EMUC Unmoderated Poster Presentations

Localised prostate cancer

P001 Side-effects and complications of transperineal prostate (TP) biopsies – the first prospective evaluation using a validated patient reported outcomes measures (PROM) tool


Introduction & Objectives: Transrectal ultrasound guided biopsies of the prostate (TRUSP) are standard for detection of prostate cancer (CaP). Increasing sepsis rates have turned many urologists to using the TP approach with alleged higher detection rates and negligible infection rates. There is no published PROM data to assess side-effects and complications of TP biopsies. We aimed to prospectively assess their occurrence using a validated PROM tool.

Material & Methods: Using the Probe PROM tool, validated for TRUSP biopsies as part of the ProtecT study, we collected data prospectively in four centres between February and November 2013. All patients undergoing TRUSP or TP biopsies were asked to complete the questionnaires immediately after the procedure and at follow up.

Results: 655 patients were included in the study, of these 65% (429) of patients in total completed both questionnaires (228 for TRUS and 201 for TP biopsy). The side effect profile and demographics can be seen on Table 1. There was one confirmed case of sepsis in the TRUS group, and 4 patients had clot retention in the TP group (1.99%). More than twice the numbers of cores were taken for TP biopsies (12.7 vs. 27.1), yet, subjective infection and urinary retention rates were measured significantly less in the TP group.

Table 1. Demographics and Symptoms scores

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>TRUS biopsy (n=228)</th>
<th>TP biopsy (n=201)</th>
<th>Difference TRUS–TP</th>
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<tbody>
<tr>
<td>66.7±8.1 (42–88)</td>
<td>63.9±7.9 (36–83)</td>
<td>p=0.265 (ns)</td>
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<td>PSA (ng/ml)</td>
<td>13.5±16.3 (1–116)</td>
<td>11.2±8.4 (0.2–53.2)</td>
<td>p=0.000 (s)</td>
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<td>Prostate Volume (ml)</td>
<td>56±32.1 (7–211)</td>
<td>56±43.6 (1–210)</td>
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Side effect profile at follow up

- Haematochezia: 64.5% (n=147) vs. 63.2% (n=127) p=0.83 (ns)
- Haematuria: 71.5% (n=163) vs. 74.6% (n=150) p=0.83 (ns)
- Acute urinary retention: 7.5% (n=17) vs. 5% (n=11) p=0.30 (ns)
- IPSS: −0.61±5.61 (3–80) vs. −0.44±5.61 (3–80) p=0.62 (ns)
- Quality of life: −0.36±1.37 (3–80) vs. −0.36±1.22 (3–80) p=0.51 (ns)
- IIEF-5: −2.95±6.92 (3–80) vs. −1.96±6.86 (3–80) p=0.10 (ns)
- Pain: 28.3% (n=62) vs. 28.3% (n=62) p=0.99 (ns)
- Patients describing procedure as “uncomfortable” 19.2% (n=42) vs. 23.2% (n=53) p=0.18 (ns)
- Patients unhappy to have repeat biopsy 11% (n=23) vs. 10% (n=22) p=0.99 (ns)
- Patients undergoing TRUSP vs. TP biopsies as part of the ProtecT study, we collected data prospectively in two centres between February and November 2013. All patients undergoing TRUSP or TP biopsies were asked to complete the questionnaires immediately after the procedure and at follow up.

Results: 655 patients were included in the study, of these 65% (429) of patients in total completed both questionnaires (228 for TRUS and 201 for TP biopsy). Outcomes and demographics are shown in Table 1. Twice the numbers of cores were taken for TP biopsies (12.7 vs. 27.1), yet, there was no clinically significant difference in IPPS from before to after biopsy in both groups. However, there was significant change in IIEF score and sexual desire following both procedures, more so for TP. Pain was experienced in both groups in days after biopsy with only limited impact on patients life.

Conclusions: This study reports the first prospective PROM based assessment of side-effects and complications from TP biopsies. Despite accruing more biopsies TP appears to have a similar side effect profile to TRUS with fewer septic events and – surprisingly – lower urinary retention rate.

