement to obtain written informed consent was waived. We used the adnexal torsion diagnostic code, which was obtained from radiological and/or surgical data.

We conducted a systematic computerized search of our hospital database to identify all the women who had undergone surgery for adnexal torsion during the study period; 149 patients underwent surgery for adnexal torsion. Sixteen patients (11%) were diagnosed with fallopian tube torsion intraoperatively.

Torsion of the right and left fallopian tubes was found in 10 and 6 patients, respectively. The patients' median age was 29 years (age range: 13 to 63 years). The emergency department was visited by 14 patients (93%). Isolated Fallopian tube torsion is a rare variant of adnexal torsion that does not involve the ovary, making imaging diagnosis more difficult.

The prevalence of IFFT among adnexal torsions in our cohort was 11%. We looked at the sectional imaging of 16 patients who had surgically proven IFFT. Pattern 1 was a severely dilated thin-walled tube that was displaced either anteriorly or posteriorly. IFFT is a rare condition that is likely underdiagnosed due to symptoms that are similar to those of other acute abdominal pathologies.

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