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Case Report

Spontaneous Ruptured Uterus in an Adolescent With Polycystic Ovarian Syndrome and Endometrial Hyperplasia

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ABSTRACT Uterine diverticula and rudimentary horns are rare forms of uterine anomalies that occur during embryogenesis. They can communicate with the endometrial cavity and may have the potential to develop pathology. This case report presents an obese, anovulatory adolescent with polycystic ovarian syndrome who was admitted with acute abdominal pain and found to have radiological findings that were concerning for a ruptured mass contiguous with the uterine cavity, which was likely a uterine horn or diverticulum. Further evaluation revealed simple hyperplasia without atypia on endometrial sampling, supporting the surgical resection and subsequent medical management of this young patient. Journal of Minimally Invasive Gynecology (2015) 22, 1109–1112 © 2015 AAGL. All rights reserved.

Keywords: Adolescent; Endometrial hyperplasia; Polycystic Ovary Syndrome; Uterine horn; Uterine diverticula; Uterine rupture

Acute pelvic pain from adnexal and uterine masses is a condition that frequently requires emergent gynecologic consultation. However, the presence of a fluid-filled mass contiguous with the uterine cavity has not been described as the cause of acute pelvic pain. These masses, usually found to be Müllerian anomalies, such as uterine horns and uterine diverticula, are lined with endometrial tissue, and therefore, can theoretically develop pathology, particularly in obese, anovulatory women. Engle and Rushovic described a true uterine diverticulum as "an exceedingly rare entity," when they described the second case of a nulliparous patient with a uterine diverticulum. Although uterine diverticulum are not well defined in the literature, they went on the describe "true uterine diverticulum probably arise from a localized duplication of the distal Mullerian duct on one side" [1].

We report on a case of a patient with polycystic ovarian syndrome (PCOS) who presented with an acute abdomen caused by a balloon-like mass communicating with the uterine cavity that was thought to have "ruptured" out of the fundus on imaging. Surgical and pathological evaluation revealed a likely large uterine diverticula. Case reports are considered exempt by the institutional review board by LA BioMed, our governing body.

Case Report

A 19-year-old virginal gravida 0 presented to the emergency department with sudden onset left lower quadrant abdominal pain associated with nausea and vomiting. The patient's menstrual history was significant for oligomenorrhea with heavy bleeding during her infrequent menses. Her last menses was reported as being >6 months previously. She denied a history of dysmenorrhea or previous pelvic pain. The patient had a body mass index of 40 kg/m^2. In addition to an acute abdomen, physical examination was significant for hirsutism, central obesity, and acanthosis nigricans in the groin and axillary areas. The patient denied any past medical or surgical history. Computed tomography (CT) of the abdomen and pelvis revealed a heterogeneous

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fluid-filled uterus with cystic pockets in the myometrium and rupture of the myometrial wall with pelvic fluid (Figs. 1 and 2). The patient's pain was reported as 10/10; other vital signs were within normal limits. Her hemoglobin was 14.0, and a pregnancy test was negative. Due to the patient's acute abdominal pain and imaging consistent with uterine rupture through the fundus of the uterus, a decision was made to proceed with emergent surgical management.

Laparoscopic ports were placed in a traditional fashion, including a 5-mm port in the umbilicus and the left lower quadrant, approximately 3 fingerbreadths above and 2 fingerbreadths medial to the anterior superior iliac spines. A 12-mm port was placed similarly in the right lower quadrant. Diagnostic laparoscopic evaluation revealed a large, dilated thin-walled structure at the left cornual region consistent with what appeared to be a rudimentary uterine horn containing abundant hematometrium (Fig. 3). On further assessment, the thin-walled structure was inadvertently ruptured, and the dark blood contained within was evacuated with the suction irrigator (Fig. 4). The base of this balloon-like structure had a direct communication with the fundus of the uterus, and brisk bleeding was noted. The bleeding structure was then ligated by threading 0-Vicryl suture around the base. Extracorporeal knots with a closed knot pusher were then tied to compress the base. Once the bleeding was controlled, the structure was excised at the base using the Harmonic Ace (Ethicon Endo-Surgery, Inc. Cincinnati, OH). Attempts were made to imbricate the edges of the tissue with sutures, but the uterus was very soft, friable, and bled easily. Therefore, several Endoloops (Ethicon Endo-Surgery, Inc. Cincinnati, OH) were placed to further debulk the base of the structure (Fig. 5). The remaining exposed tissue was presumed to be endometrium. This exposed endometrium was cauterized with the RoBi Bipolar device (Karl Storz Endoscopy America, Inc., El Segundo, CA) to prevent future bleeding into the abdomen with subsequent menses. The excised structure was removed through an Endo Catch (Covidien, Mansfield, MA) and sent for pathological evaluation. Enlarged, polycystic ovaries bilaterally and outpouchings on the uterine serosa (Fig. 6) were also noted on laparoscopy. Because of the patient's history of long periods of anovulation and abundant material in the endometrial cavity present on the CT scan, an endometrial biopsy was performed while the patient was under anesthesia. Pathology of the excised structure revealed a thin uterine wall with a thin endometrial lining. The findings were thought to be consistent with a rudimentary uterine horn. Endometrial biopsy showed polypoid fragments with simple endometrial hyperplasia without atypia.

Fig. 1

Computed tomography of abdomen and pelvis, sagittal view with *arrow* indicating point of "rupture" at the uterine fundus.

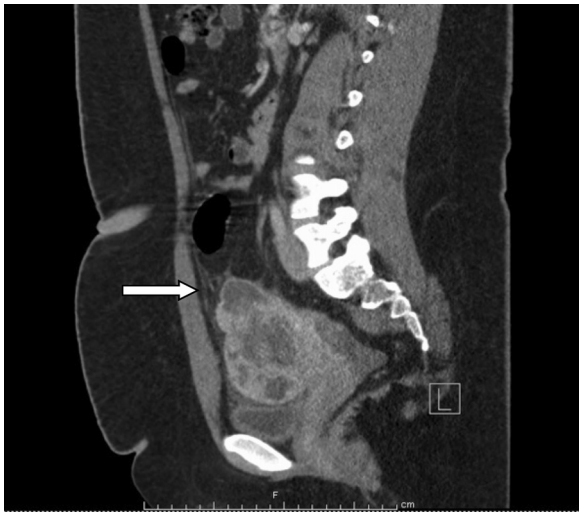

Fig. 2

Computed tomography of abdomen and pelvis, coronal view with *arrow* indicating fluid-filled mass communicating with uterine fundus.

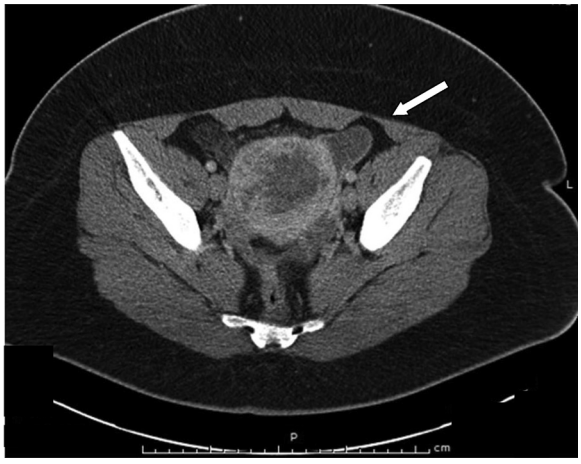

Fig. 3

Large, thin-wall structure containing abundant hematometium attached to left cornual region.