frequently among men subjected to prostate biopsy in whom LUTS are moderate or severe. Moreover, there is a trend to diagnose locally advanced cancer more frequently in men with severe LUTS.

N24

Comparison of two simple algorithms avoiding unnecessary prostate biopsy in PSA based prostate cancer detection program

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Introduction and Objectives: Lithuanian early prostate cancer detection program is targeting 50–75 years old asymptomatic men and is based on PSA cut-off value of 3 ng/ml. PSA is the main trigger for prostate biopsy (Bx). Bx is an invasive procedure and is associates with more frequent complication in elderly men. Up to 64% of patients with elevated PSA have no prostate cancer (PCa) on biopsy. Our study is looking for simple algorithm to avoid unnecessary Bx in PSA based early PCa detection program.

Material and Methods: Case histories of asymptomatic men referred to urologist in a single academic hospital due to elevated PSA in 2008 were reviewed. Data collected: patient age, PSA value, prostate volume on transabdominal ultrasound (PV), results of digital rectal examination (DRE), results of Bx. Hard or/and ruff surface of prostate on DRE were considered as suspicious for PCa. Two algorithms to avoid unnecessary Bx were checked. First: set of cut-off values suggesting avoiding Bx if all criteria are met: age ≥65 years, PSA ≤ 7 ng/ml, PV ≥ 50 ml, unsuspicious DRE. Second: age-adjusted PSA values (50–59, 60–69, 70–79 years respectively PSA <3.5, <4.5, <6.5 ng/ml) and DRE.

Results: 181 patients underwent Bx due to PSA > 3 ng/ml. 76 men had PCa on biopsy (41%). Median age 65 years, median PV 45 ml and these parameters were not significantly different in men with or without PCa. In PCa group average PV was lower (45.7 ml vs 49.7 ml) and average PSA level higher (15.2 ng/ml vs 5.7 ng/ml). Applying first algorithm to our data base 20 Bx could be avoided (11%), 2 diagnosis of PCa would be missed (2.6%). Of these 2 cases 1 is on active surveillance. Applying age-adjusted PSA and DRE 37 Bx could be avoided (20%), 5 diagnosis of PCa would be missed (6.6%). Of these 5 cases 2 are on active surveillance.

Conclusions: According to our data in PSA based PCa detection program a set of cut-off values age ≥65 years, PSA ≤7 ng/ml, PV ≥50 ml, unsuspicious DRE could be useful and more accurate than age-adjusted PSA and DRE. Set of cut-off values may prevent considerable number of biopsies while missing few PCa. This algorithm allows avoiding Bx specifically in elderly men with moderate PSA and relatively large prostates. We acknowledge bias of small sample size in a single institution and operator-dependant results of transabdominal ultrasound and DRE. This algorithm could be easily checked or improved on data available from large scale PCa screening trials.

N25

Are sextant biopsies still justified?

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Introduction and Objectives: The aim of this study was to evaluate the usefulness of sextant biopsy for prostate cancer detection at first biopsy.

Material and Methods: All patients who had undergone sextant prostate biopsy at single institution since May 2007 to Apr 2008 were included into the study. The prostate specific antigen (PSA), total prostate volume (TPV), age and pathological report were analyzed. All patients were divided into several groups according to TPV (<30 vs. 30–40 vs. 40–50 vs. 50–60 vs. 60–70 vs. >70 mL), PSA (≤4 vs. 4–7 vs. 7–10 vs. 10–15 vs. 15–20 vs. >20 ng/mL) and age (<50 vs. 50–60 vs. 60–70 vs. >70 years). Logistic regression, Shi square test and descriptive statistic were used for the analysis of prospectively collected data using SPSS 13.0 statistical analysis software for Windows.

Results: For 855 of 899 study patients sextant biopsy was performed. Median patient age was 67 (range 32–87) years, median PSA was 6.63 (range 0.43–590) ng/mL, median TPV was 42.3 (range 14.30–240) mL. Prostate cancer was detected in 311 cases and overall detection rate was 36.37%. Logistic regression analysis shows that TPV (Exp(B) 0.624 95.0% CI 0.563–0.691) and PSA (Exp(B) 1.572; 95.0% CI 1.4–1.76) are the most powerful parameters for prediction of PCa (p = 0.0001) at sextant biopsy. Using the formula of logistic regression, the table of probabilities for detection of the PCa at different values of TPV and PSA was composed (Table 1).

