Changing the Needle During Saturation Biopsy Increases Chances for Better Cancer Detection

Introduction and Objective: Patients with suspected prostate cancer (PC) with a history of negative prostate biopsy have been qualified as candidates to saturation biopsy (SB). It is assumed that SB improves results of PC detection, enables better estimation of clinical stage of the disease through the estimation of positive biopsy core number, and increases accuracy of the assessment of grading according to the Gleason score system. During SB, over 20 samples are usually taken. It is much more than during standard tests. Biopsy needles are elements used the most intensively. The aim of the study is to determine whether the quality of cores obtained during SB is permanent during the procedure, i.e. whether the biopsy needle maintains its properties on the same level during the whole test.
Materials and Methods: The study included 47 subsequent men at the average age of 66 subject to SB as a result of suspected PC. The quality of samples was assessed by measuring their weight on laboratory scales, what is more precise than the assessment of length, i.e. samples may be of different diameter or with no continuity. The weight was measured immediately after the samples have been taken in order to avoid the drying of the material. Twenty-four cores were taken during each biopsy procedure. A Pro-Mag biopsy gun was used with compatible needles. The weights of the two first cores were compared to those of the two last ones. Friedman and Wilcoxon ANOVA test was used for statistical analysis.
Results: The average weights of samples no. 1 and 2 were 7.0 and 7.3 mg respectively; those of samples no. 23 and 24 were 6.0 and 5.7 mg respectively. Statistical analysis indicated significant reduction of sample weight at the end of biopsy (P=0.00007); thus, the quantity of material for pathological tests decreased. This proves significant reduction of biopsy needles quality during the procedure.
Conclusion: Quality of cores taken during SB decreases successively, what may have adverse effects on results of pathological tests. Using another biopsy needle enables the maintenance of permanent test conditions during the whole procedure.