foe each patient. No post-biopsy complication was reported.
Conclusions: The system allows the clinician to perform regular or targeted biopsy sampling. In addition to being very useful to improve the biopsies distribution, the potential of this system is above all the possibility to create for each patient a precise map of sampled areas without significant change in routine clinical practice. That can be used in the near future in order to merge repeated biopsy sessions or to plan an accurate focal therapy treatment.

58 TRANSPERINEAL TEMPLATE GUIDED SATURATION BIOPSY: OUTCOME OF A MODIFIED TECHNIQUE

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Introduction & Objectives: Transperineal template guided saturation biopsy (TPSB) is reported to detect prostate cancer (PCa) in 23–47% of men requiring repeat biopsy. However, increased morbidity have also been reported with this technique, particularly high rates of retention (11-39%), causing some groups to advocate prophylactic catheterization over several days. The central area around the base is recognized to be rarely involved in localized PCa. We hypothesized that by modifying TPSB, so as to avoid sampling this area, would reduce the risk of retention, but still result in high cancer yield.
Material & Methods: Using a brachytherapy template and implant probe, a modified TPSB avoiding the periurethral area at the base, was performed on 75 patients under GA. They had previously undergone a median of 2 (range 1 – 4) sets of transrectal biopsy (TRUSB). The indications for TPSB were a persistent clinical suspicion of PCa despite negative TRUSB histology (repeat group) and insignificant cancer in relatively young patients considering active surveillance (mapping group). Patients were prospectively asked to complete a questionnaire to evaluate bleeding, pain and analgesic requirements, which were assessed at 1hour post biopsy and on days 1, 3 and 7. Data was analysed using independent samples't' test and general linear model for repeated measures.
Results: The mean age was 64yr (range 43 – 82), with median PSA of 10 ng/ml (2 – 66) and mean prostate volume of 42cc (range 17 – 75). A mean of 27 (range 16 – 41) cores were taken at TPSB. This resulted in a mean sampling density of 0.6 core/cc (0.9 – 0.5). PCa was diagnosed in 64.6% (42 of 65) of patients in the repeat group (Gleason scores 6 in 19%, 7 in 48%, 8-10 in 33%). Overall, the anterior third was the commonest site of cancer involvement (76%). 40 of 42 (95%) cancers detected were clinically significant. There was upgrading in all 10 patients who underwent mapping biopsies, with median Gleason score rising from 6 to 7 (range 6 - 9) and mean maximum core involvement increasing from 3% to 50%. The questionnaire response rate was 60%, with mean pain scores (0 – 10 scale) at 1hr, days 1, 3 and 7 being 1.1, 1.1, 0.6 and 0.3 respectively. Rectal bleeding, haematuria, perineal and rectal pain each significantly reduced over time (P = <0.001, <0.001, 0.001 and 0.02). One patient required 24hour catheterization for urinary retention (1.3%).
Conclusions: Modified TPSB is useful in patients with previous negative TRUSB but onward suspicion of PCa, providing a high cancer yield. It is also useful in relatively young patients with insignificant cancer on initial positive histology who are contemplating active surveillance. The procedure is well tolerated with low complication risk.

59 ROBOTIC-ASSISTED TRANSPERINEAL PROSTATE BIOPSY WITH NOVEL DEVICE FOR FUTURE PROSTATE INTERVENTIONS: 3–YEARS CLINICAL EXPERIENCE

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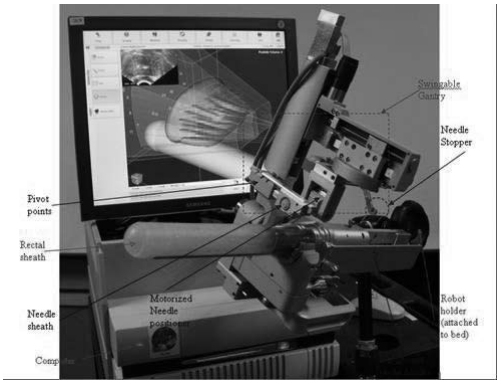
Introduction & Objectives: We developed a robotic device to achieve accurate and safe transperineal prostate biopsy, which can be a common platform for future prostate interventions, such as targeted prostate biopsy and treatment delivery. We report our clinical experience with this device for transperineal prostate biopsy in repeat biopsy patient population.
Material & Methods: In this ethic committee approved prospective study; we include repeat prostate biopsy patients, have rising serum PSA and previous negative prostate biopsy. The transperineal prostate biopsy allows better coverage of the apical and anterior part of the prostate gland. Our device called BioXbot, is an US based robotic motion control system for motorized positioning of the biopsy needle. It accurately guides the needle to any predefined point in the prostate. The two pivot points form a unique non-crossing dual cone system for maximal prostate coverage. Thus, each patient will have two skin needle puncture regardless of the number of biopsy obtained.



