

63-year-old female presenting with hypertension

Elizabeth Silver, MS3

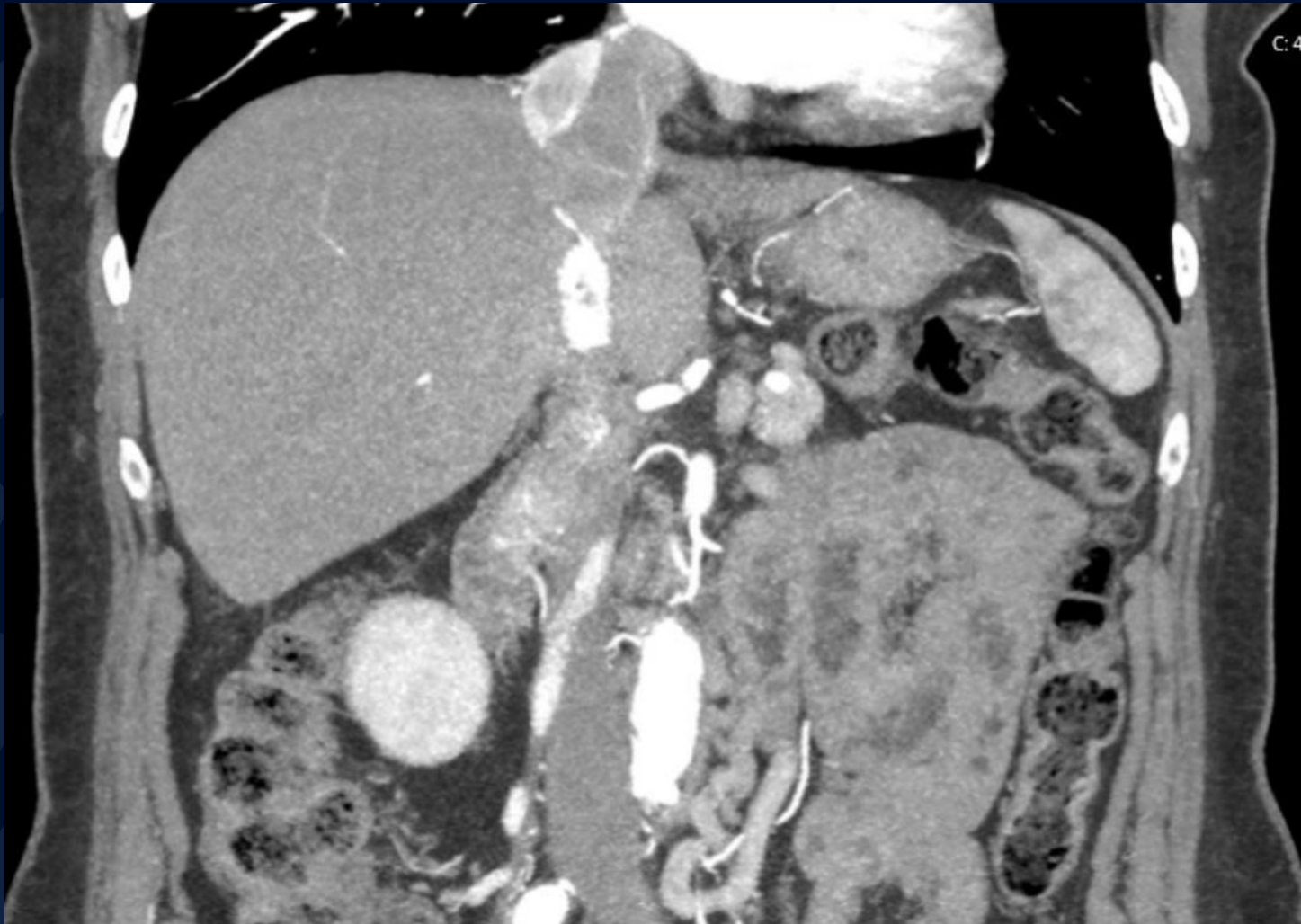
Renal US



CTA



CTA



CTA



Contrast CT (nephrogenic phase)



