

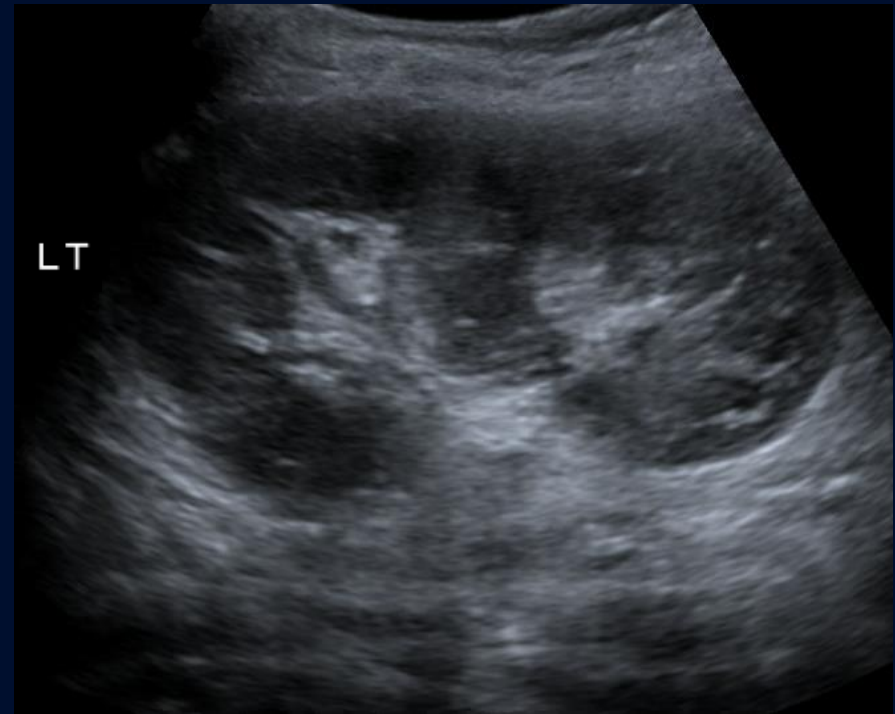
3-year-old girl with abdominal pain and vaginal bleeding

