Transperineal Ultrasound-Guided Multiple Core Biopsy Using Template for Patients with One or More Previous Negative Biopsies: Comparison with Systematic 10-Core Biopsy

Introduction and Objectives: To compare cancer detection rates, pathological accordance rates with compatibility in radical prostatectomy specimens and morbidity rates between systematic 10-core biopsy (Group A) and the transperineal ultrasound-guided template biopsy (Group B) for patients with 1 or more previous negative biopsies.

Materials and Methods: From April 2006 to April 2010 a total of 66 patients underwent biopsy of the prostate for patients with 1 or more previous negative biopsies. Group A had 37 patients and Group B had 29. Additional cores were obtained from suspicious lesion on rectal examination or ultrasound in Group A. Number of biopsy cores was dependant on prostate volume in Group B. Average number of cores were 10.1 (median 10) and 50.9 (49) in Group A and Group B, respectively. There were no significant differences in age, prostate volume, or PSA between Group A and Group B. The number of previous biopsies of Group A was more than Group B (p= 0.038)

Results: Cancer detection rates was 24% in Group A and 51% in Group B (P=0.041) respectively. Radical prostatectomy was performed on 5 in Group A and 10 in Group B. Accordance rate of Gleason scores (GS) between biopsy and prostatectomy specimen was 60% in group A and 70% in group B (P=0.52). GS was up-graded 1 out of 5 in Group A, 2 out of 10 in Group B. Two out of 5 in Group A and 1 out of 10 in Group B were up-staged. Two patients suffered from transient subcutaneous hemorrhage in perineal lesion in Group B.

Conclusions: Although this study was not a randomized controlled study, cancer detection rates in the template biopsy group was higher than 10 core-biopsy. However, the template biopsy is not superior to systematic 10 core biopsy from the view point of pathological accordance with prostatectomy.