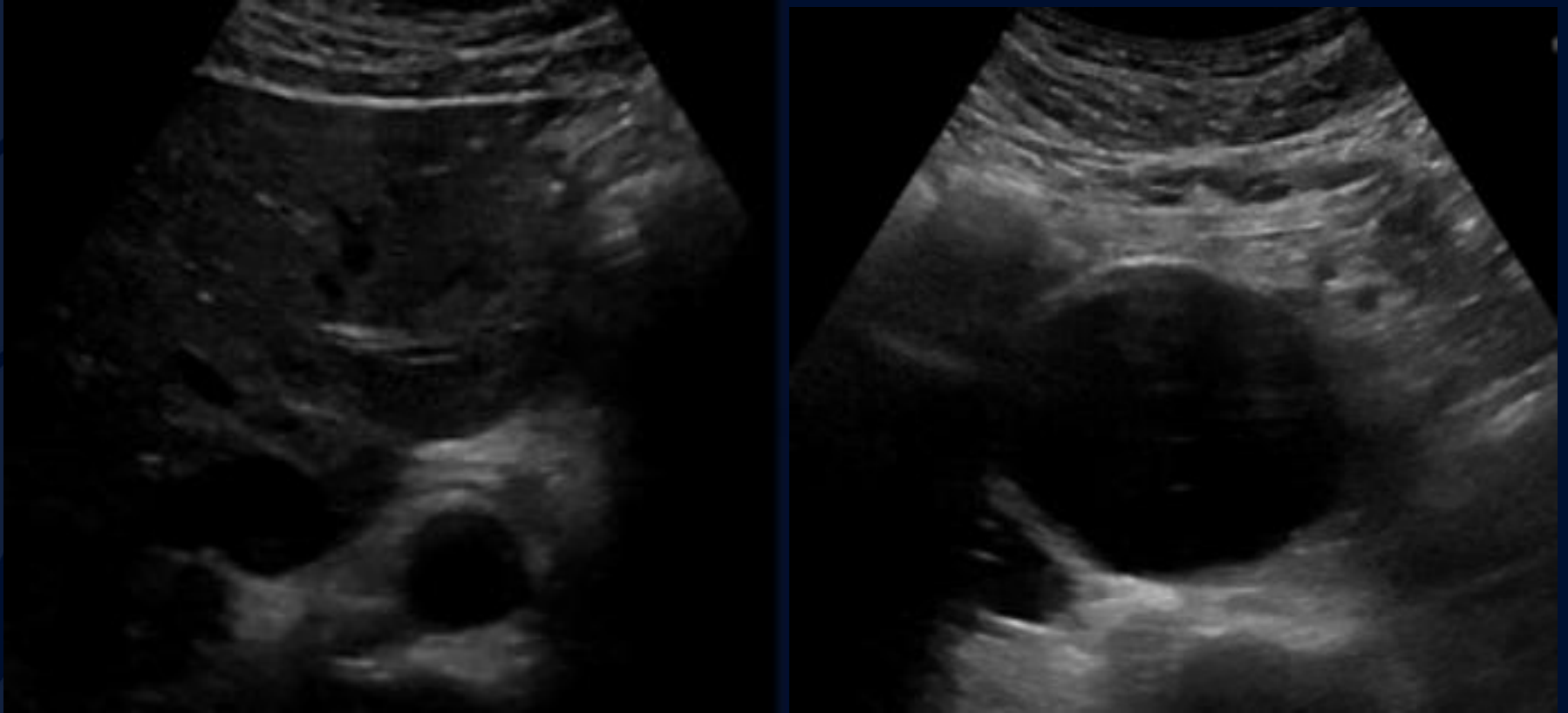


82-year-old male with a history of smoking

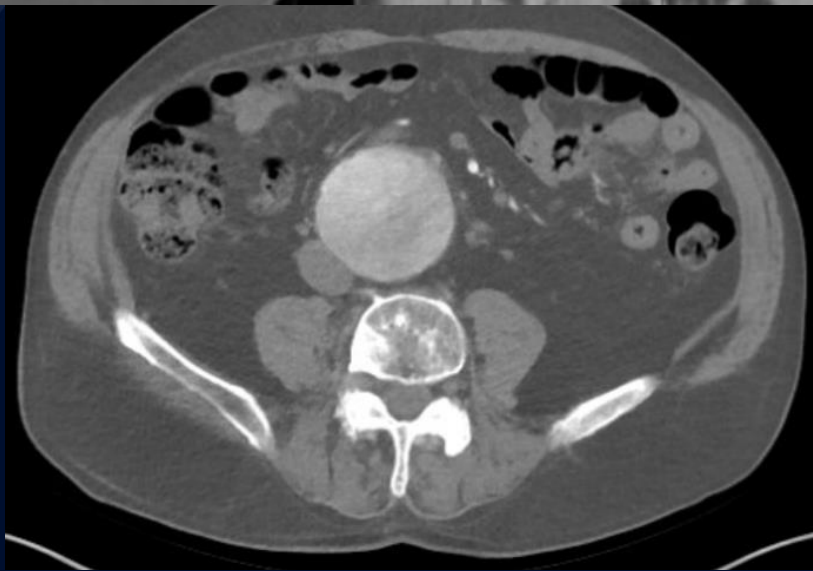
Maria Iannotti, MS3

Abdominal US





