

normal epithelial prostate cells at clinically relevant drug doses and further analyzed the underlying mechanisms.

Material and Methods: A prostatic epithelial cell line of noncancerous tissue origin (P96E), an in vitro transformed prostate epithelial cell line (RWPE-1) and an advanced cancer cell line (LNCaP) were used in the study. Cells were treated with vehicle, rosuvastatin or simvastatin at concentrations of 10 and 100 nM. Changes in cellular growth rate were measured after 7 days with crystal violet staining. Other analyses involved quantitation of histone-complexed DNA fragments for apoptosis and Ki-67 index for proliferation. Also changes in the expression of HMG-CoA reductase (HMGCR) and various cell cycle proteins were measured using immunoblotting and quantitative RT-PCR.

Results: Of the two statins tested, simvastatin was found 10-fold more potent than rosuvastatin to inhibit cellular growth of normal cells. The strongest inhibition in growth was seen with P96E cells (about 77% with 100 nM simvastatin) whereas the growth of LNCaP cells was not inhibited. Following statin treatment, a feedback upregulation of HMGCR mRNA was seen in normal epithelial cells but not in LNCaP. Simvastatin was a more potent inducer of feedback upregulation. Both statins at 100 nM induced apoptosis only slightly (<2-fold) with no major differences between cell lines. A clear decrease in Ki-67 index ($\approx 31\%$) was noted in P96E after 5 days of simvastatin treatment while in RWPE-1 the decrease was only about 11%. No major differences in the expression of cyclin D1 and D3 or cyclin dependent kinase inhibitors p15, p16, p21 or p27 in P96E cells were seen after 24–96 h exposure to 100nM simvastatin.

Conclusions: Our results suggest simvastatin to be more potent in inhibiting normal prostate epithelial cell growth than rosuvastatin. Because rosuvastatin is known to be a more potent HMGCR inhibitor in vitro than simvastatin the reason for the difference is likely to involve differential hydrophobicity-based cellular uptake of these agents. Considering the underlying mechanisms, enhanced apoptosis seems not to be the main explanation for growth inhibition but it is likely to involve an exit of cells from active cell cycle.

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The diode laser: The new laser system for the transurethral vaporization of prostate – preliminary experience

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Introduction and Objectives: The transurethral resection of prostate (TUR-P) and the open adenectomy still remain the “gold standards” in the treatment of BPH. In the last decade, the laser technologies began to be used in the treatment of BPH. The KTP laser (vaporization) and the holmium laser (enucleation) achieved the established status in this sphere. The diode laser (980/1470 nm), which has only been used in urology for a short time, offers simultaneous absorption in water and hemoglobin, due to which it combines high ablative and homeostatic properties. The objectives of the study is evaluation of the efficiency of the transurethral vaporization of prostate in patients with BPH with the use of a diode laser that emits two wavelengths simultaneously (980 and 1470 nm).

Material and Methods: 15 procedures of the transurethral vaporization of prostate with the diode laser were performed in patients with BPH. The patients were between 53 and 85 years old (av. 70). The volume of the prostate ranged from 40 ml to 93 ml (av. 58 ml). In the IPSS (International Prostatic Symptoms Score) the average number of points was 30 (15 to 35 pnt). The maximum urethral flow (Q max) from 5.1–9.1 ml/s (av. 7.7 ml/s). The average residual volume after micturition was 185 ml. (0–425 ml). The PSA value varied within the limits from 0.54 ng/ml to 3.74 ng/ml (av. 1.9 ng/ml). The average hematocrit values and

levels of hemoglobin measured before the procedure amounted to respectively 0.400 L/L and 8.74 mmol/L. The patients were examined within a week after the procedure and then in the first, sixth and twelfth month after the procedure.

Results: The average time of the procedure was 40 min (21–119 min). The energy used for the procedure varied within the limits of 90 kJ–247 kJ (av. 157 kJ). None of the patients needed blood transfusion. The levels of hematocrit and hemoglobin did not differ substantially from those before the procedure and amounted respectively to 0.391 L/L and 8.71 mmol/L. No ion disorders were observed in any patients after the procedure. The hospitalization after the procedure lasted for 2 days in case of all the patients. All patients had the Foley catheter removed within one day after the procedure. One patient required reinsertion of the catheter because of the acute retention of urine. There were intensive cases of irritation syndromes in most of the patients during the first two weeks which lasted for the average of 4 weeks after the procedure (from 2 to 10 weeks). One patient mentioned erection disorders which appeared after the procedure and lasted for the whole observation period. All patients reported full continence of their urine after the procedure

Conclusions: Our initial results of the research in progress suggest that the vaporization of the prostate with the use of the diode laser is a safe and effective procedure for treating patients with BPH.

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Lower urinary tract symptoms and their severity in men subjected to prostate biopsy due to suspicion of prostate cancer

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Introduction and Objectives: Lower urinary tract symptoms (LUTS) are one of most frequent complaints among men over 50 years of age. LUTS are usually associated with benign prostate hyperplasia, however may accompany prostate cancer (PCa). Therefore, part of men subjected to prostate biopsy (Bx) usually have some degree of LUTS. The aim of the study is to evaluate prospectively the incidence of LUTS and their character in men subjected to prostate core Bx, and finally to determine whether LUTS can be used as a predictive factor of PCa discovering on prostate Bx.

Material and Methods: Data of men submitted to transrectal ultrasound guided multiple core biopsy of the prostate (TRUScoreBx) from 1st July 2007 to 30th July 2008 in selected departments of urology in Poland were analyzed. LUTS were measured with International Prostate Symptom Score (I-PSS).

Results: TRUScoreBx was performed in 747 men aged between 34 and 93 years (mean – 67.4, median – 68). Mild LUTS or no LUTS 7 I-PSS points) have been reported by 29.5% of patients. PCa was found in $\leq 60.0\%$ of them. Among men with moderate or severe LUTS (I-PSS >7 points) PCa was found in 51.4% and 55.0% of them respectively. Median PSA was 9.5 ng/ml, 9.4 ng/ml and 12.0 ng/ml in men with mild and moderate or severe LUTS respectively (NS). However, among men with severe LUTS PCa was more likely to be locally advanced than in men with mild symptoms.

Conclusions: LUTS are weak predictor, if any, of positive result of core biopsy of the prostate. However, PCa is diagnosed less