Charissa Joy Okang, MS3

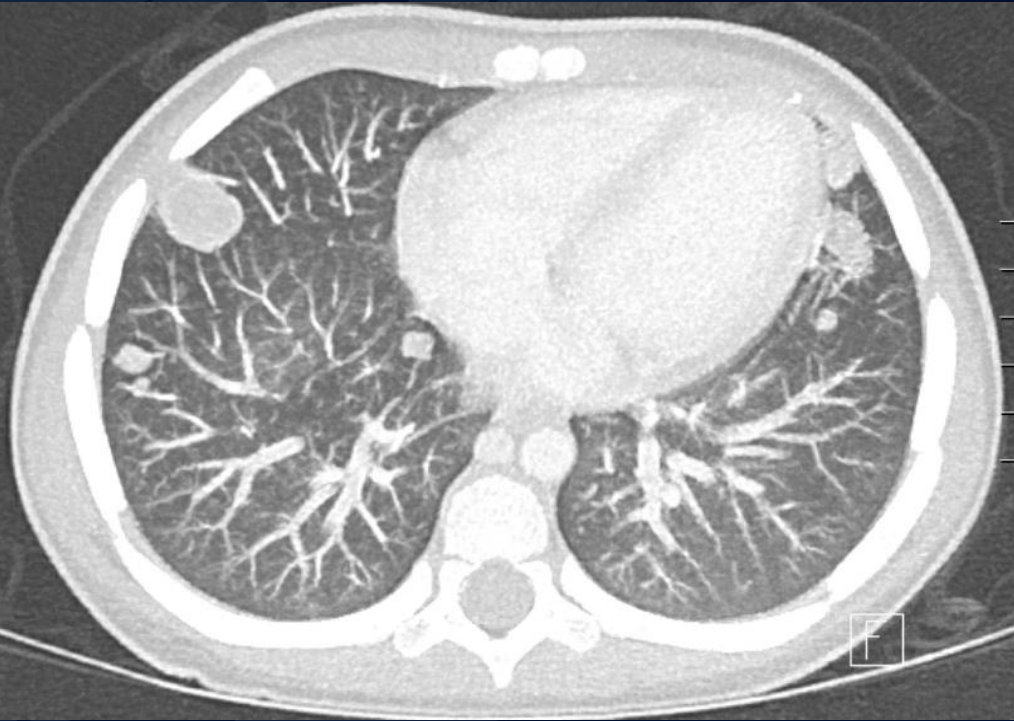
Radiograph



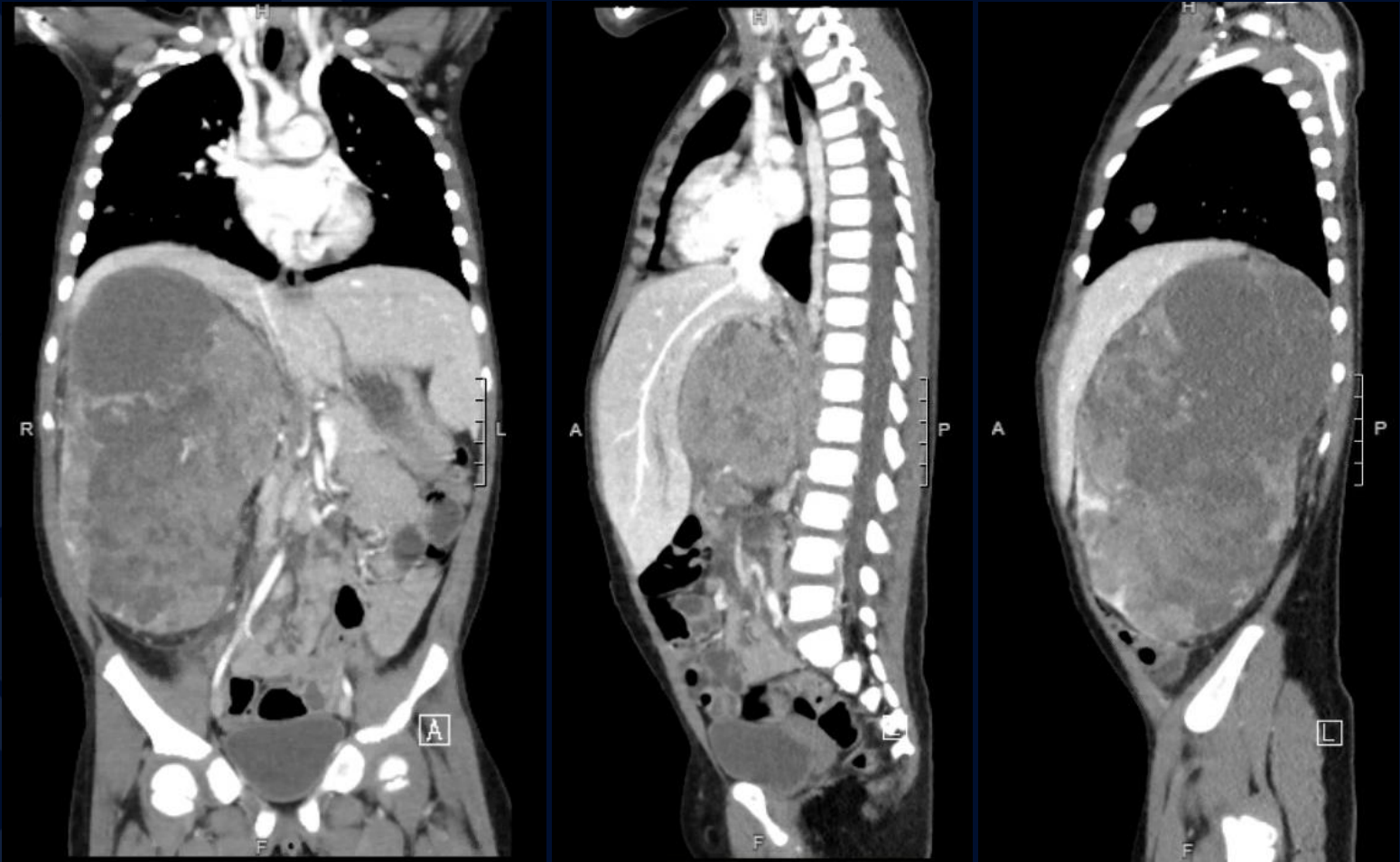
Ultrasound



CT IV Contrast



CT IV Contrast



A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. The leaf has a prominent central vein and several smaller veins branching off, with a wavy, lobed edge.

?

