Uterine Anomalies

Danielle Wilson

October 16, 2020

RAD 4013

Dr. Ron Bilow

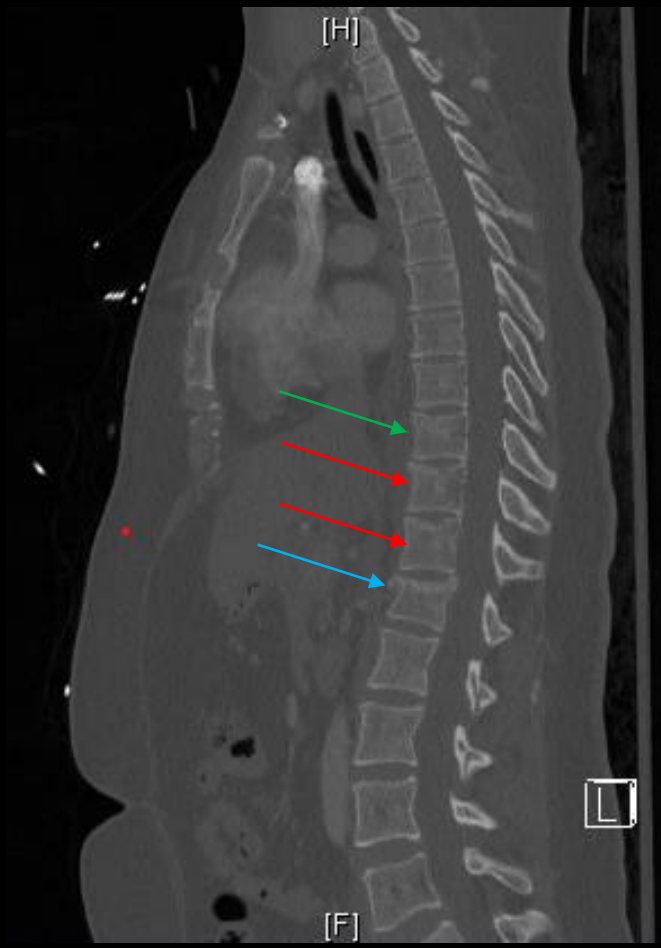
UTHealth®
The University of Texas
Health Science Center at Houston
McGovern
Medical School

Patient Presentation

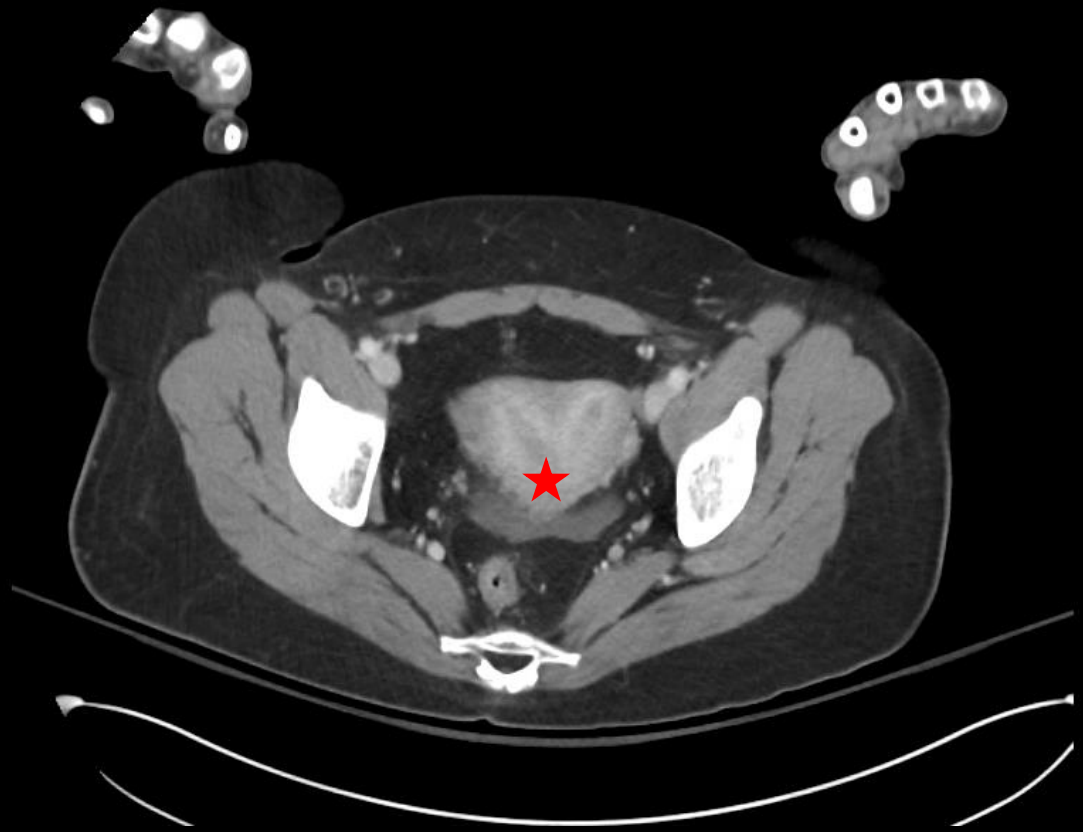
- 26-year-old female presented as a level 2 trauma 2/2 MVC
  - High speed rollover, restrained passenger
  - CC: RUE pain
  - PMH: UTO 2/2 developmental delay
  - VS: 124/66, 81 bpm, 18 RR, O2 Saturation 99%
  - Initial imaging
    - CT brain, Chest/Abd/Pelvis w/ IV contrast, Cervical spine
    - Xray Chest, Elbow, Forearm, Humerus, Shoulder, Spine thoracic

