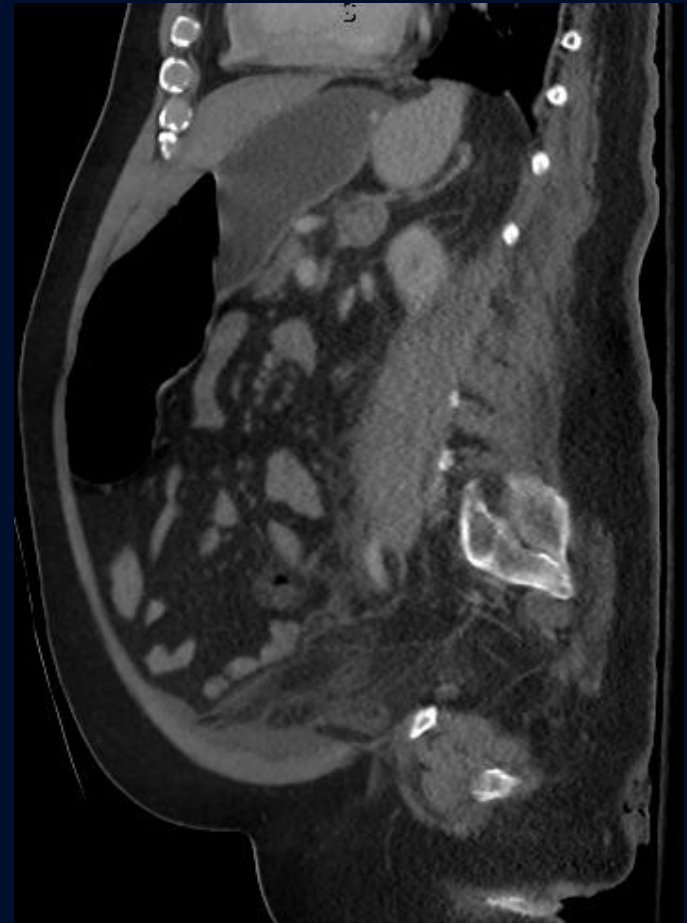
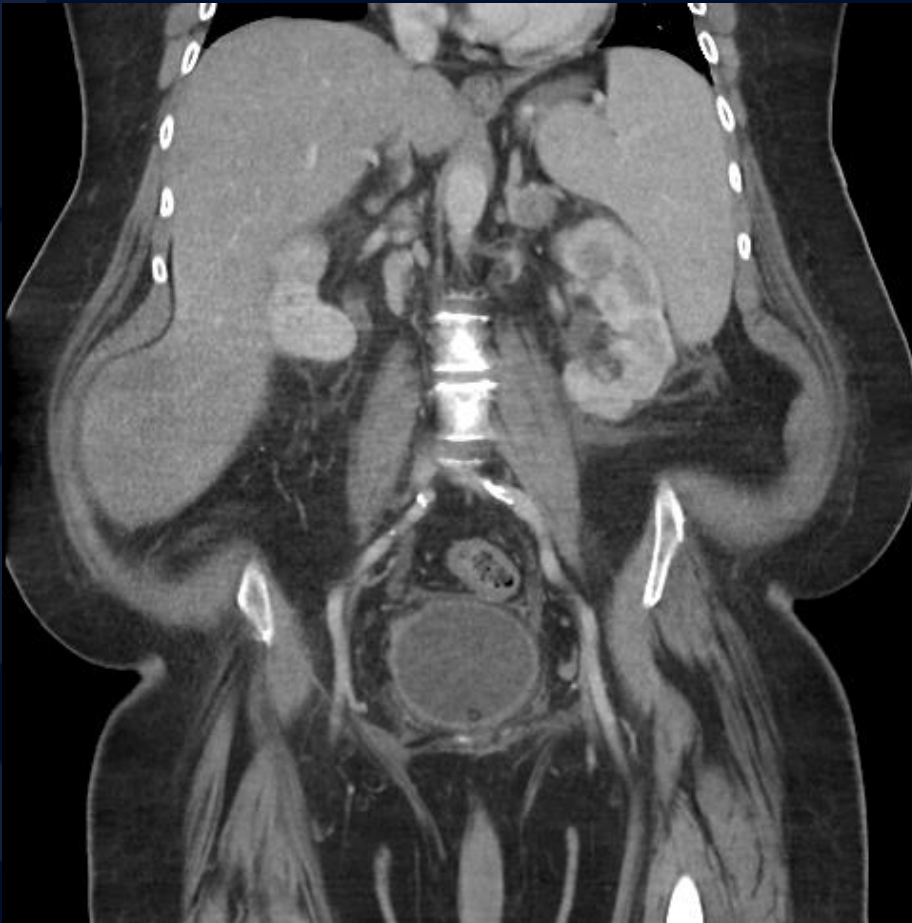