PSA/TPV	<30	30–40	40–50	50–60	60–70	>70
≤4.0	37.2	27.0	18.7	12.6	8.2	5.3
4.0–7.0	48.2	36.7	26.6	18.4	12.3	8.1
7.0–10.0	59.4	47.7	36.2	26.2	18.1	12.1
10.0–15.0	69.7	58.9	47.2	35.8	25.8	17.8
15.0–20.0	78.3	69.2	58.4	46.7	35.3	25.4
>20.0	85.0	78.0	68.8	57.9	46.2	34.9

Prostate cancer detection probability using six cores biopsy varies from 26.0 to 85.0% in small and middle volume prostates (up to 50 mL). Logistic regression analysis was performed in different age groups of patients. Only for the youngest patients (up to 50 years) no significant parameter for PCa detection at first sextant biopsy was found. In other age groups PSA and TPV strongly influence such detection.

Conclusions: Our study data shows that sextant biopsy can not be recommended if prostate volume is more than 60mL and PSA concentration less than 10 ng/mL. In such cases prostate cancer detection rate has not reached acceptable level. The sextant biopsy is still justified independently of PSA level or age in prostates up to 50 mL.

N26

Repeat prostate biopsies – when and for whom?

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Introduction and Objectives: The aim of this study was to identify parameters for better prediction of prostate cancer at repeat biopsies and estimate the optimal time for such sets of biopsies.

Material and Methods: All patients who had undergone prostate biopsies at single institution since May 2007 to Apr 2008 were involved into study. If previous biopsies for these patients were performed, the pathologist's data base was used. Age, prostate specific antigen (PSA), high grade prostate intraepithelial neoplasia (HG PIN), low grade prostate intraepithelial neoplasia (LG PIN), time between biopsy sets and prostate volume were chosen for evaluation of influence of these parameters on prostate cancer detection rate at repeat biopsies. Descriptive statist, Chi-square test and logistic regression were used for analysis of our data using SPSS 13.0 statistical analysis software for Windows.

Results: 899 were involved into this study. Overall prostate cancer (PCa) detection rate was 49.27% (443 cases of 899). The PCa detection rate at 1st biopsy was 36.15% (325 of 899), at 2nd – 26.7% (81 of 303), 3rd – 21.7% (25 of 115), 4th – 24.4% (10 of 41),

5th – 9.1% (1 of 11) and 6th – 16.7% (1 of 6). Repeat biopsies had been undergone by 303 pts. and PCa was found in 118 (38.94%) cases. PCa detection rate at repeat biopsies was 26.63% of all cancer cases of our study. Time of 2nd repeat biopsy (<6 vs. 6–12 vs. >12 months) has no influence on PCa detection rate (27.3 vs. 21.6 vs. 31.8% respectively) – Chi-square test 3.055, p = 0.222. Time of all repeat biopsies (<12 vs. 12–24 vs. >24 months) in cases when PCa was detected has also no influence on cancer detection rate (38.2 vs. 42.5 vs. 33.8% respectively) – Chi square test 1.39, p = 0.509. The patient's age, PSA at the time of biopsy, HG PIN, LG PIN, time between biopsy sets have not been used as predictors of PCa detection at repeat biopsies. Logistic regression analysis shows that only prostate volume is a significant independent predictor for cancer detection at repeat prostate biopsies – Exp(B) 0.987, 95% CI 0.968–0.989, p = 0.0001. Significantly different PCa detection rate (52.1 vs. 42.2 vs. 24.8%) compares to prostate volume <40 vs. 40–60 vs. >60 mL (p = 0.001) was also detected using Chi-square test.
Conclusions: Time between repeat prostate biopsy sets has no influence on detection of prostate cancer. Prostate volume is a powerful parameter for prediction of prostate cancer at repeat biopsy and it could be used for choosing the time of repeat biopsy.

N27

Is there a need of routine pathological examination of all tissue specimens taken during benign prostate hyperplasia surgery?

