Limited value of endorectal magnetic resonance imaging and transrectal ultrasonography in the staging of clinically localized prostate cancer.

OBJECTIVE: To examine the role of endorectal magnetic resonance imaging (eMRI) and transrectal ultrasonography (TRUS) for clinically localized prostate cancer and to assess interobserver agreement in interpreting MRI studies. PATIENTS AND METHODS: Fifty-four patients with biopsy-confirmed prostate cancer underwent TRUS and eMRI before radical retropubic prostatectomy. The MR images were prospectively interpreted by two radiologists with special expertise in this field. The criteria evaluated prospectively in each patient were extracapsular extension (ECE) and seminal vesicle invasion (SVI). The results were correlated with the histopathological findings after radical prostatectomy. RESULTS: At pathology, 27 patients had stage pT2, 15 had stage pT3a and 12 had stage pT3b lesions. The overall accuracy of eMRI in defining local tumour stage was 93% by radiologist A and 56% by radiologist B; the overall accuracy by TRUS was 63%. There was a poor correlation for the MRI studies between observers. The eMRI was more sensitive than TRUS for detecting ECE and SVI in organ-confined prostate cancer. TRUS had a relatively high specificity for ECE and SVI, and was better than eMRI in this regard. CONCLUSION: Whereas MRI tended to over-stage, TRUS under-staged prostate cancer. This series shows the current limited value of TRUS and eMRI for planning treatment in patients with clinically
localized prostate cancer. Treatment decisions should not be altered based on TRUS or eMRI findings alone.