Key Imagining Findings

- Findings included:
  - 1. T12 vertebral body incomplete burst fracture with 4 mm retropulsion
  - 2. Incomplete burst fractures of T10 and T11
  - 3. Wedge compression fracture or incomplete burst fracture of T9
- CT brain, CT cervical spine, upper extremity- no acute abnormality or malalignment



Incidental finding: Uterine anomaly

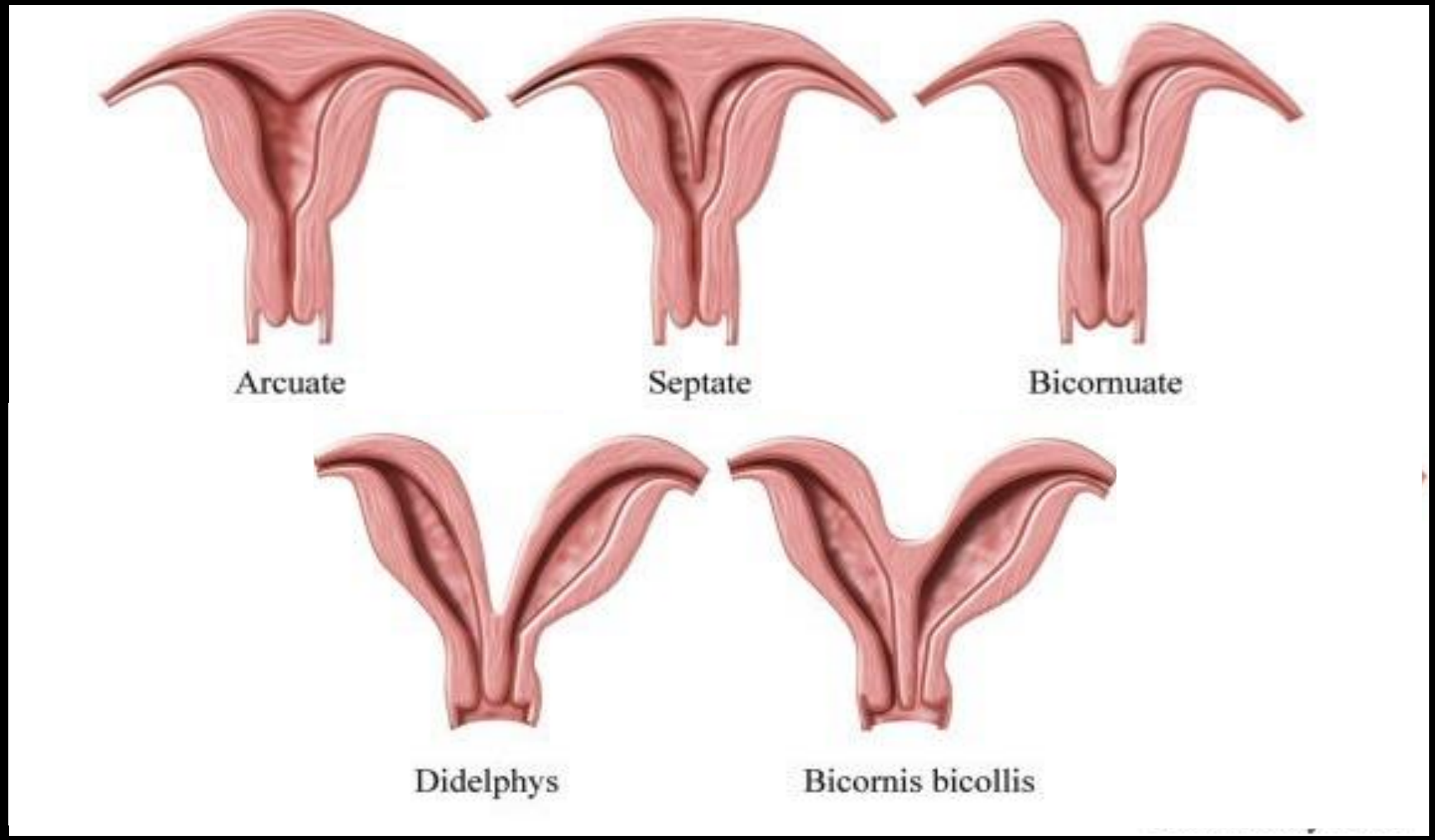


Uterine Anomalies

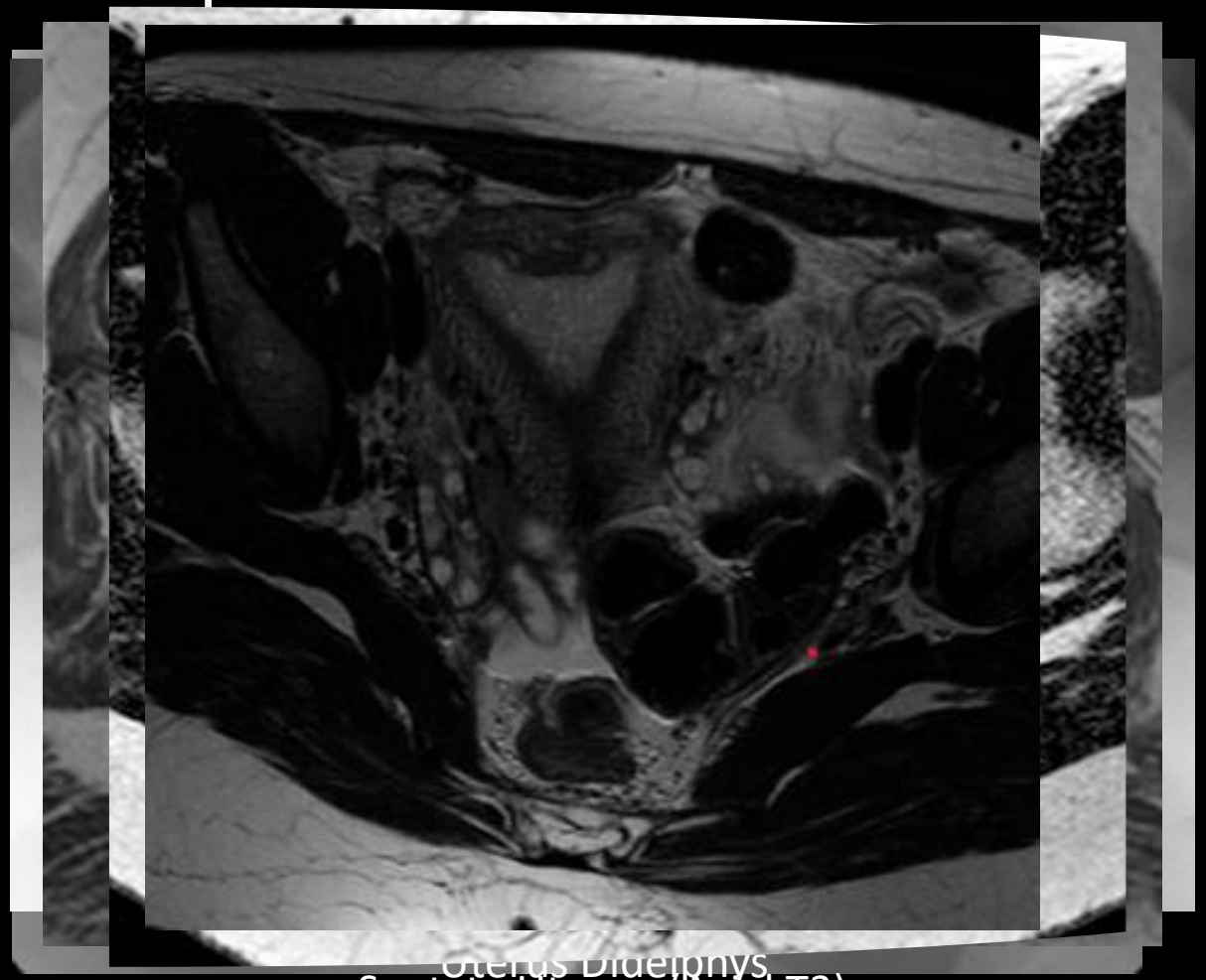
- Estimated to occur in up to 5% of all women
- Due to complete agenesis, defective vertical or lateral fusion, or resorption failure of the Mullerian ducts
- Classification:
  - Class I: uterine agenesis/hypoplasia
  - Class II: unicornuate uterus (15%)
  - Class III: uterus didelphys (7.5%)
  - Class IV: bicornuate uterus (25%)
  - Class V: septate uterus (45%)
  - Class VI: arcuate uterus (7%)
  - Class VII: in utero DES exposure