MRV

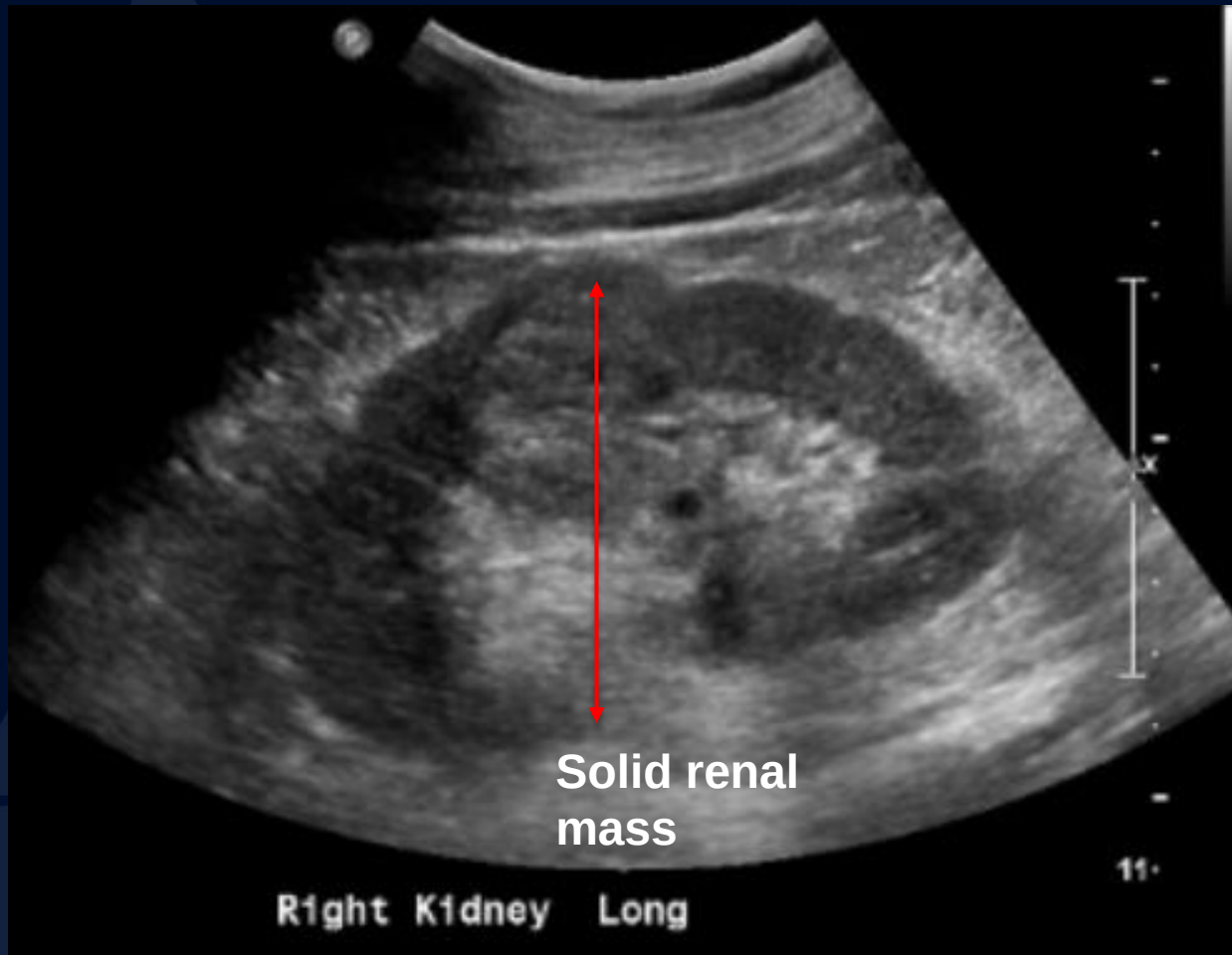




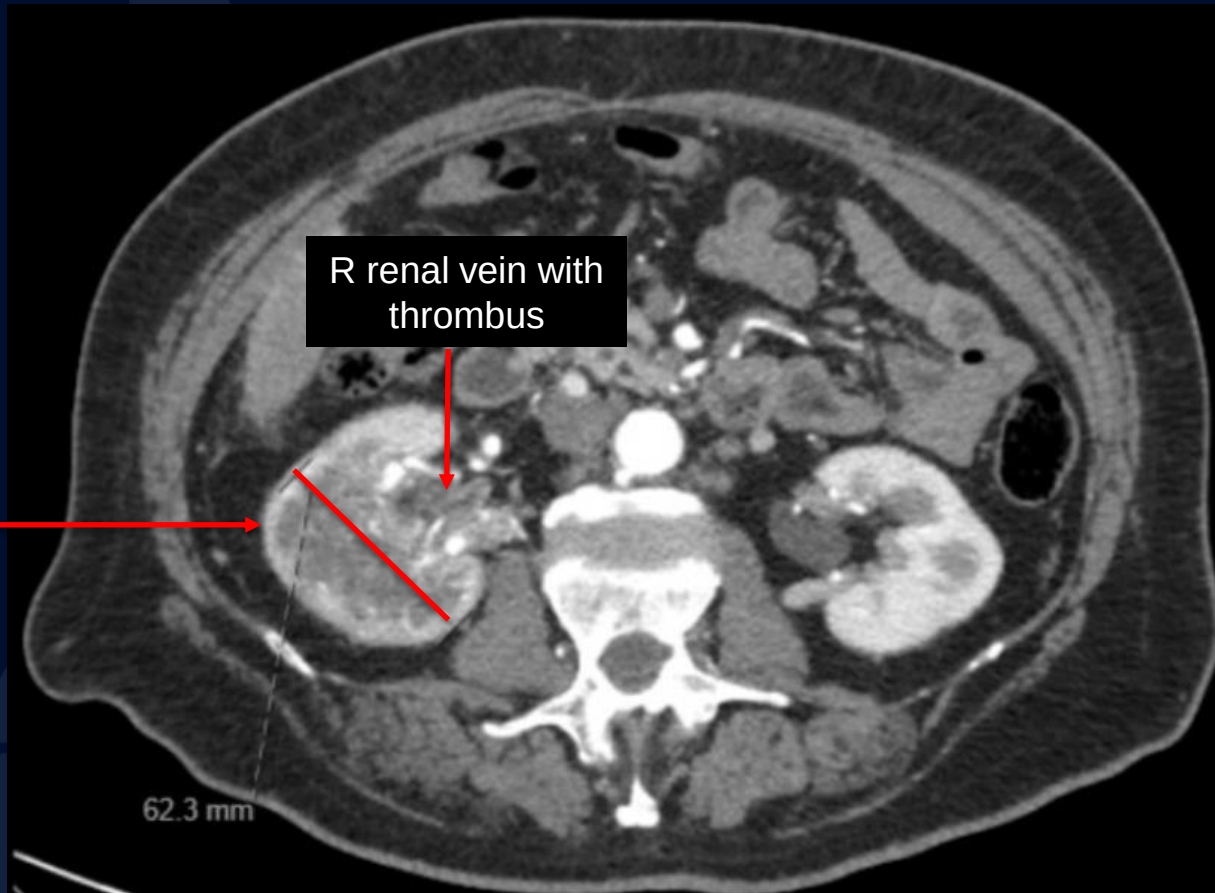
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Renal Cell Carcinoma with Tumor Thrombus

