

## Comparison of endorectal magnetic resonance imaging, clinical prognostic factors and nomograms in the local staging of prostate cancer patients treated with radiotherapy

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### ABSTRACT

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**Aims and background.** To determine retrospectively the role of endorectal magnetic resonance in the staging of prostate cancer. The aim of the study was to assess whether it is possible to identify a group of patients with prostate cancer, chosen for certain prognostic factors, eligible for radiotherapy that could take advantage of endorectal magnetic resonance in staging and therapy management.

**Methods.** Between January 2002 and December 2005, 143 patients with biopsy proven prostate cancer underwent endorectal magnetic resonance. All patients were initially evaluated considering the following prognostic factors: serum prostate-specific antigen at diagnosis, Gleason score, histological grade, involvement of the seminal vesicle and extracapsular extension using the Roach III and ECE equations. The findings were then compared to the results of endorectal magnetic resonance.

**Results.** The relationship between the variable post-endorectal magnetic resonance stage modification and Gleason score was statistically significant ( $P = 0.02847$ ). In addition, our study showed a statistically significant correlation between the risk of seminal vesicle involvement according to the Roach III formula and post-endorectal magnetic resonance stage modification ( $P = 0.01305$ ). Conversely, statistical analysis showed no significant correlation between post-endorectal magnetic resonance stage modification and prostate-specific antigen values ( $P = 0.83440$ ) or between post-endorectal magnetic resonance stage modification and the risk of extracapsular extension according to the extracapsular extension formula ( $P = 0.42748$ ).

**Conclusions.** Our data suggest that endorectal magnetic resonance could be used for staging of the subgroup of patients at high risk of seminal vesicle involvement (>15%). Although we found a statistical correlation between Gleason score and post-endorectal magnetic resonance stage modification, statistical analysis showed no correlation between any of the subgroups. Therefore, it is not possible at the moment to identify a subgroup of patients by Gleason score that may benefit from endorectal magnetic resonance. In our opinion, extracapsular extension values were not useful to select patients for endorectal magnetic resonance.

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**Key words:** magnetic resonance, nomograms, prognostic factors, prostate cancer, radiotherapy.

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Received April 6, 2007;  
accepted August 29, 2007.