

Imaging of Renal Parenchymal Disease

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Renal parenchymal disease refers to a disease affecting the renal parenchyma as well as systemic disease involving kidneys. Although the diagnosis of renal parenchymal disease still largely depends on renal biopsy, imaging studies have important roles in the evaluation of patients.

A plain radiograph may offer renal size and the presence of abnormal renal calcifications or urolithiasis. Ultrasound (US) is often the first-line modality for the evaluation of renal parenchymal and chronic renal disease. The change of renal cortical echogenicity is the one of the most common clues in renal parenchymal disease. Doppler US is a technique for the evaluation of renal blood vessels and hemodynamic changes of the kidney. The evaluation of renal artery stenosis is one of the examples. Even the technologies of Computed Tomography (CT) and Magnetic resonance imaging (MRI) are under the rapid evolution, the role of CT and MR in renal medical disease is limited. However, in selected cases, they may be helpful.

In this talk, several updates of imaging modalities including US, CT and MR would be introduced in the evaluation of medical renal disease. The understanding of the various imaging findings of renal parenchymal disease is crucial in proper management of renal disease patients.