

# AMSER Case of the Month: June 2018

11 Year Old Female With Pelvic Pain

Aaron Bisig, MS IV

University of Kentucky College of Medicine

Andy Ayoob, M.D.

University of Kentucky Department of Radiology

# Patient Presentation

- 11 year old female, no significant past medical history, presented to ED with worsening crampy, intermittent abdominal pain over past 3 months
- Physical Exam
  - Lower abdominal tenderness without rebound; no palpable mass; genitourinary exam deferred.
  - VS: T: 97.9 °F, HR: 90, BP: 137/87 mm Hg, RR: 18, SpO2: 98% on room air
- Labs
  - Urinalysis: normal, Alpha Fetal Protein: normal, Beta hCG: negative, CA-125: elevated, 94 U/mL (0-38)

What Imaging Should We Order?

# Select the applicable ACR Appropriateness Criteria

**Clinical Condition:** Acute Pelvic Pain in the Reproductive Age Group

**Variant 2:** Gynecological etiology suspected, serum  $\beta$ -hCG negative.

Radiologic Procedure	Rating	Comments	RRL*
US pelvis transvaginal	9	Both transvaginal and transabdominal US should be performed if possible.	O
US pelvis transabdominal	9	Both transvaginal and transabdominal US should be performed if possible.	O
US duplex Doppler pelvis	9		O
MRI pelvis without and with IV contrast	6	This procedure can be performed if US is inconclusive or nondiagnostic. See the Summary of Literature Review and <i>ACR Manual on Contrast Media</i> for the use of contrast media.	O
MRI abdomen and pelvis without and with IV contrast	6	This procedure can be performed if US is inconclusive or nondiagnostic. See the Summary of Literature Review and <i>ACR Manual on Contrast Media</i> for the use of contrast media.	O
MRI pelvis without IV contrast	4	This procedure can be performed if US is inconclusive or nondiagnostic. See the Summary of Literature Review and <i>ACR Manual on Contrast Media</i> for the use of contrast media.	O
MRI abdomen and pelvis without IV contrast	4	This procedure can be performed if US is inconclusive or nondiagnostic. See the Summary of Literature Review and <i>ACR Manual on Contrast Media</i> for the use of contrast media.	O
CT abdomen and pelvis with IV contrast	4	This procedure can be performed if US is inconclusive or nondiagnostic and MRI is not available. See the Summary of Literature Review for the use of contrast media.	****