Differential Diagnosis

- Septate Uterus
  - Complete
  - Incomplete
- Bicornuate Uterus
- Arcuate
- Uterus Didelphys

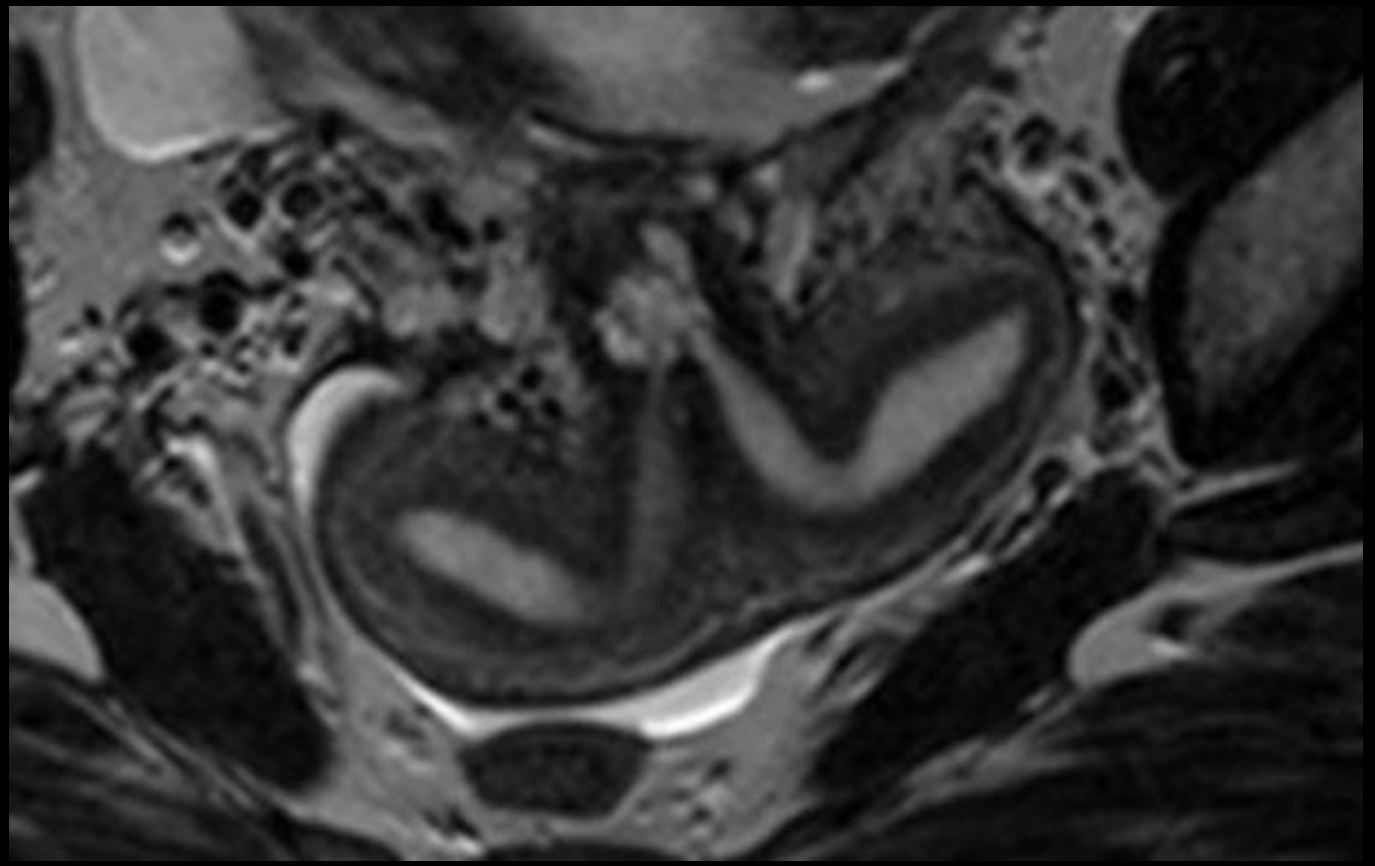


Imaging Examples

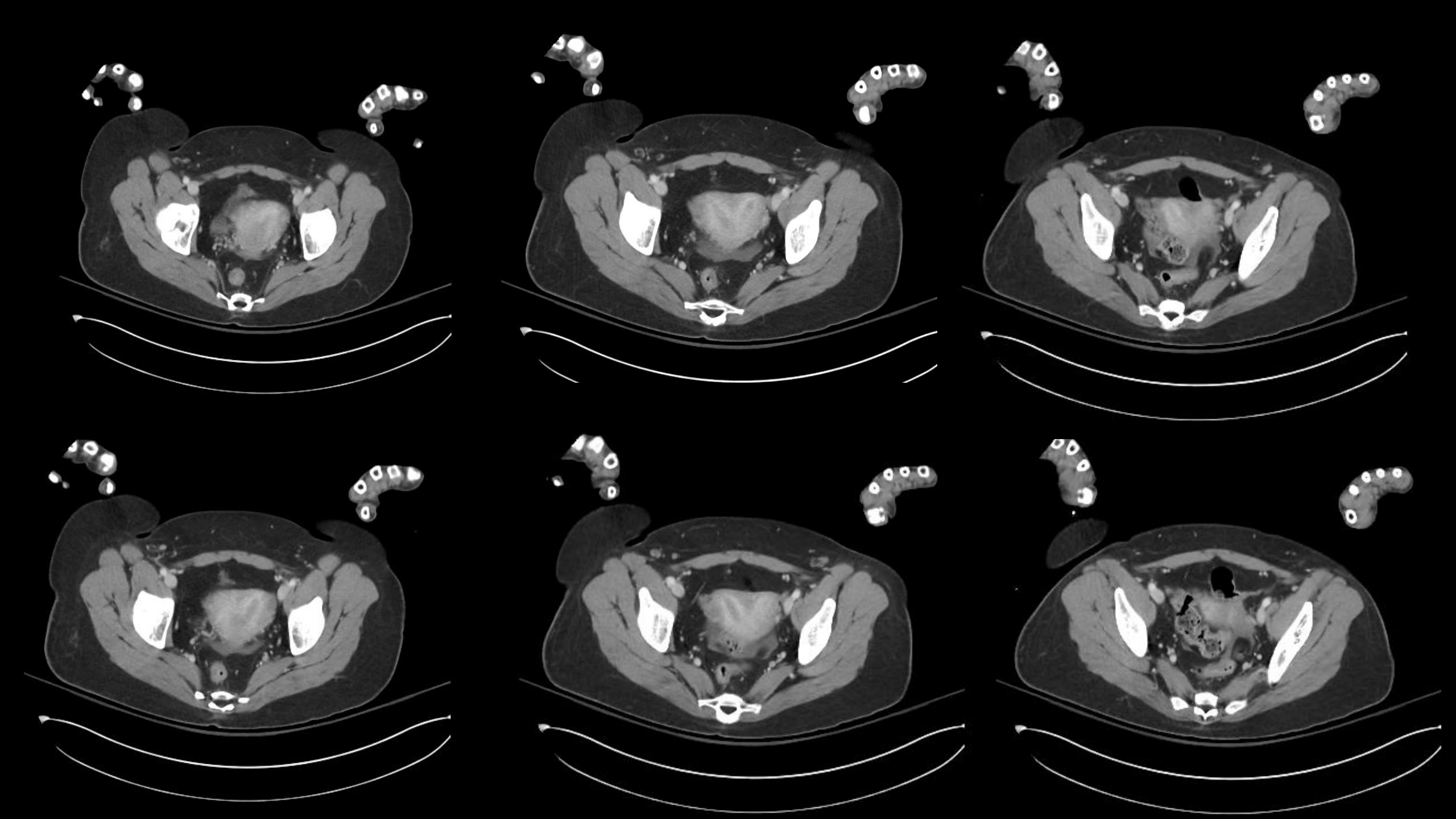


Uterus Didelphys
Septate Uterus (Axial T2)
Normal Hysterosalpingogram

Challenge Case



Bicornuate Uterus (Axial T2)



Discussion

- Uterine anomaly: arcuate uterus
  - Normal fundal contour
  - No division of the uterine horns
  - Smooth indentation of fundal endometrial canal <1 cm

- No further work up needed as this is now considered a normal variant

Treatment

- No treatment necessary for arcuate uterus
  - Normal variant; asymptomatic
- Other uterine anomalies may require treatment due to
  - Pelvic pain
  - Infertility
- Additional imaging can be done prior to surgical correction

ACR appropriateness Criteria

Variant 2: **Major blunt trauma. Hemodynamically stable. Not otherwise specified. Initial imaging.**