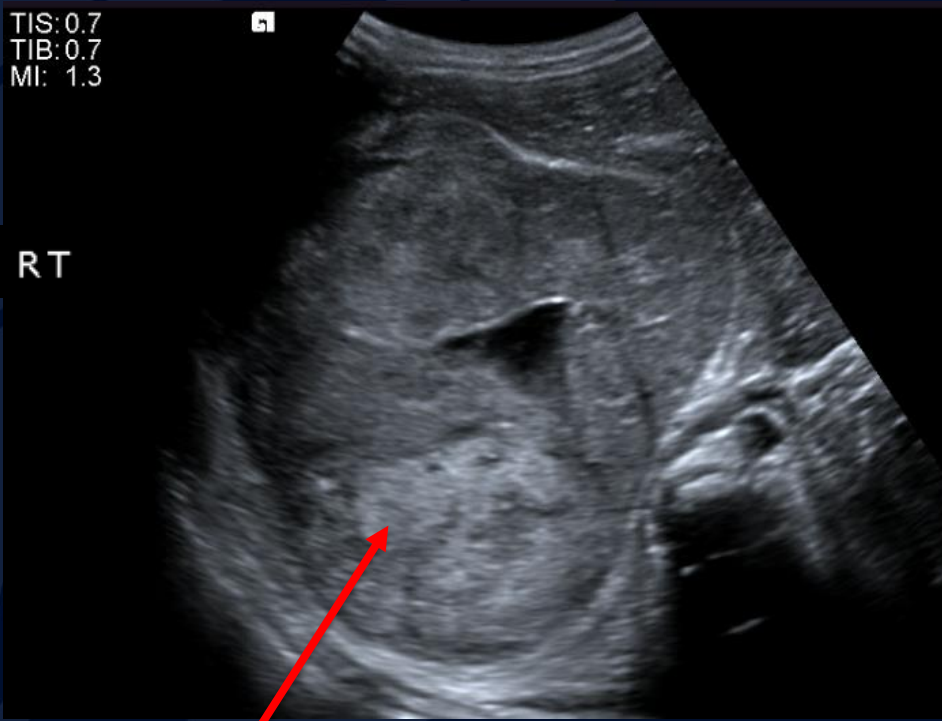
Nephroblastoma (Wilms Tumor)