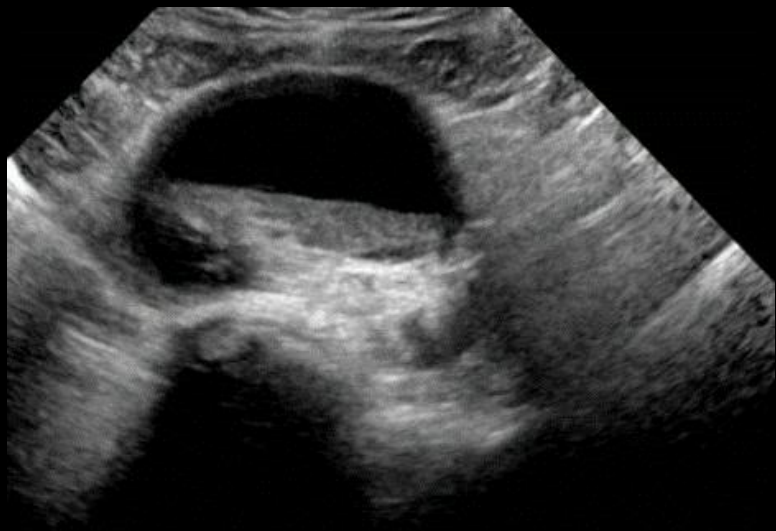


This imaging modality was ordered by the emergency department physician

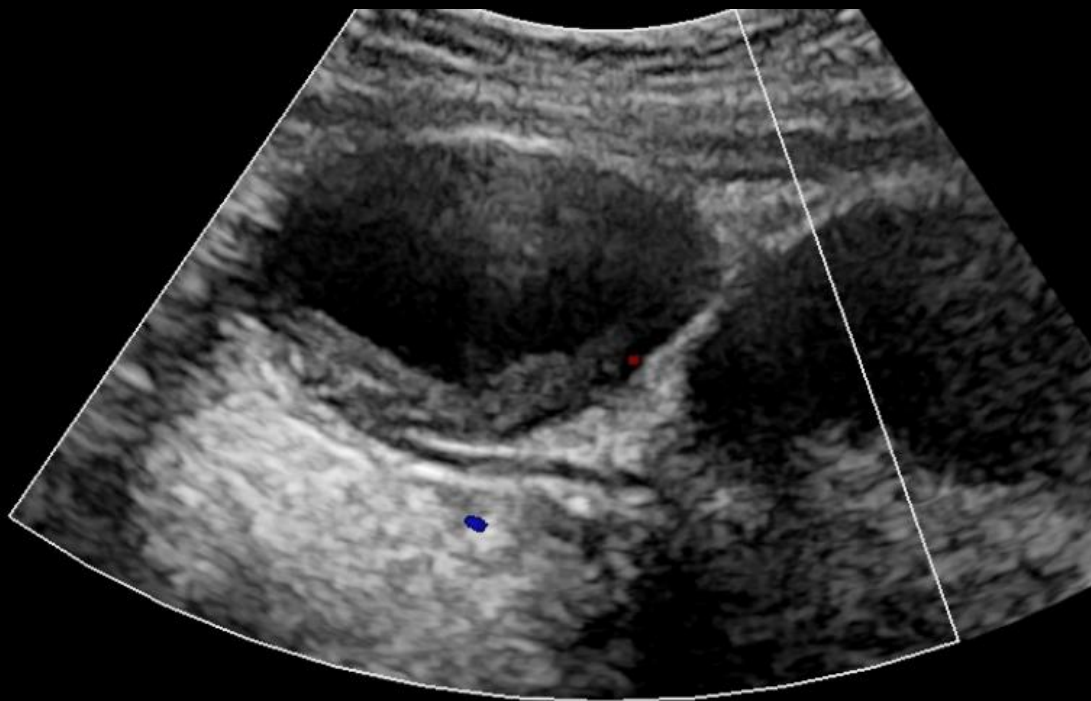
# Findings (unlabeled)



