

Evidence Discussion (AB-35)

Indeterminate Renal Lesion

Advantages of Ultrasound includes universal availability, portability, and lack of ionizing radiation. Doppler ultrasound can distinguish between cystic and solid lesions, as well as characterize the quality, presence, and velocity of flow. Therefore, ultrasound can classify a lesion as either a simple cyst or a Bosniak I or II, eliminating the need for further imaging.

The American Urological Association recommends that patients with a solid or complex cystic renal mass obtain high quality, multiphase, cross-sectional abdominal imaging to optimally characterize any renal lesion seen on ultrasound, or found incidentally on other imaging studies or non-contrast enhanced abdominal imaging.

Advanced imaging techniques such as computer tomography (CT) and magnetic resonance imaging (MRI) offer excellent 3-dimensional resolution. CT scans expose patients to a significant dose of ionizing radiation; however, their rapid image acquisition reduces the potential for motion artifacts. In contrast, MRI provides better soft tissue contrast resolution than CT and does not involve ionizing radiation exposure. Yet, its longer imaging times make it prone to motion artifacts and may necessitate sedation. Additionally, MRIs are contraindicated for individuals with non-MRI compliant implants or ferromagnetic foreign bodies.

References

1. Campbell SC, Clark PE, Chang SS et al: Renal Mass and Localized Renal Cancer: Evaluation, Management, and Follow-Up: AUA Guideline Part I. *J Urol.* 2021;206:199.
2. Campbell SC, Uzzo RG, Karam JA, et al: Renal Mass and Localized Renal Cancer: Evaluation, Management, and Follow-up: AUA Guideline: Part II. *J Urol.* 2021;206:209.