

DIAGNOSTIC IMAGING OF SMALL RENAL MASSES

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Intensive use of radiological and diagnostic procedures has led to more frequent detection of small renal masses in the last two decades. The term "small renal mass" refers to renal tumors up to 4 cm, but some authors define them as tumors up to 3 cm in diameter. Diagnostic imaging may play an important role in making a decision about the treatment of these tumors, which involves surgery, ablative treatment or active monitoring. In this article, we described the imaging methods in the diagnosis of small renal tumors, and radiological characteristics of the three most common renal tumor entities (renal cell carcinoma, angiomyolipoma and oncocytoma). Radiological characteristics of benign and malignant tumors of the kidney often overlap, and therefore their adequate radiological differentiation can be very difficult. Computerized tomography, along with magnetic resonance imaging, is still the method of choice, and imaging before and after contrast administration is the gold standard to assess the malignancy of the tumor. An ultrasound examination can be used in a long-term active surveillance protocol, because of the advantages it has such as the safety of the patient and cost effectiveness. The application of newer diagnostic methods such as contrast enhanced ultrasound and "diffusion weighted MR imaging", showed good results, but the diagnostic criteria are still not sufficiently aligned. Recently, attempts have been made to implement different computer, diagnostic algorithms that could improve the diagnosis of small renal masses using a computerized tomography. *Acta Medica Medianae 2016;55(3):66-75.*

Key words: small renal mass, renal cell carcinoma, angiomyolipoma, oncocytoma, imaging