# Findings (unlabeled)

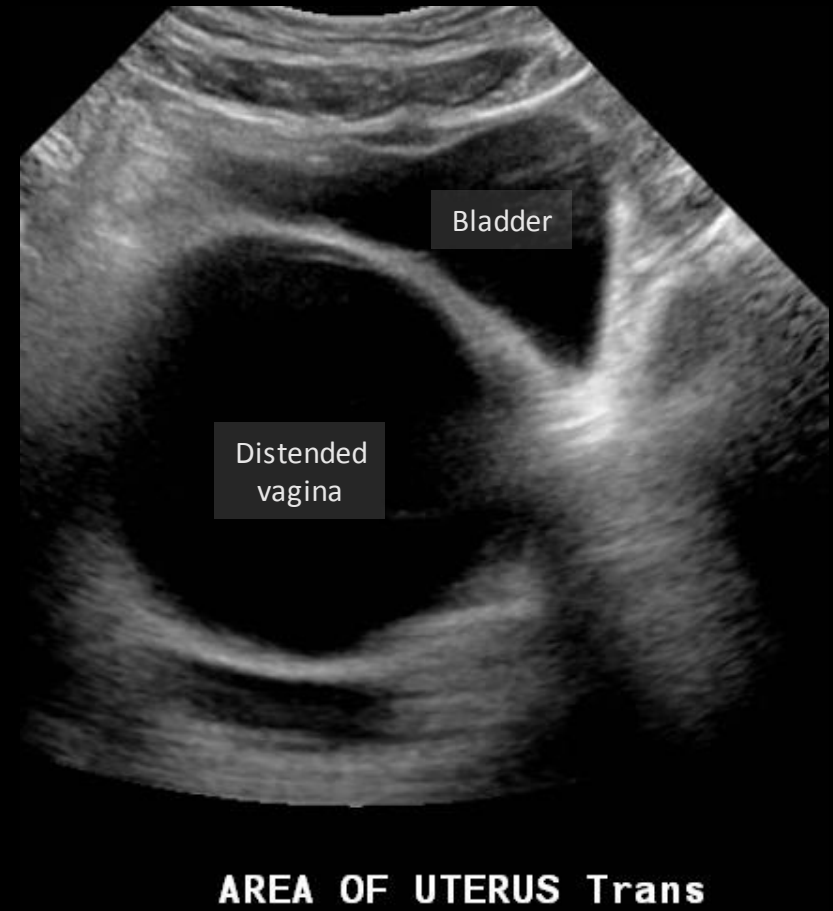
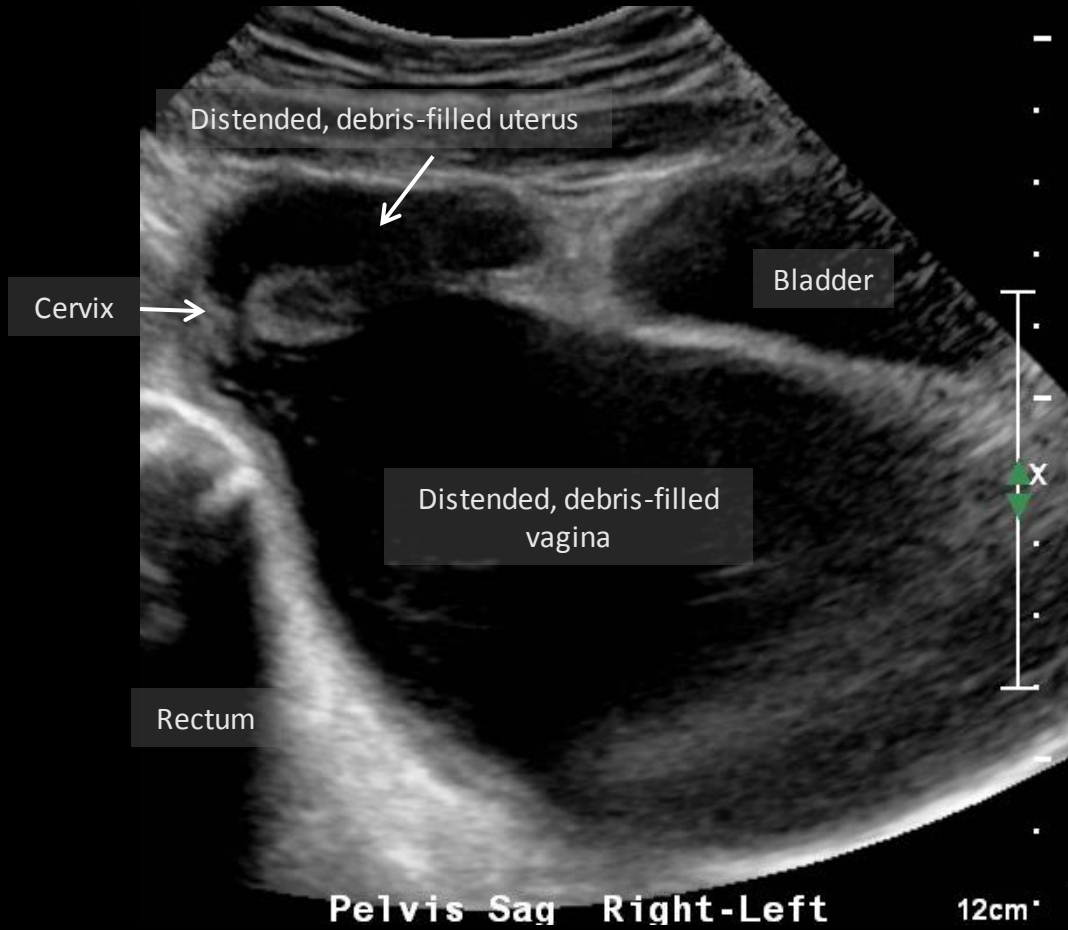


