



Turkish Journal of Medical Sciences

Turkish Journal
of
Medical Sciences

An abnormal digital rectal examination is an independent predictor of high radical prostatectomy Gleason's score (≥ 7) in patients with clinically localized prostate cancer

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Abstract: Aim: The aim of this study was to investigate the importance of digital rectal examination (DRE), serum total prostate specific antigen (PSA), percent free PSA (fPSA%), and PSA density (PSAD) in the prediction of high radical prostatectomy Gleason's scores (GSs) ≥ 7 in patients with clinically localized prostate cancer. Materials and methods: Two hundred twenty-five patients who underwent radical prostatectomy for clinically localized prostate cancer were included in the study. The patients were grouped with respect to their radical prostatectomy GSs: group 1 including the patients with GSs < 6 ($n = 170$) and group 2 including the ones with GSs ≥ 7 ($n = 55$). The groups were compared with respect to potential predictors of a high GS, which were patient age, gland volume (Vp) obtained by transrectal ultrasound, DRE, PSA, fPSA%, and PSAD. Results: The mean age, PSA, fPSA%, and PSAD values of groups 1 and 2 were 65.23 ± 7.7 and 65.05 ± 7.1 years, 11.20 ± 9.2 and 11.09 ± 6.8 ng/mL, 16.2 ± 8.6 and 15.5 ± 8.1 , and 0.25 ± 0.20 and 0.28 ± 0.18 ng/mL/cc, respectively. The groups were similar with respect to mean age, PSA, fPSA%, and PSAD ($P > 0.05$ for all). Mean prostate volume of patients in group 2 was significantly lower than that of patients in group 1 (43.1 ± 17.01 vs. 46.9 ± 17.6 mL, $P = 0.043$), and group 2 had more patients with abnormal DRE findings (72.7% vs. 51.2%, $P = 0.005$). DRE was the only independent factor for predicting high GS in multivariate logistic regression analysis. A DRE suspicious of prostate cancer increased the high GS risk by 2.82 times. Conclusion: This study shows that an abnormal DRE is an independent predictor of high grade disease (GS ≥ 7) in patients with clinically localized prostate cancer.

Key words: Digital rectal examination, Gleason's score, prostate cancer, radical prostatectomy

Turk J Med Sci 2009; **39**(5): 755-760.

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