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Introduction and Objectives: In 2.8–9.8% of patients (pts) undergoing TURP or prostatectomy (PR) due to benign prostate hyperplasia (BPH) final pathological evaluation (PE) reveals coexistence of prostate cancer (PCa). WHO 2002 TNM classification defines pT1a and pT1b depending on the amount of cancerous tissue in the specimen <5% and >5%, respectively. However, PCa in 85% occurs in peripheral zone, which is not usually a target of BPH surgery. Moreover, the majority of PCa patients can be excluded from BPH group based on tests performed preoperatively: PSA and TRUS-core Bx. An important question arises, whether tissue specimens taken during surgery should always be examined. The aim was to evaluate the incidence of PCa diagnosed incidentally in prostate specimens taken during BPH surgery, to assess the need of routine PE and to define the group of patients, in whom PE could be abandoned without the risk of omitting coexistence of clinically significant PCa.
Material and Methods: 633 consecutive men aged 32–94 (mean age 70) treated due to BPH with TURP (86%) or PR (24%) in 5-year period (2004–2008) were enrolled. Mean values of prostate volume (Pv), serum PSA and PSA density (PSAD) were as follows: 71.44 (10–298) ml, 4.87 ng/ml (0.04–40.84), 0.08 (0.01–1.16). All specimens taken during TURP and PR were evaluated pathologically. Moreover, in 39 pts (6.1%) result of preoperative TRUS-core Bx was negative.
Results: PCa was found in 25 (3.9%) pts, less frequently after TURP (3.85%) than after PR (4.5%). PCa was staged as pT1a or pT1b in 9 (36%) and 16 (64%) cases, respectively. PCa grade defined in Gleason score (Gl.) as high risk (≥7) was diagnosed in 5 pts (20%) and all of them underwent TURP. PE in all pts, who underwent biopsy of the prostate before surgery, did not reveal cancer. Mean values of age, prostate volume (Pv), serum PSA level and PSA density (PSAD) in men with PCa and in men, in whom PCa was not found, did not differ significantly and were as follows: age – 74.76 (49–81) versus 70.14 (32–94) years, Pv – 102.44 (17–287) vs. 71.29 (10–298) ml, PSA – 2.92 (1.35–6.23) vs. 4.93 (0.04–40.84) ng/ml, PSAD – 0.04 (0.01–0.06) vs. 0.07 (0.01–1.16) ng/ml/ml, respectively. Additional treatment after BPH surgery was offered to 5 pts (20%), suffering from clinically significant PCa (pT1b, Gl. ≥7, age <70).
Conclusions: Incidence of PCa diagnosed incidentally in prostate specimens taken during BPH surgery is low (3.9%). A vast majority (80%) of PCa are low risk tumors (Gl. <7). However, it is difficult to establish any cut-off values of age, prostate volume, PSA or PSAD suggestive for the negligible risk of prostate cancer. Presented data suggest that PE of specimens taken during BPH surgery may be omitted especially in patients, in whom preoperative TRUS-core Bx were negative. Our results bring existing PE standards up for discussion.

N28

Reduction of PSA values after levofloxacin therapy in patients with PSA greater than 4 ng/ml: Implications for prostate cancer detection

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Introduction and Objectives: Asymtomatic prostatitis may induce prostate-specific antigen (PSA) increase. PSA reduction-after antibiotics might identify those patients in whom biopsy can be avoided. The aim of our study was to investigate the possibility of reducing the number of prostate biopsies in patients showing PSA decrease or normalization after antibiotic therapy.
Material and Methods: This retrospective study was carried out between 2005 and 2007 in a university hospital. The study population comprised 274 subjects who underwent prostate cancer screening in our institution. Levofloxacin (LVX, 500 mg once a day.) was given orally for 3 weeks. Basal total-PSA (t-PSA) and free-PSA (f-PSA) determinations were repeated in all patients at study entry and after 3 week treatment with LVX, were compared.
Results: 235 patients (85.76%) showed PSA reduction after the therapy (Group I). In 39 of them (14.23%) PSA was increased (Group II) 39 of 235 patients had prostate cancer in Group I (16.5%). 8 of 39 patients had prostate cancer in Group II (20.5%). Mean PSA reduction was 18.4% in patients with benign pathology group (n:196) while it was 11.9% in patients with prostat cancer group (n:39)(p = 0.01). Initial PSA were found 9.36 ng/ml in patients with chronic prostatitis while it was 8.42 ng/ml in patients without chronic prostatitis (p = 0.04).
Conclusions: The treatment with LVX allowed to significantly decrease PSA values in 85.7% of the patients with asymptomatic prostatitis and PSA greater than 4.0 ng/ml. This approach could be useful in order to increase the specificity of PSA testing, reducing the number of unnecessary prostate biopsies.

N29

Photoselective vaporization of the prostate with Greenlight HPS 120 W laser in patients with benign prostatic hyperplasia – results of treatment of first 100 consecutive patients

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Introduction and Objectives: Photoselective vaporization of the prostate (PVP) with Greenlight laser is a promising minimally invasive procedure providing relief of the bladder outlet obstruction due to benign prostatic hyperplasia (BPH) with excellent safety profile. This technique is especially indicated for patients at high cardiac risk or on oral anticoagulation due to haemostatic properties of Greenlight laser. The aim of the