

nephrectomy. They concluded that laparoscopic cryoablation is a safe procedure that can be applied towards hilar small renal tumors with less complications compared to laparoscopic partial nephrectomy.

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IMAGING

Prediction of Organ-Confined Prostate Cancer: Incremental Value of MR Imaging and MR Spectroscopic Imaging to Staging Nomograms

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Purpose: To assess retrospectively the incremental value of endorectal coil magnetic resonance (MR) imaging and combined endorectal MR imaging-MR spectroscopic imaging to the staging nomograms for predicting organ-confined prostate cancer (OCPC).

Materials and Methods: The institutional review board approved this HIPAA-compliant study and issued a waiver of informed consent for review of the MR reports and clinical data. Between November 1, 1999, and November 1, 2004, 229 patients underwent endorectal MR imaging and 383 underwent combined endorectal MR imaging-MR spectroscopic imaging before radical prostatectomy. Mean patient age was 58 years (range, 32-74 years). MR studies were interpreted prospectively by 12 radiologists who were informed of patients' clinical data. On the basis of the MR reports, the risks of extracapsular extension, seminal vesicle invasion, and lymph node metastasis were scored retrospectively from 1 to 5; the highest score was subtracted from 6 to determine a score (from 1 to 5) for the likelihood of OCPC on MR studies. The staging nomograms were used to calculate the likelihood of OCPC on the basis of serum prostate-specific antigen level, Gleason grade at biopsy, and clinical stage. Histopathologic findings constituted the reference standard. Logistic regression was used to estimate the multivariable relations between OCPC and MR findings. The area under the receiver operator characteristic curve was calculated for each model. The jackknife method was used for bias correction. **Results:** MR findings contributed significant incremental value ($P \leq .02$) to the nomograms in the overall study population. The contribution of MR findings was significant in all risk groups but was greatest in the intermediate- and high-risk groups ($P < .01$ for both). Accuracy in the prediction of OCPC with MR was higher when MR spectroscopic imaging was used, but the difference was not significant.

Conclusion: Endorectal MR imaging and combined endorectal MR imaging-MR spectroscopic imaging contribute significant incremental value to the staging nomograms in predicting OCPC.

Editorial Comment

Following strict criteria of macroscopic disease, endorectal MR imaging associated with superficial phased array coil, allows an overall accuracy of 83% and specificity of 98 % for detecting extraprostatic disease. In this

very well designed study 383 patients underwent endorectal MR imaging combined with MR spectroscopic imaging, and 229 underwent endorectal MR imaging alone. Mean patient age was 58 years (range, 32–74 years). None of the patients received neoadjuvant hormonal or radiation therapy prior to surgery. Pathological diagnosis of prostate cancer was made at biopsy in all patients. Clinical stage (determined by means of digital rectal examination), serum PSA level, and Gleason grade in the biopsy specimen, as well as MR data, were recorded retrospectively from the patients' medical records by two coauthors. Overall, in the prediction of OCPC, the area under the ROC curve for the staging nomograms was 0.80, while the area under the ROC curve for the staging nomograms plus MR findings was 0.88; the difference was significant ($P < .01$). The incremental value of MR findings to the staging nomograms was significant in all three risk groups, although it was greater in the intermediate- and high-risk groups ($P < .01$ for both) than in the low-risk group ($P = .02$). In the combined endorectal MR imaging–MR spectroscopic imaging group, the areas under the ROC curves were 0.81 for the staging nomograms and 0.90 for the staging nomograms plus MR findings; the difference was significant ($P < .01$). The authors nicely show that, the addition of MR findings to the “Partin Tables” (2001 version), significantly improved the prediction of OCPC for the overall patient population ($P < .01$).

Additional advantages of MR imaging combined with MR spectroscopy is the ability of these imaging methods to predict the risk of positive surgical margins, demonstrate the exact site of extraprostatic extension and to improve the surgeon's decision to preserve or to resect the neurovascular bundle during radical prostatectomy. Based on our limited experience, using routinely combined endorectal MR imaging with MR spectroscopy for staging prostatic cancer, in the last 16 months, we agree with the authors conclusion. Endorectal MR imaging should be included into future staging nomograms for the prediction of OCPC particularly in those patients with intermediate and high risk for presenting extraprostatic disease. Obviously further multicenter confirmatory studies are still mandatory.

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Retained Seminal Vesicles after Radical Prostatectomy: Frequency, MRI Characteristics, and Clinical Relevance

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Objective: Changes after radical prostatectomy (RP) may present potential pitfalls in the interpretation of pelvic MRI studies in post-RP patients. One such change is retained seminal vesicles (SVs). The purpose of this study was to characterize the MRI features and evaluate the frequency of retained SV remnants in patients after RP.

Conclusion: Retained SV remnants are a common finding after RP. Most are fibrotic distal tips. Recognition of SV remnants may prevent their misinterpretation as local recurrences.

Editorial Comment

During retropubic prostatectomy, among others surgical modifications, seminal vesicle sparing have been performed in order to prevent injury to vital vascular and neural structures and to obtain a better chance of

continence and potency, with minimal risk of residual tumor. Despite improvements in detection of early prostate cancer and in surgical procedures, approximately 25% of patients develop biochemical recurrence after radical prostatectomy (1). The clinicians usually use PSA kinetics in order to differentiate local recurrence from metastatic disease. Since MR imaging, particularly with endorectal coil, may be used in the evaluation of the postprostatectomy bed, for the detection of recurrent disease, it is of crucial importance to adequately differentiate retained SV remnants from recurrent disease. In this interesting study, the authors' detected SV remnants in 52 (20%) of 263 of the patients examined, with an additional 99 patients (38%) having findings suggestive of retained fibrotic SV tips. In 22 (8%) of the patients examined, the seminal vesicles were retained at more than half their presurgical size. The appearance of SV remnants may persist for years after surgery. SV remnants showing low signal intensity on T2-weighted images ranged from intermediate to low signal intensity, compared with the signal intensity of water. The decreased signal intensity is assumed to be related to differing degrees of fibrosis. Fibrotic, SV remnants and retained fibrotic SV tips were found most commonly in the superolateral aspects of the prostatectomy fossa. The authors also pointed out that, although, retained SVs do not secrete PSA, they tend to pull down along the lateral aspects of the rectum and then may be palpated on digital rectal examination as small firm nodules and may be mistaken for a local recurrence. Another point to be considered is that local recurrence may occur within retained SVs.

Reference

1. Carroll P: Rising PSA after a radical treatment. *Eur Urol.* 2001; 40 (Suppl 2): 9-16.

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UROGENITAL TRAUMA

Reasons to Omit Digital Rectal Exam in Trauma Patients: No Fingers, No Rectum, No Useful Additional Information

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Background: Performance of digital rectal examination (DRE) on all trauma patients during the secondary survey has been advocated by the Advanced Trauma Life Support course. However, there is no clear evidence of its efficacy as a diagnostic test for traumatic injury. The purpose of this study is to analyze the value of a policy mandating DRE on all trauma patients as part of the initial evaluation process and to discern whether it can routinely be omitted.