P002 Transperineal prostate (TP) biopsies – the first prospective evaluation of patient reported experience and effects on symptoms and lifestyle


Introduction & Objectives: Many urologists are choosing the transperineal biopsy approach (TP) for detection of prostate cancer, with alleged higher detection and negligible infection rates compared to the transrectal approach (TRUSP). There is no published PROM data to assess patient reported experience and effects on symptoms. We aimed to prospectively assess their occurrence using a validated PROM tool.

Material & Methods: Using the Probe PROM tool, validated for TRUSP biopsies as part of the ProtecT study, we collected data prospectively in four centres in 2013. All patients undergoing TRUSP or TP biopsies were asked to complete the questionnaires immediately after the procedure and at follow up.

Results: 655 patients were included in the study, of these 429 of patients in total completed both questionnaires (228 for TRUS and 201 for TP biopsy). Outcomes and demographics are shown in Table 1. Twice the numbers of cores were taken for TP biopsies (12.7 vs. 27.1), yet, there was no clinically significant difference in IPPS from before to after biopsy in both groups. However, there was significant change in IIEF score and sexual desire following both procedures, more so for TP. Pain was experienced in both groups in days after biopsy with only limited impact on patients life.

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Symptom scores presented as the mean of the difference (follow up – baseline)

- IPSS: −0.61±5.61 (3–80) vs. −0.44±5.61 (3–80) p=0.62 (ns)
- Quality of life: −0.36±1.37 (3–80) vs. −0.36±1.22 (3–80) p=0.51 (ns)
- IIEF-5: −2.95±6.92 (3–80) vs. −1.96±6.86 (3–80) p=0.10 (ns)
- Pain: 28.3% (n=62) vs. 28.3% (n=62) p=0.99 (ns)

Conclusions: This study reports the first prospective PROM-based assessment of patients’ experience and effects on symptoms of TP biopsies. Despite accruing more biopsies TP appears to have similar impact.
to TRUSIP. Patients should be warned of the effect of both techniques on sexual desire and erectile function.

**P004**

**Tumor size in MRI and percentage of cancer in biopsy are independent predictors of side-specific extracapsular extension or seminal vesical invasion**


**Abstract P005**

**B.A. Dybowski or seminal vesicular invasion in independent predictors of side-specific extracapsular extension**

**Tumor size in MRI and percentage of cancer in biopsy are on sexual desire and erectile function.**

**Material & Methods**: A consecutive group of 49 patients with prostate cancer diagnosed in needle biopsy, who underwent MP-MRI followed by radical prostatectomy was included in the study.

**Introduction & Objectives**: Multiparametric magnetic resonance (MP-MRI) is considered the best method for imaging of prostate cancer. Preoperative staging is one of its potential applications. Information on the localization and extension of the tumor may influence the decision which neurovascular bundle should be preserved. Extracapsular extension (ECE), however, is often difficult to identify on images. The aim of this study was to find if MP-MRI is useful in predicting side-specific prostate cancer ECE or seminal vesical invasion (SVI).

**Material & Methods**: A consecutive group of 49 patients with prostate cancer diagnosed in needle biopsy, who underwent MP-MRI followed by radical prostatectomy was included in the study. The following clinical parameters were investigated: digital rectal examination, PSA and TRUS results, Gleason score, percentage of cancer in biopsy, presence and size of suspicious lesions in MP-MRI. Variable values have been determined for the right and left side of each prostate. Logistic regression analysis was used to assess value of those variables for predicting side-specific ECE or SVI.

**Results**: Mean age of 49 patients was 65. ECE or SVI was found in 25 patients (51%) and in 30 prostate sides (30.6%). Logistic regression analysis revealed two independent predictors of side-specific ECE or SVI: percentage of cancer in biopsy (odds ratio 2.0; 95% confidence interval 1.2–3.3) and maximal diameter of the tumor in MP-MRI (odds ratio 2.2; 95% confidence interval 1.2–4.1). The model consisting of presence of >15% cancer in biopsy OR >15mm lesion suggestive for neoplasm in MP-MRI was characterized by 80% sensitivity, 71% specificity, 56% positive predictive value and 89% negative predictive value.

**Conclusions**: Size of the tumor detected by MP-MRI increases ability of biopsy results to predict side-specific ECE or SVI which may affect the decision making on preserving neurovascular bundles.

