TRUS Prostate Biopsy Cores: Extent of the Pierced Area Impacts the Cancer Detection Rate

Introduction and Objective: The Urostation® (Koelis, France) provides 3D mapping of transrectal prostate biopsy cores and can estimate the pierced area of the posterior prostate capsule for each lobe with a dedicated software. We wanted to know if this area was similar in the both lobes and if this new variable could impact on the ***cancer detection rate in each lobe***.

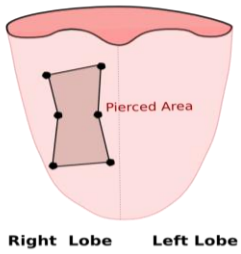

Fig1. An example of pierced area for the right lobe.
Methods: We retrospectively reviewed prostate biopsy procedures which were realized with the Urostation® ultrasound system in our department. *We defined the cancer in each lobe as one or more positive cores in the lobe*. We only included patients without history of prostate cancer, PSA=4-20ng/ml and/or abnormal digital rectal examination (DRE). We analyzed the following criteria: age, PSA level, DRE, prostate volume, left and right prostate pierced area.
Results: There were 158 patients eligible for the study. We found significant differences between the right and the left lobe for the pierced area (**105**mm^2 vs **116**mm^2). This difference was significant according to the prostate size. The cancer rate detection between the ***right*** and the ***left side*** (**29.1%** vs **40.5%**) was significant for the complete group (cf Fig. 2). However differences were not always significant according to the prostate size subgroup.

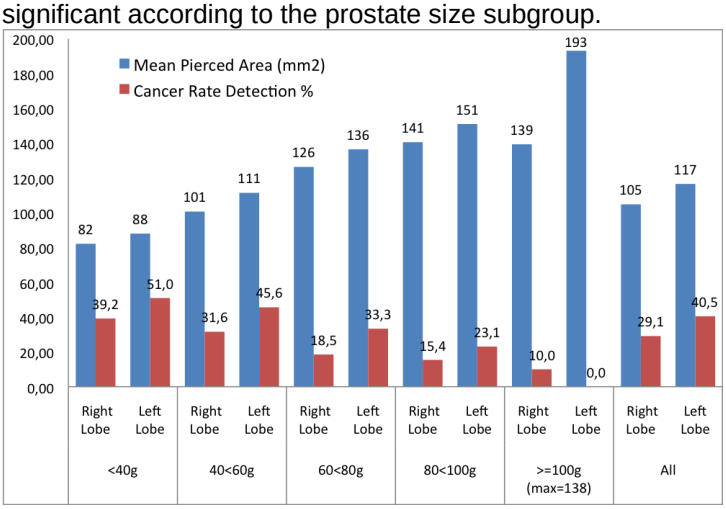

Fig. 2 Variation of the pierced area and the cancer detection rate according to the prostate size.
Conclusion: There are significant differences between right and left lobe cancer detection rate and pierced area. These differences may have an impact on clinical decisions.