

Evidence Discussion

(AB 16.1) **EviCore**
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Asymptomatic Adrenal Cortical

- CT scan of the abdomen is the recommended initial study to evaluate adrenal gland nodules.
- 75% of adrenal incidentalomas are benign nonfunctioning adenomas and are lipid rich, with low density, having HU(Hounsfield Units) of 10 or less, and with other characteristic appearances, and are therefore easily identified with an unenhanced CT of the Abdomen.
- The sensitivity and specificity for adenoma characterization are 71% and 98%, respectively, when using unenhanced CT scan for lesions having a density of 10 or less HU.
- A chemical shift MRI (CS-MRI) of the abdomen is also useful in characterizing adrenal gland masses with lower density and are allowed when getting follow up studies, when there is a contraindication to CT or contrast , or in pregnancy.
- However, it should be cautioned that MRI may not detect intracellular lipid when the adrenal mass has a HU > 30.
- MRI is also less sensitive in evaluation of masses with higher HU over 20 compared to CT scans that calculate contrast wash out times.
- A CT scan may expose patients to radiation however compared to MRI, CT scans take less time to perform and are less costly compared to MRI and have superiority compared to MRI when further evaluation of lesions with higher density is needed using adrenal CT protocol for wash out measurements.
- Unenhanced CT for lesions w/ density >30 HU had a 66.6% chance of remaining indeterminate even after evaluation with chemical shift MRI.
- Adrenal protocol CT has the highest sensitivity (98%) and Specificity (92%) so should be the study of choice to differentiate between adenoma vs. nonadenomas when an adrenal mass remains indeterminate

References

1. Adrenal imaging for adenoma characterization: imaging features, diagnostic accuracies and differential diagnoses. Park JJ, Park BK, Kim CK. Br J Radiol 2016; 89: 20151018.
2. Vaidya A, Hamrahian A, Bancos I, Fleseriu M, Ghayee HK. The evaluation of incidentally discovered adrenal masses. Endocr Pract. 2019;25(2):178-192.
3. Mayo-Smith WW, Song JH, Boland GL, et al. Management of Incidental Adrenal Masses: A White Paper of the ACR Incidental Findings Committee. J Am Coll Radiol. 2017;14(8):1038-1044.
4. Kebebew E. Adrenal Incidentaloma. N Engl J Med. 2021;384(16):1542-1551.