Is There a Role for Routine Anterior Zone Sampling During Transrectal Ultrasound Guided Saturation Prostate Biopsy?

Introduction and Objective: The anterior zone (AZ) of the prostate has been recognized as a sanctuary site for prostate cancer (PC). We examined the diagnostic yield of AZ biopsies as part of a saturation template in patients with elevated PSA levels but with previous negative extended prostate biopsies (group 1), and in surveillance biopsies of PC patients (group 2).
Materials and Methods: A total of 95 patients (66 group 1 and 29 group 2) underwent TRUS-guided saturation biopsy under local (n=83) or spinal (n=12) anesthesia: 16 cores were taken from the peripheral zone (PZ), 4-6 cores from the transitional zone (TZ), and 4-8 cores from the AZ. All suspicious ultrasonic areas were targeted to a median of 26 cores. All biopsies were completed by a single urologist and reviewed by a specialized uro-pathologist.
Results: Mean age of the patients was 65 and 63 and mean PSA were 11.4 (95% CI 9.8-13.3) and 7.7(95% CI 5.9-9.9) in groups 1 and 2 respectively. The overall diagnostic yield was 33% (group1) and 93% (group 2). AZ cancers were detected in 18% (group 1) and 38% (group 2) (p=0.018) but were rarely the only site involved (3%). Findings in the AZ changed the risk stratification of the disease in only 4.5% of patients in group 1 and 10% of group 2 (P=0.36). There was an equal incidence of ≥ Gleason 7 disease in the AZ in both groups, however, this was often accompanied by disease of equal grade in the PZ. Isolated TZ cancers were not detected. 28.6% and 25.9% of patients with positive biopsies in groups 1 and 2 met the Epstein Criteria for insignificant PC. Overall 15/29 (52%) of patients in the AS group showed some progression in disease on their surveillance biopsy.
Conclusions: Saturation biopsy is almost always positive in patients undergoing surveillance biopsy and commonly positive in patients with clinical suspicion for PC despite previous negative biopsies. However, the routine addition of TZ and AZ sampling rarely adds to the diagnostic yield, and will seldom change a patient's risk stratification.