Results: Between Sept 2006 and Sept 2009,144 patients underwent prostate biopsy using BioXbot.Their mean age is 67.8(43–76) years with a mean prostate volume of 46.8ml (23–88). At the time of biopsy, their mean PSA was 11.3 ng/dl (4.3–21.2). The mean number of biopsy core taken was 27 cores (20–44). The mean operating time had shortened from 43 minutes (30–60) in the first year to the current 18 minutes (15-25). Of the 144 patients,34(23.6%) had carcinoma in at least one core. The mean number of positive core was 2.1(1–8). The most common gleason score of the cancer detected was 3+3. There was one case of gleason 2+3 and 4+5 respectively. Fifteen patients had retention of urine after biopsy, which resolved after 3 days of catherization. Their prostate volume is more 60 ml. There was one case of sepsis and another patient had gross haematuria that needed bladder washout.
Conclusions: Using BioXbot, we are able to achieve a high cancer detection rate with minimal septic and bleeding complication in the repeat prostate biopsy population. Its role can be expanded to image-guided targeted biopsy and "truth-determining" biopsy for active surveillance or focal therapy patients.

60 ARE PROSTATE BIOPSY AND MRI PREDICTIVE OF THE LATERALITY OF CLINICALLY LOCALIZED PROSTATE CANCER?

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Introduction & Objectives: When we plan nerve-sparing radical prostatectomy, we usually rely on laterality based on prostate needle biopsy (PBx) and MRI. And recently some investigators have suggested that PBx unilaterality is the most important indication of focal therapy for low risk prostate cancer patient. Thus we evaluated whether preoperative PBx and MRI can predict the laterality of final specimen pathology after radical prostatectomy.
Material & Methods: Between January 2001 and March 2009, among 1007 consecutive radical prostatectomy cases, 574 cases which had PBx at least 12 cores and preoperative prostate MRI with complete medical data were included in this study. We analyzed the clinicopathologic data with laterality based on PBx and MRI. Unilateral cases in PBx which had undetectable or agreed cancer laterality in MRI were regarded as unilateral in combination of PBx and MRI. Cohen's kappa (κ) was used to measure the agreement between laterality data.

Table 1. Correlation between laterality of cancer on final pathology with prostate needle biopsy, MRI, and there combination

	Total cases (n=547)					Low-risk cases (n=218)				
	Right only (%)	Left only (%)	Bilateral (%)	Total (%)	κ	Right only (%)	Left only (%)	Bilateral (%)	Total (%)	κ
PBx					0.286					0.275
Right only	48 (28.2)	13 (7.6)	109 (64.1)	170 (100.0)		21 (29.2)	10 (13.9)	41 (56.9)	72 (100.0)	
Left only	7 (4.8)	48 (32.9)	91 (62.3)	146 (100.0)		4 (5.3)	28 (37.3)	43 (57.3)	75 (100.0)	
Bilateral	13 (5.0)	10 (3.9)	235 (91.1)	258 (100.0)		7 (9.9)	1 (1.4)	63 (88.7)	71 (100.0)	
MRI (except undetectable cases)					0.200					0.244
Right only	26 (23.0)	5 (4.4)	82 (72.6)	113 (100.0)		12 (30.0)	2 (5.0)	26 (65.0)	40 (100.0)	
Left only	4 (4.3)	27 (29.3)	61 (66.3)	92 (100.0)		2 (5.9)	16 (47.1)	16 (47.1)	34 (100.0)	
Bilateral	21 (8.4)	17 (6.8)	212 (84.8)	250 (100.0)		11 (13.9)	10 (12.7)	58 (73.4)	79 (100.0)	
Combination					0.291					0.237
Right only	37 (32.2)	8 (7.0)	70 (60.9)	115 (100.0)		15 (30.6)	5 (10.2)	29 (59.2)	49 (100.0)	
Left only	2 (2.2)	35 (38.0)	55 (59.8)	92 (100.0)		1 (2.1)	20 (41.7)	27 (56.3)	48 (100.0)	
Bilateral	29 (7.9)	28 (7.6)	310 (84.5)	367 (100.0)		16 (13.2)	14 (11.6)	91 (75.2)	121 (100.0)	