CT Angiography



A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide. It features detailed vein patterns and a lobed edge.

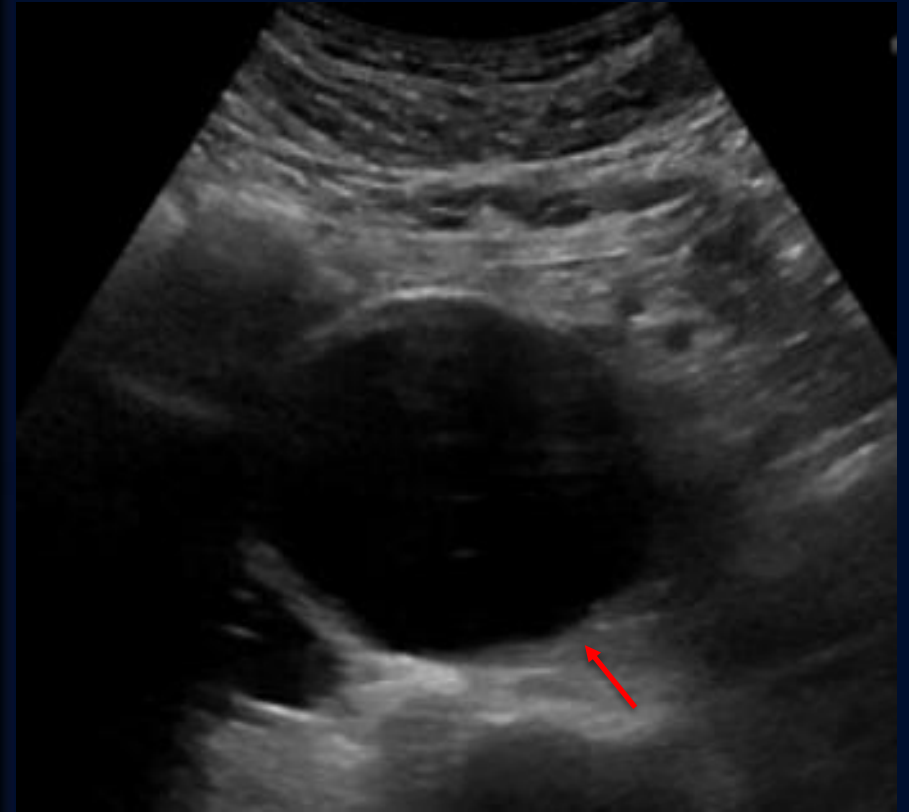
?

