

# Hemorrhagic Follicular Cyst in a Teenager

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A 16-year-old teenaged girl with no medical or surgical history presented with acute, cramping pain in the right lower quadrant that had begun at school while she was urinating.

The pain was severe and constant and radiated to her right shoulder but was not associated with meals. The pain worsened with movement, and there were no alleviating factors. She also had dizziness, nausea, decreased appetite, and suprapubic pain. She denied syncope, fever, weight loss, dysuria, hematuria, vomiting, diarrhea, constipation, or previous similar symptoms. Menarche had occurred at age 12 years with regular menses that lasted 6 days. She had no history of sexual partners. There was no family history of uterine, ovarian, or breast cancer.

Results of ultrasonography of the abdomen and pelvis showed right ovarian blood flow adjacent to a probable hemorrhagic cyst, but ovarian torsion could not be excluded (**Figure 1**). Her hemoglobin level was 9 g/dL (reference range, 12-15.4 g/dL) and remained stable. She had no signs of peritonitis during her hospital stay.



**Figure 1.** Pelvic ultrasonography scan with doppler shows a 5.5-cm right adnexal complex lesion that may represent a ruptured hemorrhagic cyst or, less likely, a neoplasm. Vascular evaluation of the right ovary is limited due to the large size of mass, which distorts local anatomy. Thus, torsion cannot be excluded.

A diagnostic laparoscopy was performed after her abdominal pain had persisted after 2 days. Old blood was found in all quadrants and was aspirated. The left ovary was normal. The right ovary was normal on the surface and without torsion but had a clot extruding from a ruptured hemorrhagic cyst. A portion of the clot was removed, but the remainder of the clot was left in place to avoid further bleeding.

The histopathology results from the ovarian wall biopsy were consistent with hemorrhagic follicular cyst. She recovered well and was referred to an adolescent/young adult medicine specialist for treatment to prevent future ovarian cysts associated with hormonal contraception.

**Discussion.** Rupture of ovarian cysts is a common occurrence in women of reproductive age. Mittelschmerz (German for “middle pain”) is used to describe the pain caused by the release of peritoneal fluid associated with rupture of the normal follicle at ovulation.<sup>1</sup> Hemorrhagic ovarian cysts are the most common gynecologic cause of acute pelvic pain in nonpregnant, afebrile, and premenopausal women and can cause intra-abdominal hemorrhage. Patients may present with nausea, vomiting, or dizziness. Most cases are caused by trauma such as that related to exercise or sex. Differential diagnoses include ectopic pregnancy, ovarian torsion, appendicitis, pelvic inflammatory disease, and coagulation abnormalities.<sup>1-3</sup>

Abdominal/pelvic ultrasonography is the first modality to assess for hemorrhagic ovarian cysts. If the diagnosis is uncertain, an abdominal/pelvic computed tomography scan may be ordered. Doppler ultrasonography does not always rule out the complication of ovarian torsion. If

symptoms persist or worsen after 48 hours of conservative management with analgesics and supportive therapy, then laparoscopy is indicated.<sup>1,2,4</sup> Enucleation to preserve the ovary, tissue sample for pathology, and follow-up in 6 weeks are recommended. Studies have indicated a recurrence rate of 0 within 2 years of follow-up.<sup>2,5</sup>

**Treatment options.** Oral contraceptive pills taken once daily can inhibit ovulation to prevent new ovarian cysts, but they do not decrease the size of existing cysts.<sup>6</sup> Higher doses of ethinyl estradiol may work better than lower doses to decrease the development of ovarian cysts. There is no difference in the suppression of ovarian cyst development between monophasic and multiphasic pills.<sup>7</sup>

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