**P005**

**Diagnostic accuracy of prostate histoscanning**

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**Introduction & Objectives**: Prostate Histoscanning (PHS) is a novel ultrasound-based tissue characterisation application which has the potential to confirm or rule-out prostate cancer. We aimed to evaluate the accuracy of PHS using whole-mount radical prostatectomy specimens as the reference standard.

**Material & Methods**: Between July 2010 and November 2011, 46 men (median age 63 years and median PSA 7.74 µg/L) scheduled to undergo radical prostatectomy within our institution, underwent PHS following TRUS imaging just before surgery. PHS axial images were overlaid onto corresponding digital axial images of each radical prostatectomy specimen, permitting cognitive correlation of PHS lesions with actual tumours on prostatectomy. Accuracy values were calculated at the octant, quadrant, and hemi-gland level. In addition we compared the accuracy of PHS between anterior and posterior prostate.

**Results**: Overall accuracy was better in the posterior prostate (0.72) compared to the anterior gland (0.51). Sensitivity was 0.92 in the posterior gland.

**Conclusions**: When it comes to the posterior part of the gland, PHS shows promise as an ultrasound imaging bio-marker for predicting presence of prostate cancer.

**P006**

**Diagnostic MRI prostate pre-biopsy is associated with a false negative rate**

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**Introduction & Objectives**: MRI technology is revolutionizing how we diagnose and manage prostate cancer in the UK. With the advent of MRI-guided biopsy, one important caveat is that of false negative scans: That is when the MRI has reported no lesion but the patient subsequently is found to have a tumour by biopsy. This study aims to determine the rate and causes of false negative prostate MRI exams in our centre.

**Material & Methods**: 148 prostate MRI scans (with T2WI, DWI and ADC maps) from a tertiary referral centre, conducted in patients with suspected prostatic cancer, prior to transrectal ultrasound (TRUS)-guided biopsy were retrospectively reviewed and compared with histological Gleason grade (June 2011 to May 2013). Scans were reported by 5 radiologists, followed by a second reader who drew a region of interest (ROI) around the lesions to be biopsied (target lesion) according to a prostate MRI map (Dickinson L et al. European urology 59, 2011). At prostate biopsy, specimens were labeled according to a consecutive group of 49 patients with prostate cancer diagnosed in needle biopsy, who underwent MP-MRI followed by radical prostatectomy was included in the study. The following clinical parameters were investigated: digital rectal examination, PSA and TRUS results, Gleason score, percentage of cancer in biopsy, presence and size of suspicious lesions in MP-MRI. Variable values have been determined for the right and left side of each prostate. Logistic regression analysis was used to assess value of those variables for predicting side-specific ECE or SVI.

**Table 1. Distribution of lesion location and MRI classification of the affected sectors.**

<table>
<thead>
<tr>
<th>Lesion location (sectors)</th>
<th>MRI analysis</th>
<th>MRI report</th>
<th>Target lesion</th>
</tr>
</thead>
<tbody>
<tr>
<td>True miss</td>
<td>10</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Non-specific features</td>
<td>12</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>No features of a focal lesion</td>
<td>19</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Miscalled zone</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Difficult interpretation</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total (lesions):</td>
<td>46</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

**Abstract P005 – Table 1**

<table>
<thead>
<tr>
<th>Level of analysis</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octant</td>
<td>0.57 (0.53–0.60)</td>
<td>0.69 (0.62–0.75)</td>
<td>0.75 (0.69–0.80)</td>
<td>0.50 (0.45–0.54)</td>
<td>0.61 (0.56–0.66)</td>
</tr>
<tr>
<td>Quadrant</td>
<td>0.62 (0.58–0.65)</td>
<td>0.73 (0.58–0.84)</td>
<td>0.89 (0.83–0.94)</td>
<td>0.35 (0.28–0.40)</td>
<td>0.64 (0.58–0.69)</td>
</tr>
<tr>
<td>Hemi</td>
<td>0.98 (0.96–1.00)</td>
<td>0.40 (0.07–0.72)</td>
<td>0.97 (0.95–0.98)</td>
<td>0.50 (0.10–0.89)</td>
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