**Can Urologists Conduct MRI-Guided TRUS Biopsy Targeting?**

**Introduction and Objective:** Prostate mp-MRI can be used to define a target for biopsy. It is uncertain whether specialist radiological skill is needed for implementing such targeting. We evaluated whether urologists could target MRI-defined lesions at TRUS biopsy as with comparable accuracy to radiologists.

**Materials and Methods:** Men undergoing a primary TRUS biopsy between 10/11/2010-05/09/2011 and who had mp-MRI prior to biopsy were included. Three operators, one urologist and two radiologists with variable prostate MRI expertise performed TRUS biopsies by 'cognitively' deciding where on ultrasound to 'target' a needle based on mp-MRI lesion. Only patients undergoing standard biopsies with additional targeted cores to MRI lesions scoring >/=3/5, or those having limited targeted biopsies only, were analysed. Clinically significant disease was defined as ≥3+4 AND/OR maximum cancer core length ≥4mm.

**Results:**

| | | Standard Biopsy | | | | Targeted Biopsy | | | |
|---|---|---|---|---|---|---|---|---|---|
| Operator | PSA Range (Median) | Clinically significant disease detection rate % | All disease detection rate % | Positive cores % | Average number of biopsy cores | Clinically significant disease detection rate % | All disease detection rate % | Positive cores % | Average number of biopsy cores |
| 1 Urologist | 3.1-31 (6.91) | 48 (n=10/21) | 62 (n=13/21) | 22 (54/245) | 10.7 | 48 (n=11/23) | 65 (n=15/23) | 55 (27/59) | 2.1 |
| 2 Radiologist | 3.2-40 (7.5) | 46 (n=6/13) | 61 (n=8/13) | 27 (33/122) | 9.38 | 36 (n=4/14) | 50 (n=7/14) | 56 (18/32) | 2.28 |
| 3 Radiologist | 1.38-200 (7.9) | 58 (n=7/12) | 83 (n=10/12) | 28 (40/142) | 10.9 | 69 (n=9/13) | 77 (n=10/13) | 79 (23/29) | 2.2 |

**Conclusions:** It appears feasible for urologists, who have been well trained to interpret prostate mp-MRI images, to perform accurate targeted TRUS biopsies. By utilising high quality MRI reports and 'cognitively' translating MRI information in order to target a lesion during TRUS biopsy, comparable disease detection rates were obtained by the urologist and radiologists, without need for in-bore biopsies or specialist fusion software.