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

were as follows: single cells (n = 104, 75.3%); solid sheets (n = 69, 50%); cords (n = 62, 44.9%); and comedonecrosis (n = 3, 2.2%). Pattern 5 was missed more frequently when it was not the primary pattern. The most common Gleason pattern 5 architectural type was single cells and the least common was comedonecrosis. None of the architectural patterns appeared to be more correctly identified than the others; however, the most accurate grading was when the primary pattern was 5 and was composed mostly of solid sheets. Owing to the important prognostic and therapeutic implications of Gleason pattern 5, pathologists must be attuned to its varied patterns and to the fact that it may often represent a secondary or tertiary component of the carcinoma.

Editorial Comment

Gleason pattern 5 is associated with a worse outcome following radical prostatectomy. There are several architectural types for pattern 5: single cells, solid sheets, cords and comedocarcinoma. The latter architectural type is the least common.

The consensus meeting by the International Society of Urological Pathology (ISUP) on Gleason grading held during the USCAP Congress in San Antonio in 2005, established that the tertiary pattern on a needle biopsy should be incorporated in the final score whenever is higher than the secondary pattern (1). This may be one of the reasons why general pathologists do not consider pattern 5 in the final Gleason score.

The study from Johns Hopkins, compared how often pattern 5 was missed by outside pathologists in cases that were reviewed by Epstein at the study Institution. 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 decresed in 5 of 138 (3.6%) parts, and remained unchanged in 32 of 138 (23.2%) parts.

The study emphasizes that owing to the important prognostic and therapeutic implications of Gleason pattern 5, pathologists must be attuned to its varied patterns and to the fact that it may often represent a secondary or tertiary component of the carcinoma.

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