Radiograph

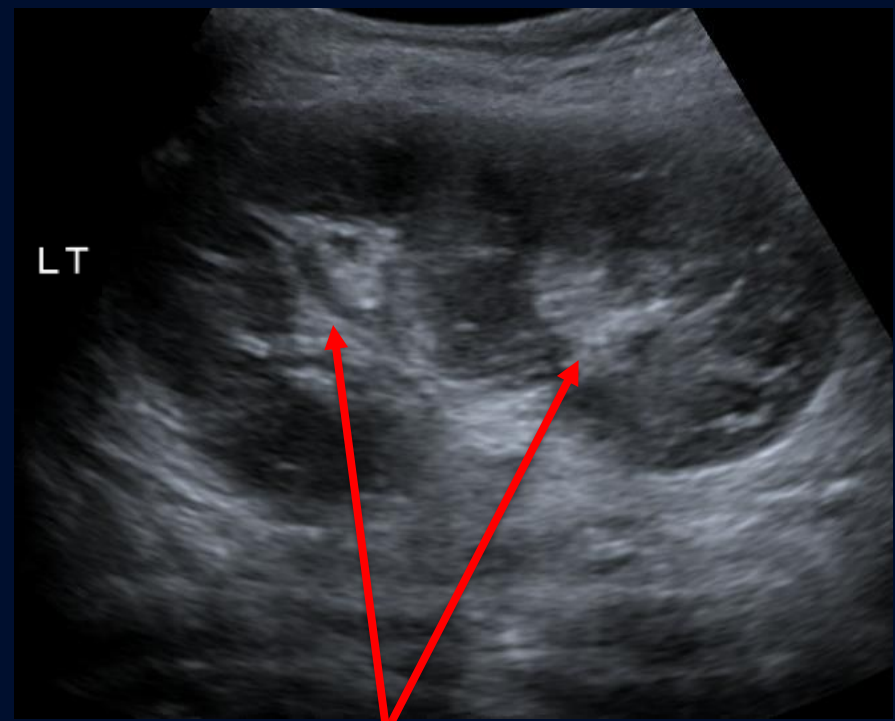


Right upper quadrant
soft tissue mass

Ultrasound



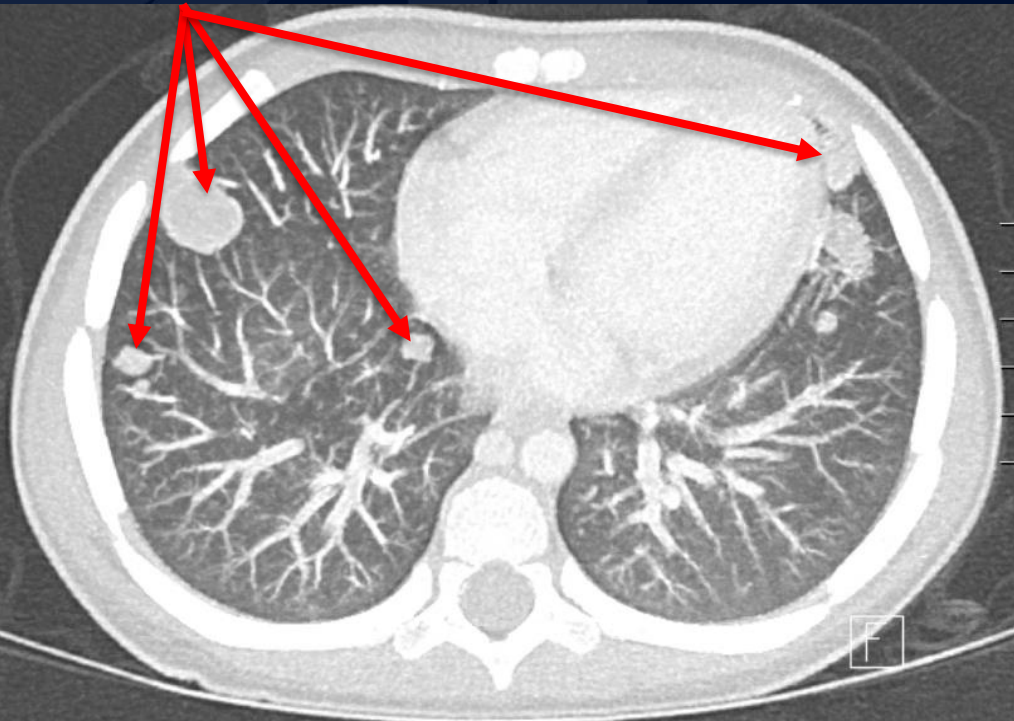
Heterogenous right renal mass



Duplex left kidney

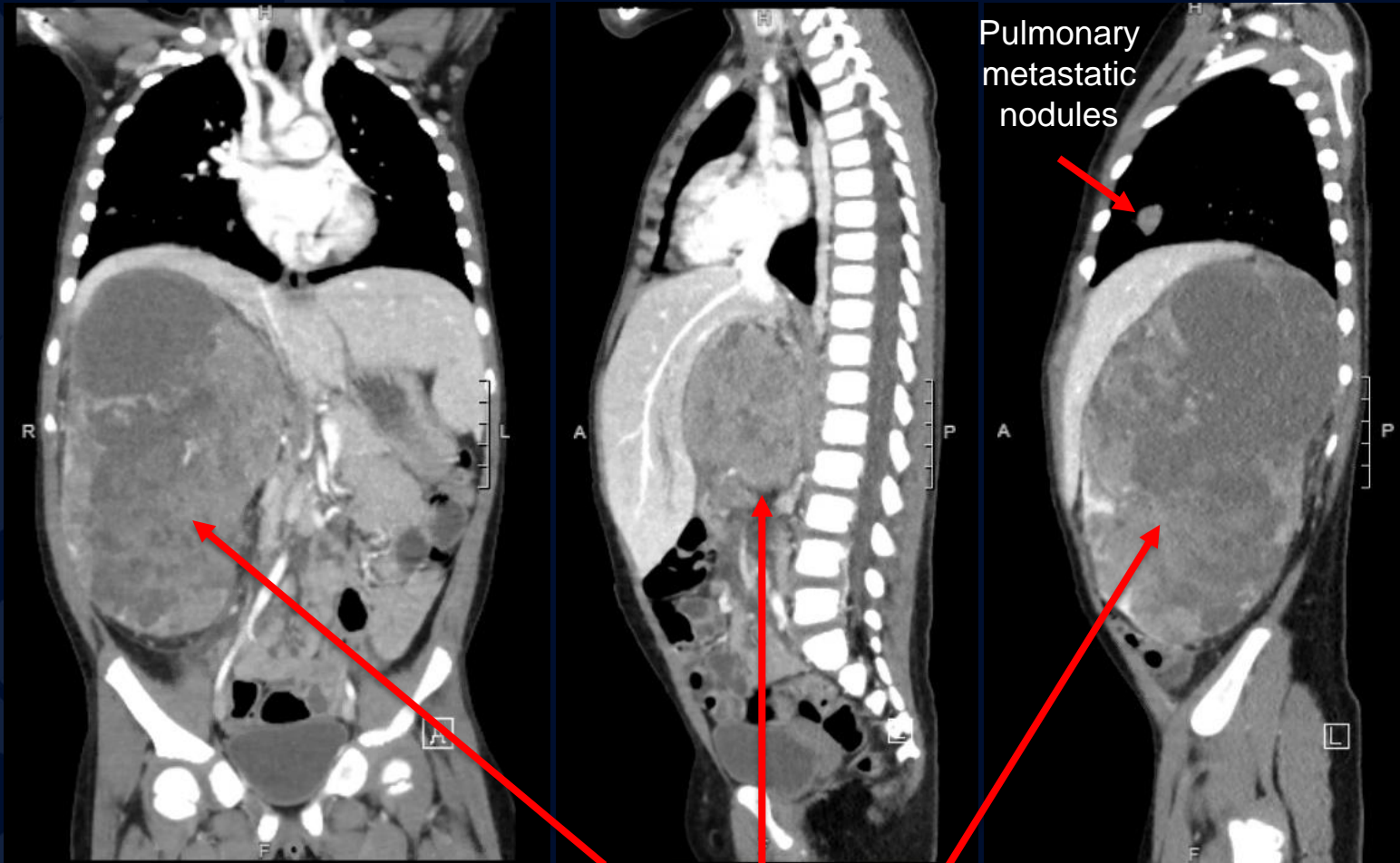
CT IV Contrast

Pulmonary metastatic nodules



Heterogenous right kidney mass

CT IV Contrast



Heterogenous right kidney mass

Nephroblastoma (Wilms Tumor)

- Malignant tumor of primitive metanephric blastema
- Most common renal malignancy in children; ~ 500 new cases in the US per year
- 80% occur in children < 5 years old
- Most often incidentally discovered as a palpable mass
- May be part of multiple malformation syndromes (e.g., WAGR syndrome)
- Abdominal imaging used to determine extent of disease
 - CT or MRI preferred
 - Chest imaging for evaluation of lung metastasis
- Overall 5-year survival rate in patients with localized abdominal disease >90%
- Recurrence in ~15% of patients

Imaging Findings

Ultrasound

- Large heterogeneously hypoechoic mass
- “claw” of splayed residual kidney surrounding mass

CT

- Large, poorly enhancing, heterogeneous mass
- Often have well-defined margins or pseudocapsule
- Displaced adjacent organs
- +/- enlarged retroperitoneal lymph nodes