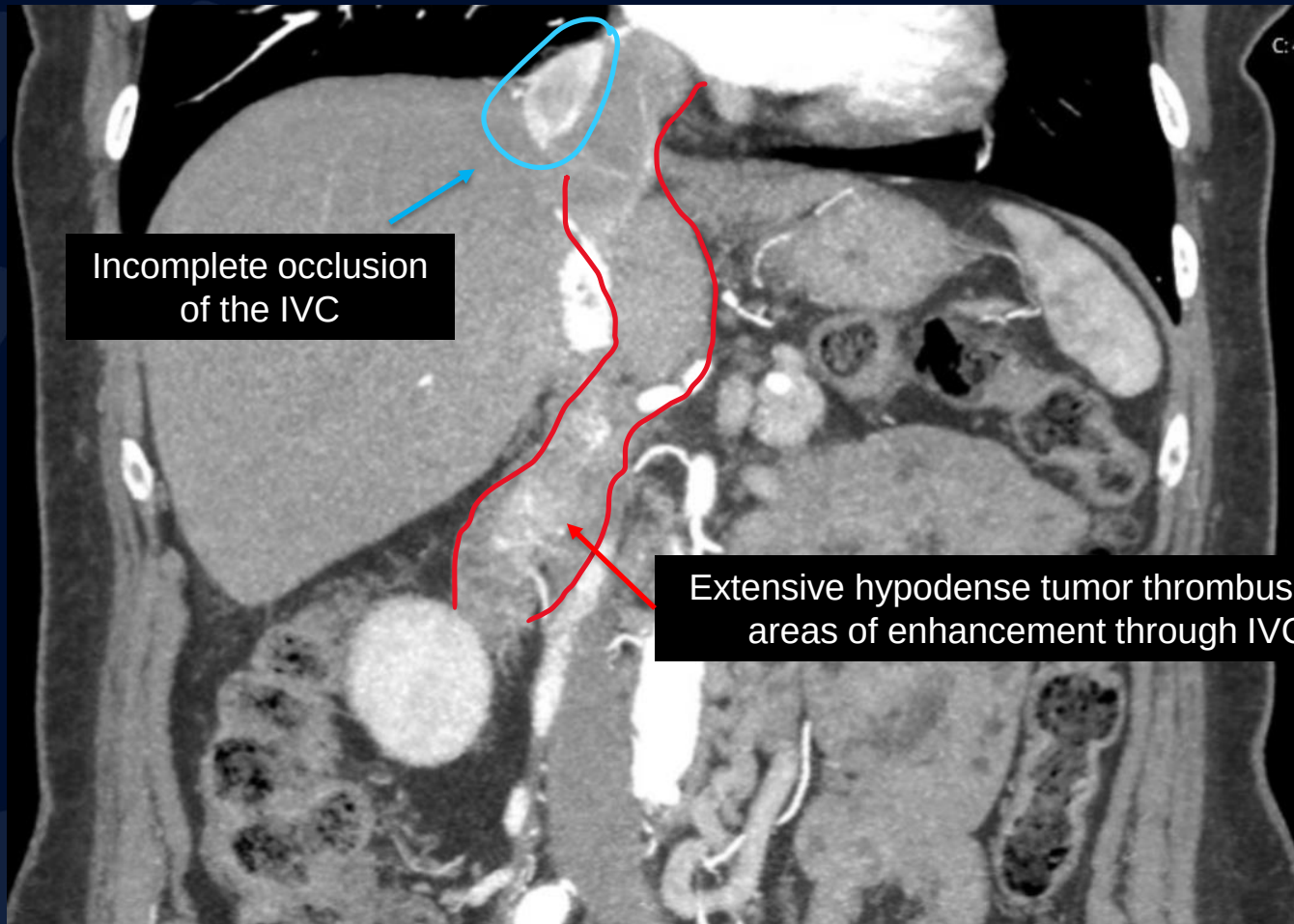
US Renal



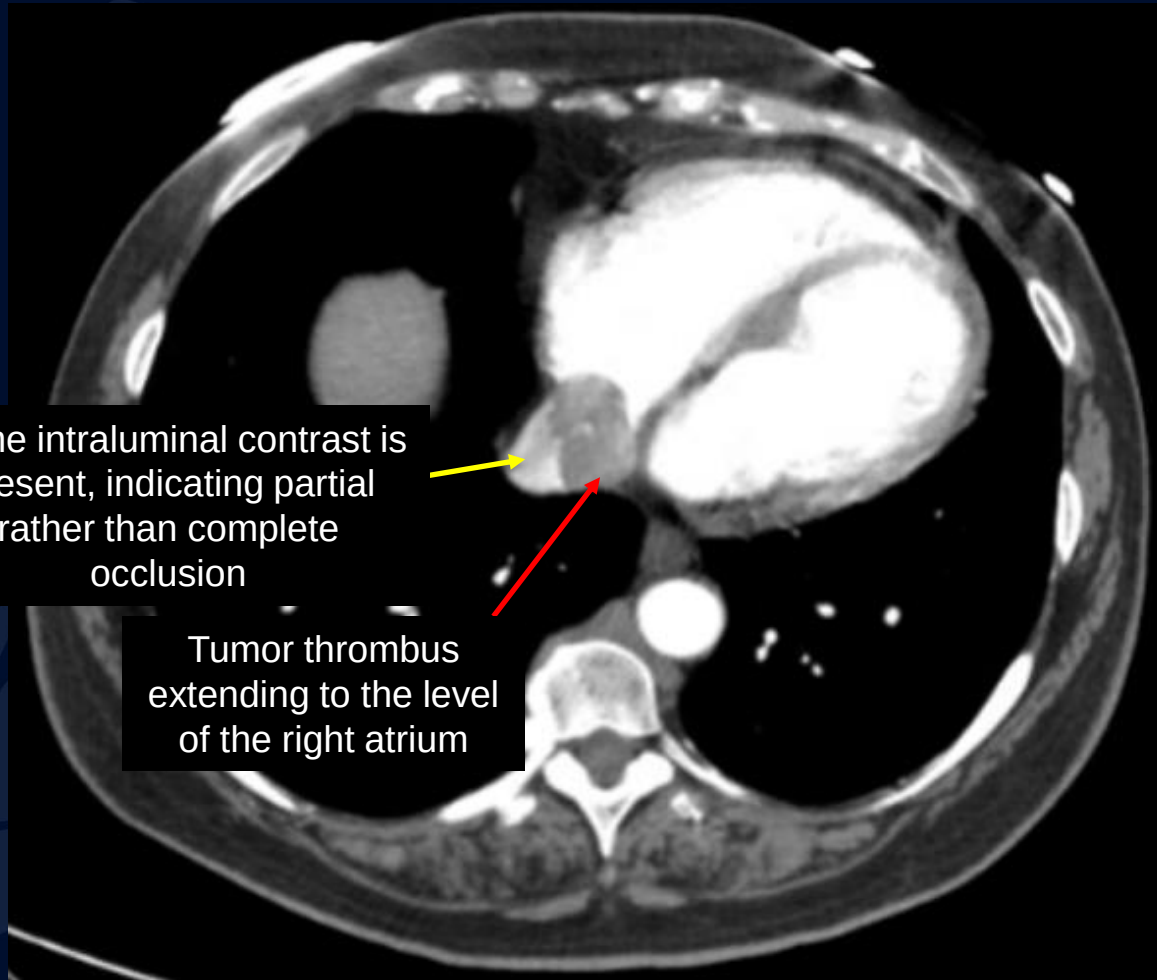
CTA



CTA



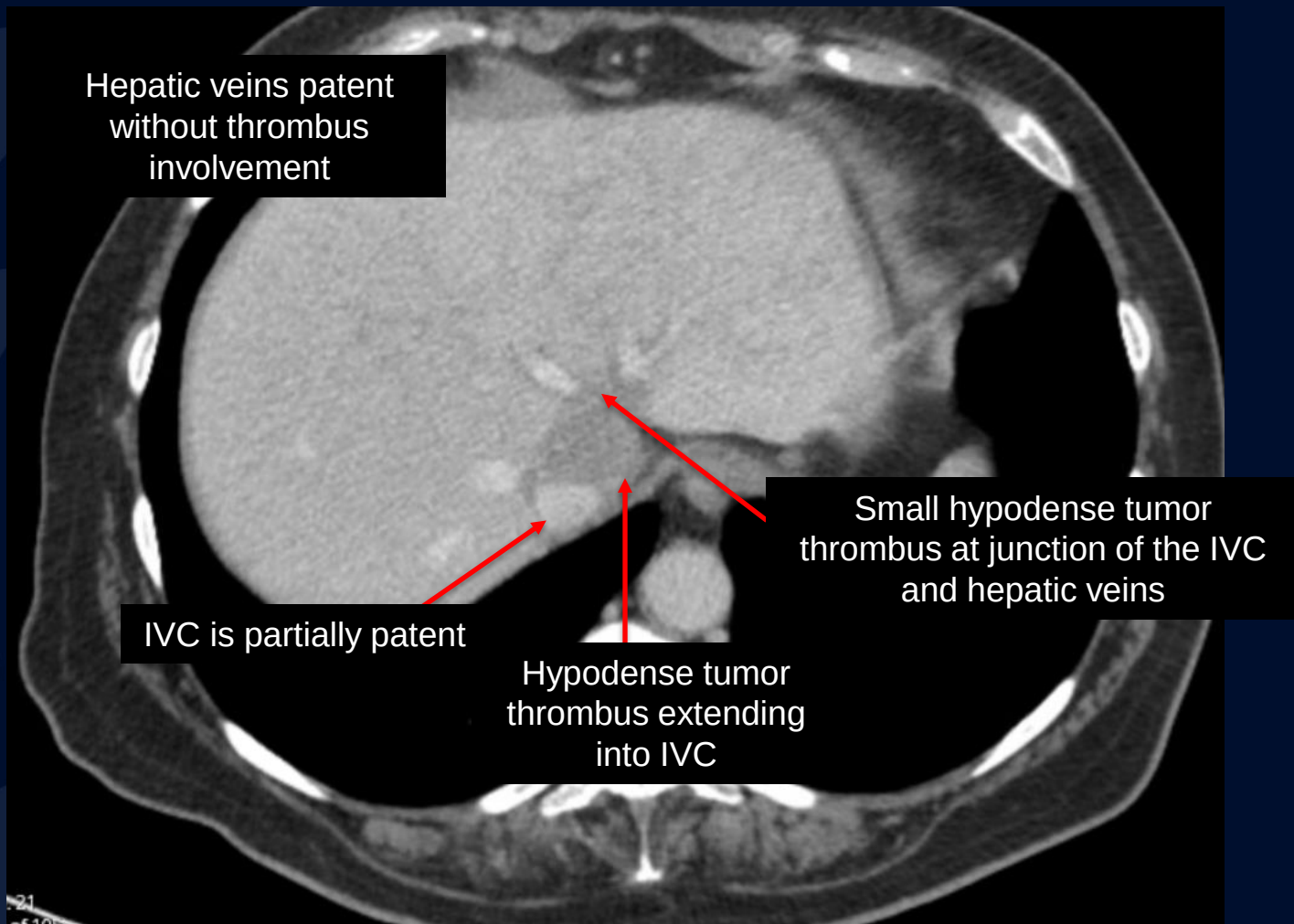
CTA



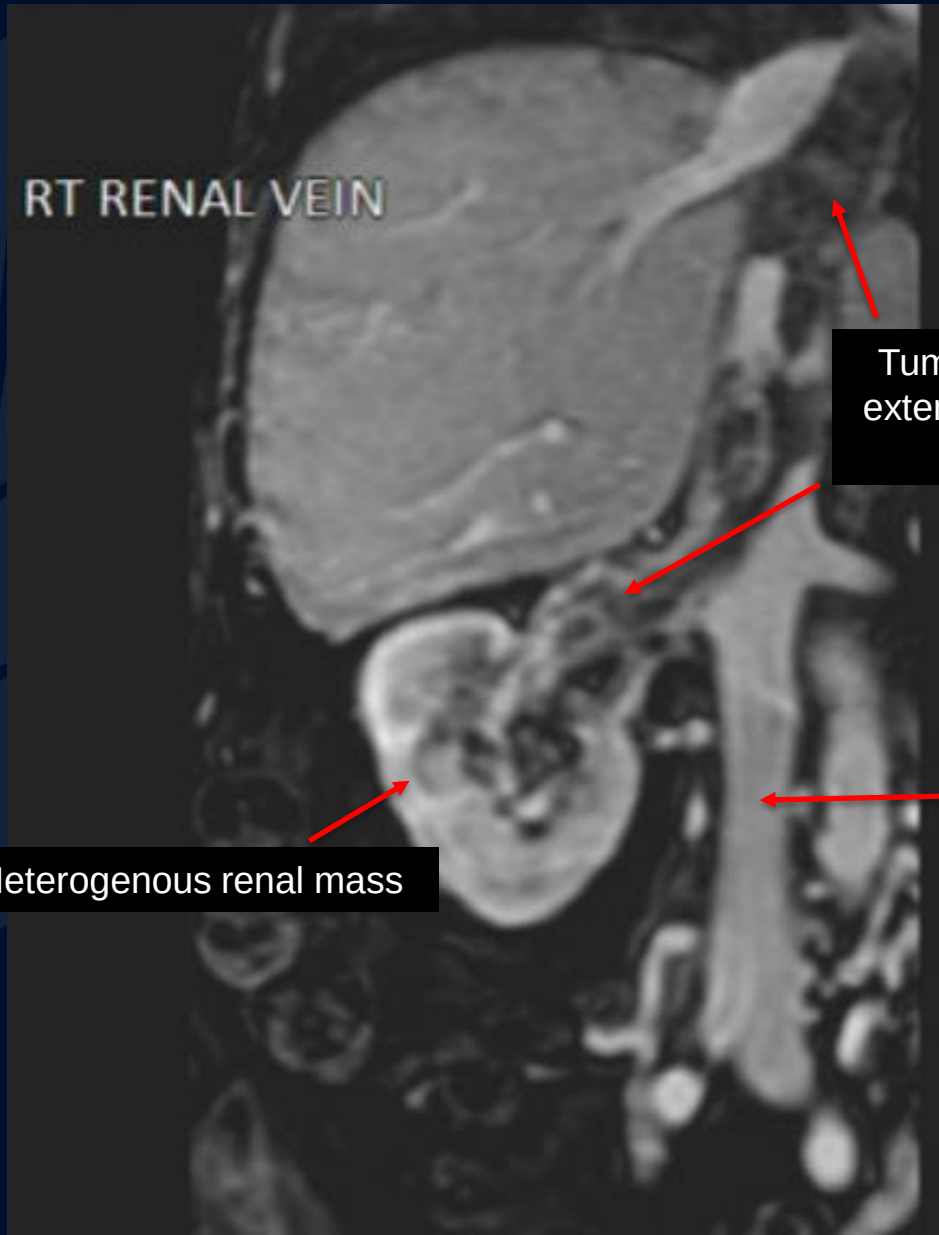
Some intraluminal contrast is present, indicating partial rather than complete occlusion

Tumor thrombus extending to the level of the right atrium

CT Contrast (Nephrogenic phase)



MRV



