Prognostic Factor of Second Biopsy for Detection of Prostate Cancer

Introduction and Objective: The indications of second prostate needle biopsy after an initial biopsy are not defined. We examined the prognostic factor of prostate repeat biopsy.
Materials and Methods Seventy-four patients without a diagnosis of malignancy at an initial prostate biopsy received a repeat biopsy. Prostate biopsy was performed transperineally with transrectal ultrasound guide under the local anesthesia or epidural anesthesia between January 2008 and December 2010. At each initial and repeat biopsy, 12 cores were taken from the same areas. We analyzed the influence of patient age, interval between initial biopsy and second biopsy, PSA density (PSAD), PSA velocity (PSAV), and PSA doubling time (PSA-DT). Multiple logistic regression analysis were carried out to investigate the independency of selected clinical factors.
Results: Prostate cancer was detected in 29 patients (39.2%). We found significant relationship with interval between biopsies ($p = 0.039$), PV ($p = 0.005$), PSAD ($p < 0.001$), and with PSAV ($p = 0.002$). Multiple regression analysis revealed that PSAD was an independent factor ($p = 0.020$).
Conclusions: PSAD was the predictive factor for detection of prostate cancer and may be useful to prevent unnecessary second biopsies in some cases.