

Radiological Imaging Of Renal Cell Carcinoma: An Update

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The rapid growth in the use of cross-sectional imaging has resulted in the increased detection of small asymptomatic renal masses. Renal cell carcinoma is the most common primary malignant neoplasm of the kidney. Renal cell carcinoma constitutes 85–90% of all renal tumours; up to 60% might be serendipitously discovered on cross-sectional imaging. These tumours are generally smaller and with an earlier tumour stage, and therefore a better prognosis.

In turn, this has led to the increased use of minimally invasive techniques, e.g. partial nephrectomy, laparoscopic resection, robotic surgery, radiofrequency ablation and cryotherapy. Increasing sophistication of surgical approach has been mirrored with advances in radiological imaging.

To enable the surgeon to make appropriate preoperative decisions and to operate with confidence in an environment with a restricted field of view, imaging must now offer more accurate detection, localization and characterization of smaller masses, and an exquisite depiction of the arterial, venous and lymphatic anatomy. The role of radiological imaging is also important for surveillance and post treatment follow up especially in detecting tumour recurrence. In this lecture, we will discuss the radiological imaging for renal cell carcinoma and its update.