Tumor thrombus
extends superiorly
into IVC

Infrarenal IVC without
thrombus

Heterogenous renal mass

Renal Cell Carcinoma with Tumor Thrombus

- Renal Cell Carcinoma (RCC)
 - Most common form of renal cancer
 - Defined by “clear cells” with cytoplasm rich in glycogen & lipids
- Tumor thrombus (TT)
 - Intravascular tumor extension with both soft tissue and thrombotic components
 - Most associated with RCC, HCC, ACC, and Wilms tumor
 - Occurs 5%–15% of all RCC cases
 - Extends up to the right heart chambers in <1% RCC cases
- RCC with TT Prognosis:
 - Complete surgical resection of primary tumor & TT 5-year survival = > 50%
 - Incomplete resection 5-year survival = 10%

Differential Diagnosis

- Tumor thrombus vs. bland thrombus
 - Neoplastic cells present vs. free of neoplastic cells
 - Important to differentiate as tumor thrombus portends worse staging, affects treatment
 - Imaging findings distinguishing tumor thrombus:
 - CT/MRI:
 - Presence of enhancement
 - Appearance of vessel expansion
 - Diffusion restriction
 - CTA:
 - “Streak and thread” sign
 - FDG-PET:
 - Increased uptake of fluorodeoxyglucose

References

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