AREA OF UTERUS Trans

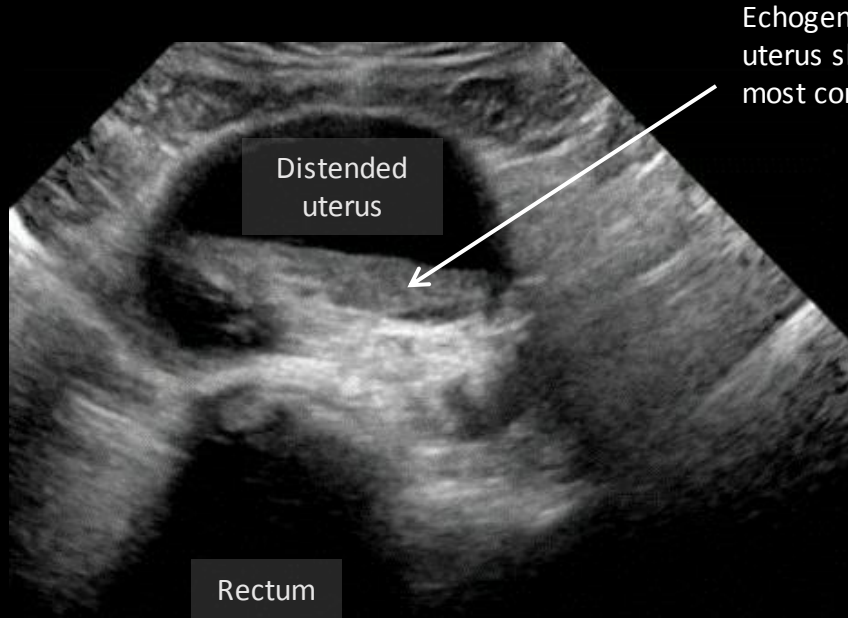


AREA OF UTERUS Sag

# Findings (labeled)

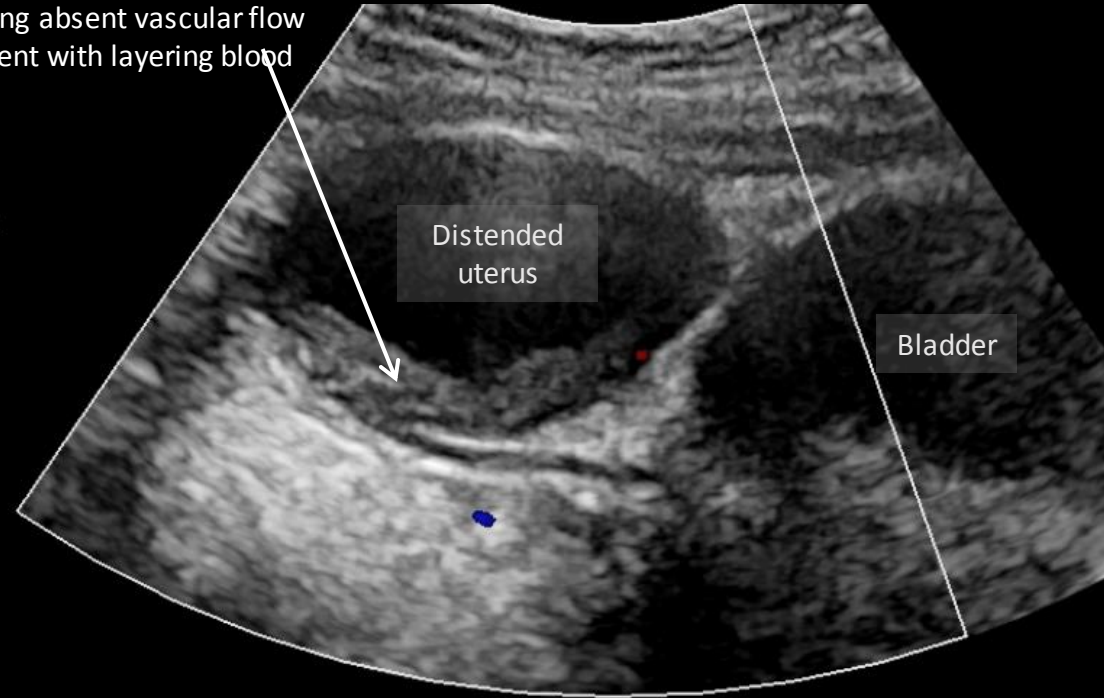


# Findings (labeled)



AREA OF UTERUS Trans

Echogenic material within distended uterus showing absent vascular flow most consistent with layering blood



AREA OF UTERUS Sag (Doppler)

\*left and right ovaries (not shown) were normal



Final Diagnosis:

Hematometocolpos

# Case Discussion

Hematometrocolpos: menstrual blood filled distention of vagina and uterus due to mechanical outlet obstruction

- About 60% of cases a result of imperforate hymen
- Other etiologies: transverse vaginal septum, vaginal stenosis, vaginal atresia

US Findings: Anechoic cystic-like masses/compartments in pelvic midline with variable echo-texture representing stages of blood clotting

# Case Discussion

Complications: Retrograde flow into the fallopian tubes (hematosalpinx) and peritoneal cavity (hematoperitoneum), obstructive hydronephrosis, and infertility

The anatomy leading to obstruction can have **associations with Mullerian and urological tract malformations**: a renal US should be performed to rule out for the presence of these abnormalities.

# References

1. Joachim F. Sailer. Hematometra and Hematocolpos: Ultrasound Findings. *AJR Am J Roentgenol.* 1979
2. Levsky JM, Mondshine RT. On the AJR viewbox. Hematometrocolpos due to imperforate hymen in a patient with bicornuate uterus. *AJR Am J Roentgenol.* 2006;186 (5): 1469-70.
3. Patoulas, I., Prodromou, K., Kallergis, K., & Koutsoumis, G. (2013). Acute urinary retention due to hematocolpos: Report of two cases. *Journal of Pediatric Surgery Case Reports*, 1(8), 189-191.
4. Haematometrocolpos | Radiology Reference Article. <https://radiopaedia.org/articles/haematometrocolpos>