SECTION EDITOR: BEVERLY P. WOOD, MD

Radiological Case of the Month

Gary Schwartz, MD

A 15-YEAR-OLD girl presented with a 2-hour history of severe abdominal pain. The pain was located in the left lower quadrant and was not initially associated with nausea and vomiting. It was neither relieved nor aggravated with movement. She reported similar pain several months earlier, with rapid spontaneous resolution. That episode was considered to be related to a renal stone, but no further testing was performed because she was symptom free at the time of the office visit. She had no history of urinary symptoms.

There was no notable medical history and her last menstrual period was 1 week prior to this presentation.

Physical examination indicated she was afebrile with normal vital signs; however, she was writhing in pain. Bowel sounds were normal and there was no rebound tenderness and no organomegaly. The rectal examination did not reveal a mass or blood.

Laboratory data included a negative pregnancy test result and normal findings from urine analysis. The white blood cell count was 8.1×10^9/L. An abdominal radiograph (**Figure 1**) and pelvic ultrasonographic scans (**Figure 2**) were obtained.

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Figure 1.

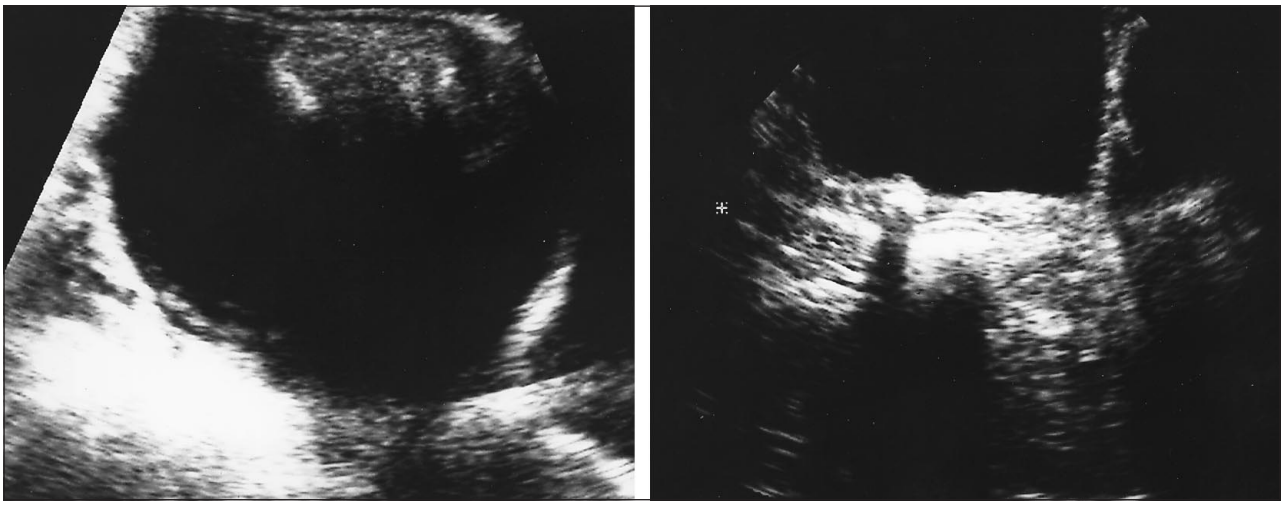

Figure 2.

Denouement and Discussion

Torsed Ovary With a Dermoid Cyst

Figure 1. *Abdominal radiograph showing a calcification in the lower quadrant that is a tooth in the dermoid cyst.*

Figure 2. *Left, Ultrasonographic scan shows an adnexal mass with cystic and solid components. Right, The same mass showing an echogenic structure with shadowing (tooth).*

Ovarian torsion usually occurs in women during their reproductive years,[1] but it may occur prenatally or in women after menopause.[2,3] Patients older than neonates present with acute localized pain and vomiting or fever.[1,4] Of girls 3 to 11 years of age, one third present with diffuse pain.[5] The pain is proportionate to the degree of circulatory compromise from torsion, and if torsion is complete, the pain is acute and severe and is accompanied by nausea and vomiting.[6,7] Spontaneous detorsion may occur and the pain will subside. Right ovarian torsion is slightly more common than left ovarian torsion. Bilateral torsion is rare, and even more infrequently observed is sequential torsion of the other ovary.[8,9] The nonspecific nature of the presenting symptoms may result in a delay in the diagnosis.[4,10]

Risk factors for ovarian torsion include pregnancy and ovarian abnormality. The most common risk factor associated with torsion is the presence of a dermoid cyst (32%).[1] These cysts are usually benign as are most ovarian masses that may cause torsion. Torsion may also occur in a normal ovary.[4,11,12]

On physical examination, the most consistent finding is a palpable mass felt 50% to 80% of the time.[1,13] Radiographs of the abdomen may show calcification or a mass in the pelvic area indicating a dermoid cyst (68%).[14] This patient's pelvic calcification and left-sided symptoms reflect the left ovary being positioned in the midline after torsion. The diagnostic procedure of choice is an ultrasonographic scan, which will demonstrate an enlarged ovary with multiple peripheral follicles and congested veins.[15,16] In this patient, the ultrasonographic scan showed a large heterogeneous mass without visualization of the left ovary. Color flow sonography is useful in determining abnormal blood flow to the ovary and venous drainage.[17]

Treatment of a torsed ovary with a dermoid cyst or other abnormality requires detorsion of the ovary and removal of the cysts if the ovary is viable; a nonviable ovary will need to be removed.[10,18,19] The procedure can be done by laparoscopy or laparotomy. This patient had a laparotomy with detorsion and an ovarian cystectomy with preservation of a viable ovary. Pathologic examination of the cysts revealed a 14-cm mature teratoma containing 250 mL of fluid, a tuft of hair, and a tooth.

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