- +/- tumor thrombus in renal vein, IVC, right atrium
- May have local extension into perirenal fat or gross tumor rupture with ascites

MR

- T1: Heterogeneous, predominantly intermediate to low signal, may have foci of high signal due to blood products; heterogeneously hypoenhancing relative to normal renal parenchyma
- T2: heterogeneous, solid, predominantly high signal; purely cystic lesions are uncommon
- DWI: solid portions restrict diffusion

References

Chintagumpala, M., & Smith, V. (2022, June). *Presentation, diagnosis, and staging of Wilms tumor*. UConn Health Sciences Library. Retrieved from https://www-uptodate-com.online.uhc.edu/contents/presentation-diagnosis-and-staging-of-wilms-tumor?search=wilms+tumor&source=search_result&selectedTitle=1~121&usage_type=default&display_rank=1#H2528436941

Chintagumpala, M., & Smith, V. (2022, June). UConn Health Sciences Library. Retrieved from https://www-uptodate-com.online.uhc.edu/contents/treatment-and-prognosis-of-wilms-tumor?sectionName=Lung+metastases&search=wilms+tumor&topicRef=6249&anchor=H14&source=see_link#H14

<https://app.statdx.com/document/wilms-tumor/6758069f-ec22-406f-ac3a-91d73b4f5089?term=Wilms%20Tumor&searchType=documents&category=All>