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Case Report

A rare case of right lower quadrant abdominal pain

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ABSTRACT

Isolated fallopian tube torsion without involvement of the ovary is a rare condition most frequently presenting during reproductive years. Imaging, vitals, physical exam, and laboratory findings all fail to help establish a definitive diagnosis. The majority of the diagnoses are made on the operating table. Physical exam most often reveals unilateral and localized abdominal pain, often with nausea and vomiting, but few other reliably common findings. Diagnosis becomes even more challenging due to the fact that isolated tubal torsion occurs often in pregnancy and preferentially on the right, further complicating the clinical picture.

We describe a case of isolated tubal torsion, unique in that localized necrosis and inflammation from the torsion triggered a secondary appendicitis. The patient required surgical intervention, and an appendectomy and salpingectomy emergently. Given its elusive and rare nature, awareness and early intervention is required by the emergency physician to recognize tubal torsion, as operative intervention is crucial, and can lead to preservation of fertility and improved fetal survival.

1. Case report

18-year-old G1 P0 healthy female at 33 weeks' gestation presented to the emergency department with generalized abdominal pain. She reported a 1-day history of generalized abdominal pain, nausea, and vomiting, which on presentation to the ED had localized to her right lower quadrant.

Vitals on arrival were unremarkable, and she was afebrile. Physical examination revealed a gravid uterus with right lower quadrant abdominal pain and rebound tenderness. Due to pain, pelvic exam could not be performed. Laboratory tests showed a white blood cell count of 11 100/mm, and hemoglobin of 10.4 g/dL. The Alvarado score was 7 out of 10. Initial ultrasound of the abdomen could not visualize the appendix and confirmed a fetus of an estimated 33 weeks' gestation.

The fetus was cleared by the OB service, but patient's pain continued to worsen, and an emergent MRI was obtained. MRI results were inconclusive, revealing a fluid collection in the right lower quadrant, but without definitive appendicitis. The radiologist hypothesized ruptured appendix, ruptured ovarian cyst, or peritoneal inclusion cyst as possible sources of the fluid. Given the persistent nature of the pain and physical exam findings, general surgery agreed to a diagnostic laparoscopy.

In surgery a necrotic fluid filled mass was noted in the right lower quadrant. The structure was revealed to be a torsed fallopian tube without ovarian involvement. Inspection of the appendix revealed a sclerotic distal third appendix. A right salpingectomy and appendectomy was performed. Pathology of the resected fallopian tube revealed transmural congestion and edema consistent with torsion of the fallopian tube without involvement of the ovary. Pathology of the appendix tissue revealed localized inflammation suggested an early developing appendicitis.

2. Discussion

Isolated torsion of the fallopian tube during pregnancy is an extremely rare occurrence. Isolated tubal torsion has an incidence of 1/1 500 000 [1] and is rarely reported in emergency medicine journals [2]. Clinically, the most prevalent symptom found in case reports is localized acute abdominal pain, at times radiating to the groin [1], and often accompanied by nausea and vomiting [3]. Most patients presenting with isolated torsion have unremarkable vitals and labs [1,4,5]. There does seem to be a higher risk in pregnancy [1], and women with previous structural tubal abnormality, such as previously diagnosed cysts or prior hydrosalpinx seem to be at higher risk [4], though cases occur in healthy tubes, as seen in the case described [2,5]. Within the limited literature, the right side appears to be affected more [1,4,6], though left sided torsion has been described as well [3,7]. Most often

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seen in those of reproductive age [2], premenarchal girls [6] and postmenopausal women [8,9] can also be affected.

Unlike the more common ovarian torsion, imaging has proven to have little to no use in the ultimate diagnosis of isolated tubal torsion [5,9]. Rarely does ultrasound, CT, or MRI provide a workable diagnosis or guidance for further management [8,9]. Common non-specific imaging findings include findings of hydrosalpinx, one or multiple cysts, or free fluid with an otherwise normal appearing ovary [1,3,6,7]. In virtually every case, definitive diagnosis and treatment was obtained surgically [1,7]. Frequently, by the time of diagnosis, the fallopian tube is necrotic, and salpingectomy is required, usually with preservation of the ovary [1, 3,4]. Rarely, tubal torsion has been diagnosed and de-torsed in time to preserve viability of the tube [6], though this is uncommon [3,4,8]. Given the non-specific presentation of tubal torsion, it provides a rather difficult medico-legal challenge. Patients tend to be younger, and often require the necrotic tube to be removed [4,7]. Surgical intervention can be delayed as investigators attempt further evaluation in an attempt to find a source of pain [2,9]. Often, the loss of a fallopian tube and potential fertility is not suspected or discussed with the patient presurgically [1], and the procedure must be done without consent [3,7].

The differential diagnosis of lower abdominal pain in pregnancy include appendicitis, pelvic inflammatory disease, ectopic pregnancy, intestinal obstruction, and tubo-ovarian abscess [8,4]. In this case, the patent presented with both appendicitis and torsion of the fallopian tube, which to the best of our knowledge has never been reported. Findings during surgery and supported by pathological sections indicate that the torsion of the fallopian tube caused inflammation of the appendix and subsequent appendicitis. Given that appendicitis in pregnancy has a higher degree of associated fetal loss, this clinical entity becomes much more relevant and concerning [10]. Isolated Fallopian tube torsion is an uncommon cause of acute lower abdominal pain in pregnancy. A high level of suspicion is necessary to make an early diagnosis, as missing this elusive diagnosis can have severe consequences. Early surgical intervention is crucial to prevent tubal-loss, to preserve fertility, and to maintain fetal viability.

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