Procedure	Appropriateness Category	Relative Radiation Level
CT whole body with IV contrast	Usually Appropriate	☢☢☢☢
Radiography trauma series	Usually Appropriate	☢☢☢
US FAST scan chest abdomen pelvis	Usually Appropriate	O
CT whole body without IV contrast	May Be Appropriate	☢☢☢☢
Fluoroscopy retrograde urethrography	Usually Not Appropriate	☢☢☢
MRI abdomen and pelvis without and with IV contrast	Usually Not Appropriate	O
MRI abdomen and pelvis without IV contrast	Usually Not Appropriate	O

Variant 4: **Major blunt trauma. Hemodynamically stable. Suspected extremity trauma. Initial imaging.**

Procedure	Appropriateness Category	Relative Radiation Level
Radiography extremity	Usually Appropriate	Varies
CT whole body with IV contrast	Usually Appropriate	☢☢☢☢
Radiography trauma series	Usually Appropriate	☢☢☢
US FAST scan chest abdomen pelvis	Usually Appropriate	O
CT extremity without IV contrast	May Be Appropriate	Varies
CT whole body without IV contrast	May Be Appropriate (Disagreement)	☢☢☢☢
CTA extremity with IV contrast	May Be Appropriate (Disagreement)	Varies
CT extremity with IV contrast	Usually Not Appropriate	Varies
CT extremity without and with IV contrast	Usually Not Appropriate	Varies

- Case was in accordance with ACR recommendations
- Cost of imaging according to MHH Charge Master: $24,757.75

Take Home Points / Teaching points

- Incidental findings are common up to 33%
- Uterine anomalies can range from asymptomatic to symptomatic
- Determining which uterine anomaly can be important for correction of fertility problems
- Differentiation of uterine anomalies can be difficult
- MRI is the gold standard for imaging

References

- UptoDate
- Radiopaedia
- Thompson, Ryan J et al. “Incidental Findings on CT Scans in the Emergency Department.” *Emergency medicine international* vol. 2011 (2011): 624847. doi:10.1155/2011/624847


Questions?