

Evidence Discussion – Adrenal Gland Metastases (ONC-31.4)

The primary guideline for the workup of adrenal masses is AB 16.1. This guideline is supplemental to that information, which should be referenced first.

In patients with known extra-adrenal malignancy and no known systemic metastatic disease who have been found to have a new, enlarging or inconclusive adrenal mass on other imaging, a non-contrast CT adrenal protocol or CT abdomen with and without contrast adrenal protocol or an MRI abdomen without or without and with contrast are all supported by ACR appropriateness criteria (Mody 2021). Non-contrast images allow for initial attenuation measurements, but contrast-enhanced images with imaging for washout characteristics can help differentiate adenomas from metastatic disease (Mody 2021, Mayo-Smith 2017). Non-contrast chemical shift MRI can help detect intracytoplasmic fat, providing insight into benign vs malignant characteristics, but post-contrast imaging adds further specificity for adenoma (Mody 2021, Mayo-Smith 2017). CT-directed needle biopsy may also be appropriate and is supported by the guidelines if requested (Mody 2021, Mayo-Smith 2017).

The utility of PET-CT varies with histology and type of radiotracer. Generally, the use of PET-CT for a given malignancy is addressed in the disease-specific guidelines. For lesions with no known history of malignancy, there is no primary evidence supporting the use of FDG PET-CT for initial evaluation (Mody 2021). In one study of 1,049 incidental adrenal masses in patients with no known history of cancer, zero were malignant (Song 2008). Mild SUV uptake can also be seen in benign adenomas, bringing the sensitivity of PET-CT to only 85% (Vikram 2008, Metser 2006, Mody 2021). False-positive interpretations potentially result in unnecessary invasive procedures. When other adrenal-specific cross sectional imaging is suspicious for malignancy by size and other criteria, biopsy is preferred. If a biopsy is not feasible or non-diagnostic, PET-CT may show increased SUV uptake in malignant lesions and guide further decision making, and is supported by the ACR in this context (Mody 2021, Mayo-Smith 2017).

References

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