64-year-old male presenting with new onset resistant hypertension

Brooke Onwenu, MS3

CT IV Contrast



CT IV Contrast

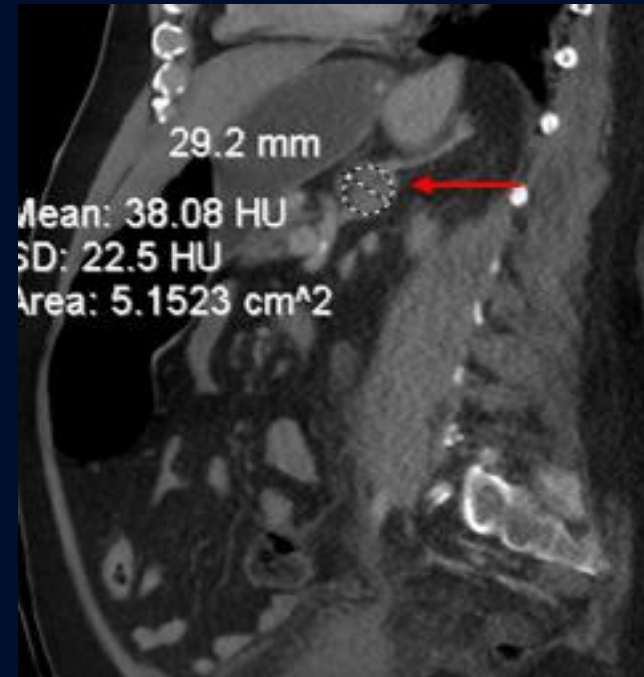
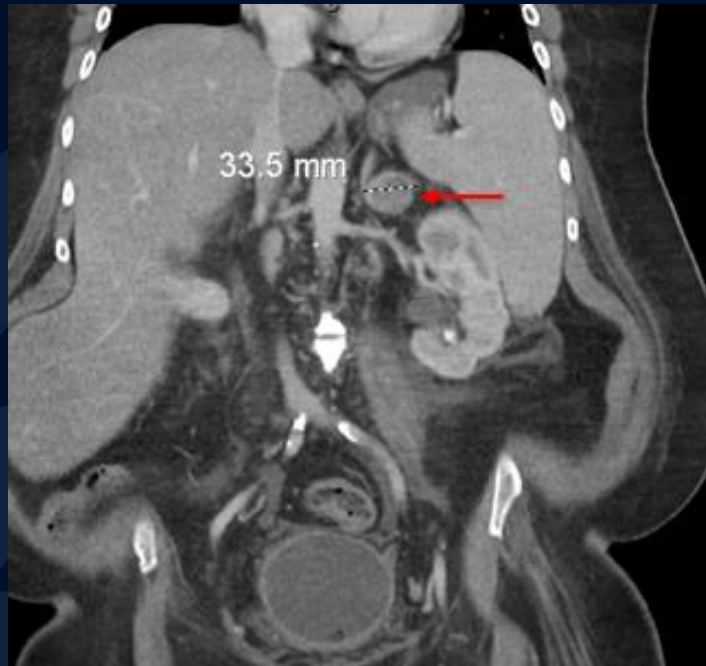




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Aldosterone-producing Adenoma (Conn Syndrome)

CT IV Contrast



Aldosterone-producing Adenoma (Conn Syndrome)

- Epidemiology
 - Less than 1 percent causes of an adrenal incidentaloma.
 - Most adrenal incidentalomas are nonfunctional; 10 to 15 percent secrete excess amounts of hormones.
- **Pathophysiology:** Aldosterone works to increase the number of open sodium channels in the apical membrane of principal cells in the cortical collecting tubule; resulting in increased sodium reabsorption subsequent effect such as hypertension.
- Clinical presentation
 - Hypertension (major clinical finding) in the setting of low renin values
 - Hypokalemia (inconsistent finding)
 - Increased cardiovascular risk associated with increased left ventricular mass and decreased left ventricular function
 - Metabolic syndrome
- **Differential diagnosis**
 - Subclinical Cushing syndrome
 - Pheochromocytoma
 - Adrenocortical carcinoma
 - Metastatic disease

Imaging Findings

CT

- Benign adenomas are typically round and homogeneous with smooth contour and sharp margins.
- Most often less than 4 cm, usually unilateral.
- Non-contrast images: often ≤ 10 HU, but this is not the case in 30% of adenomas.

References

- Funder JW, Carey RM, Mantero F, et al. The Management of Primary Aldosteronism: Case Detection, Diagnosis, and Treatment: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab* 2016; 101:1889.
- Young WF Jr. Diagnosis and treatment of primary aldosteronism: practical clinical perspectives. *J Intern Med* 2019; 285:126.
- Mulatero P, Monticone S, Burrello J, et al. Guidelines for primary aldosteronism: uptake by primary care physicians in Europe. *J Hypertens* 2016; 34:2253.
- Brown JM, Siddiqui M, Calhoun DA, et al. The Unrecognized Prevalence of Primary Aldosteronism: A Cross-sectional Study. *Ann Intern Med* 2020; 173:10.
- Käyser SC, Dekkers T, Groenewoud HJ, et al. Study Heterogeneity and Estimation of Prevalence of Primary Aldosteronism: A Systematic Review and Meta-Regression Analysis. *J Clin Endocrinol Metab* 2016; 101:2826.
- Monticone S, Burrello J, Tizzani D, et al. Prevalence and Clinical Manifestations of Primary Aldosteronism Encountered in Primary Care Practice. *J Am Coll Cardiol* 2017; 69:1811.
- Dunnick NR, Korobkin M, Francis I. Adrenal radiology: distinguishing benign from malignant adrenal masses. *AJR Am J Roentgenol* 1996; 167:861.
- Canu L, Van Hemert JAW, Kerstens MN, et al. CT Characteristics of Pheochromocytoma: Relevance for the Evaluation of Adrenal Incidentaloma. *J Clin Endocrinol Metab* 2019; 104:312.