Abdominal Aortic Aneurysm (AAA)

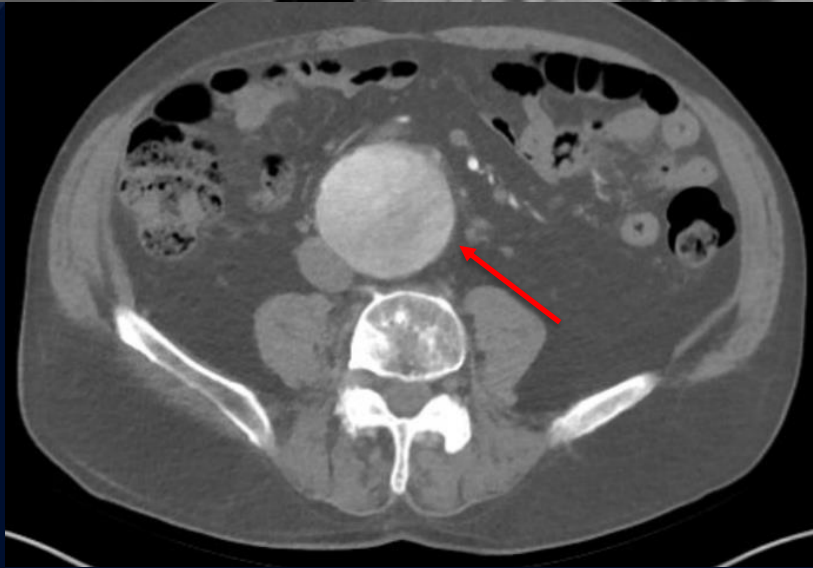
Abdominal US



Proximal abdominal aorta



Distal abdominal aorta



CT Angiography

Abdominal Aortic Aneurysm

Fusiform or saccular enlargement of the abdominal aorta $\geq 1.5x$ normal diameter (> 3 cm)

Clinical presentation

- Asymptomatic
 - Majority of patients; often discovered incidentally or on screening study
- Symptomatic but not ruptured
 - Pulsatile abdominal mass, development of symptoms due to rapid expansion causing compression of surrounding structures
- Symptomatic and ruptured
 - Severe pain, hypotension, pulsatile abdominal mass
 - Pulsatile abdominal mass on physical exam

Imaging Findings

Ultrasound

- Fusiform dilation of aorta
- Anechoic lumen +/- hyperechoic thrombus
- Doppler shows turbulent flow in the aneurysm sac
- Used for first line screening and monitoring for growth

CT

- Better establishes precise anatomic location of aneurysm, helpful for surgical planning
 - Described by its relationship to renal arteries: infrarenal, juxtarenal, suprarenal
- Distinguishes residual lumen from mural thrombus
- Evaluates for rupture
- Rule out other abdominal pathology

CTA

- Defines aneurysm neck, morphology and iliac involvement
- Used to evaluate for complications and surveillance after endovascular repair

References

- Ali MU, Fitzpatrick-Lewis D, Miller J, Warren R, Kenny M, Sherifali D, Raina P. Screening for abdominal aortic aneurysm in asymptomatic adults. *J Vasc Surg*. 2016 Dec;64(6):1855-1868. doi: 10.1016/j.jvs.2016.05.101. PMID: 27871502.
- Creager MA, et al. Screening for abdominal aortic aneurysm. Post TW, ed. UpToDate. Waltham, MA: UpToDate Inc. <http://www.uptodate.com>. (Accessed on April 15, 2023.)
- Dalman RL, et al. Management of asymptomatic abdominal aortic aneurysm. Post TW, ed. UpToDate. Waltham, MA: UpToDate Inc. <http://www.uptodate.com>. (Accessed on April 15, 2023.)
- Guirguis-Blake JM, Beil TL, Senger CA, et al. Primary Care Screening for Abdominal Aortic Aneurysm: A Systematic Evidence Review for the U.S. Preventive Services Task Force [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2019 Dec. (Evidence Synthesis, No. es184.) Available from: <https://www.ncbi.nlm.nih.gov/books/NBK551970/>
- Jim J, et al. Clinical features and diagnosis of abdominal aortic aneurysm. Post TW, ed. UpToDate. Waltham, MA: UpToDate Inc. <http://www.uptodate.com>. (Accessed on April 15, 2023.)
- Shaw PM, Loree J, Gibbons RC. Abdominal Aortic Aneurysm. [Updated 2023 Feb 24]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK470237/>
- Sparks AR, Johnson PL, Meyer MC. Imaging of abdominal aortic aneurysms. *Am Fam Physician*. 2002 Apr 15;65(8):1565-70. PMID: 11989632.