Conclusion: In general, ADC values are not useful in differentiating adrenal lesions. However, when ADC values are applied to lesions that are indeterminate on signal intensity index, they may help in differentiating a subset of benign and malignant lesions.

Editorial Comment

Adrenal incidentalomas are found in about 6% of patients submitted to abdominal computed tomography. Based on distinct radiologic criteria classified as morphologic (size, shape, rate of growing), histologic (lipid content of the mass on CT without contrast or on chemical-shift imaging on MRI without contrast) and physiologic (absolute washout of contrast on CT), the vast majority of adrenal incidentalomas are adequately characterized as a benign or malignant. Lipid rich adrenal adenoma loses signal intensity when protons from water and fat are on opposed-phase in comparison with imaging when these protons are in-phase. Signal intensity index higher than 16.5% is usually found in benign adenomas. Indeterminate adrenal lesion represents a lesion with signal intensity index below 16.5%. In such situation, the authors showed that use of ADC values obtained with diffusion-weighted imaging (DWI) might be useful in differentiating benign from malignant adrenal lesions.

Although in our protocol for DWI of adrenal masses we use a different "b-value" (b-factor of 1000), we have found no utility of DWI even in this selected group of patients with indeterminate lesion on CSI. Actually we have seen two out of 13 adrenal adenomas showing the lowest ADC values. As pointed out by the authors, the different proportion of lipid-poor adenomas and fat-containing adrenal metastases may explain distinct results with DWI.

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Characterization of small solid renal lesions: can benign and malignant tumors be differentiated with CT?

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Objective: The purpose of this study was to evaluate the diagnostic performance of CT in determining whether a small solid renal enhancing mass is benign or malignant.
Materials and Methods: Ninety-nine biopsies of enhancing solid renal masses 4 cm or smaller without fat on CT scans were performed under CT fluoroscopic guidance. The growth pattern, interface with parenchyma, presence of a scar and segmental inversion enhancement, unenhanced CT histogram, and pattern and degree of enhancement on triphasic MDCT images were independently evaluated by two radiologists. Biopsy and pathology reports were used as the reference standard, and imaging follow-up of benign lesions was performed for at least 1 year. Statistical analysis was performed to determine the significance of CT criteria in differentiating malignant from benign lesions.
Results: Of the 99 lesions, 74 (75%) were malignant at biopsy, and 25 (25%) were benign. Lesions with gradual enhancement were more likely to be benign. No significant correlation was found between other CT

features and a malignant or benign diagnosis. The sensitivity, specificity, and positive and negative predictive values of progressive enhancement for a diagnosis of benignity were 60%, 73%, 43%, and 84%.
Conclusion: In the evaluation of enhancing small solid renal lesions without fat, no CT criteria were of substantial help in differentiating malignant from benign lesions.

Editorial Comment

Pre-operative characterization of small solid enhancing renal lesion containing no macroscopic fat is a difficult task. Although the CT characteristics of benign solid renal lesion overlap with those of renal cell carcinoma, we encourage radiologists from our institution to narrow the differential diagnosis whenever it is possible. The pre-operative radiologic impression of renal tumor histology is of particular value when affects therapeutic management. During the nephrographic (90-100 seconds) and excretory phase (180 seconds), some renal tumors subtypes demonstrate significant different degrees of enhancement. Clear cell of renal carcinoma can be suggested by the presence of strong and heterogeneous contrast enhancement and rapid washout. Papillary renal cell carcinoma is usually homogeneously hipovascular similarly to the rare benign metanephric adenoma. Solid homogeneously hypervascular renal mass can be observed in oncocytoma and angiomyolipoma without macroscopic fat. Thus, depending on the clinical scenario, percutaneous biopsy is performed particularly when its results will influence therapeutic management

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PATHOLOGY

Identification of Gleason pattern 5 on prostatic needle core biopsy: frequency of underdiagnosis and relation to morphology

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The presence of a Gleason pattern 5 prostatic adenocarcinoma is associated with a worse outcome. This study assesses the accuracy of grading a tumor as having Gleason pattern 5 and the potential factors contributing to its undergrading. From the consultation service of one of the authors, we identified 59 consecutive needle biopsy cases comprising 138 parts that, upon review, were graded as having Gleason pattern 5. All cases were reported as the final diagnosis by the outside pathologist. They were sent for a second opinion at the behest of clinicians or patients and not because the pathologist was seeking a second opinion. Considering the highest Gleason score in a given multicore specimen as the overall Gleason score, Gleason pattern 5 was missed in 34 of 59 (57.6%) cases by the outside pathologist. Compared with the outside pathologist's diagnosis, the Gleason score rendered at the second opinion was increased in 101 of 138 (73.2%) parts, was decreased in 5 of 138 (3.6%) parts, and remained unchanged in 32 of 138 (23.2%) parts. Gleason pattern 5 was not identified by the initiating pathologist in 67 of 138 (48.6%) of the evaluated parts. The architectural patterns of pattern 5