Prostate histoscanning true targeting guided prostate biopsy: Initial clinical experience - Abstract

OBJECTIVE: To evaluate the feasibility of prostate histoscanning true targeting (PHS-TT) guided transrectal ultrasound (TRUS) biopsy.

METHODS: This is a prospective, single center, pilot study performed during February 2013-September 2013. All consecutive patients planned for prostate biopsy were included in the study, and all the procedure was performed by a single surgeon aided by the specialized true targeting software. Initially, the patients underwent PHS to map the abnormal areas within the prostate that were ≥0.2 cm³. TRUS guided biopsies were performed targeting the abnormal areas with a specialized software. Additionally, routine bisextant biopsies were also taken. The final histopathology of the target cores was compared with the bisextant cores.

RESULTS: A total of 43 patients underwent combined 'targeted PHS guided' and 'standard 12 core systematic' biopsies. The mean volume of abnormal area detected by PHS is 4.3 cm³. The overall cancer detection rate was 46.5 % (20/43) with systemic cores and target cores detecting cancer in 44 % (19/43) and 26 % (11/43), respectively. The mean % cancer/core length of the PHS-TT cores were significantly higher than the systematic cores (55.4 vs. 37.5 %, p < 0.05). In biopsy naïve patients, the cancer detection rate (43.7 % vs. 14.8 %, p = 0.06) and the cancer positivity of the cores (30.1 vs. 6.8 %, p < 0.01) of target cores were higher than those patients with prior biopsies.

CONCLUSION: PHS-TT is feasible and can be an effective tool for real-time guidance of prostate biopsies.

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