Poster Session 2: BPH and Prostate Biopsy
Friday, 11 September 2009, 10:30–12:30
Poster room 2

N19

Autonomic nervous system activity in patients with lower urinary tract symptoms secondary to benign prostatic hyperplasia estimated by heart rate variability

K. Juszczak[1]*, M. Mazur[2], M. Wyczółkowski[3], P.J. Thor[2]. *[1]Memorial Rydygier Hospital & Jagiellonian University Collegium Medicum, Dept. of Urology & Dept. of Pathophysiology, Cracow, Poland; [2]Jagiellonian University Collegium Medicum, Dept. of Pathophysiology, Cracow, Poland; [3]Memorial Rydygier Hospital, Dept. of Urology, Cracow, Poland*

Introduction and Objectives: Aging induces autonomic nervous system (ANS) dysfunction with increased sympathetic drive. Benign Prostatic Hyperplasia (BPH) is responsible for lower urinary tract symptoms (LUTS). The probably cause of BPH and LUTS is due to the overly active sympathetic NS. The aim of our study was to estimate the ANS activity in BPH patients with LUTS using frequency domain analysis parameters of heart rate variability (HRV). Additionally, the relationship of ANS activity to the subjective measures of LUTS, and the objective measures of BPH, as well as the biochemical and biometrical variables, were investigated.
Material and Methods: The study was performed on 30 men with LUTS secondary to BPH. The cohort of patients was asked to complete IPSS and quality of life questionnaires. We performed biometrical measurements (waist, hip circumference and waist-to-hip circumference ratio, body mass index, body area surface), biochemical measurements (serum catecholamine levels) and urological estimations (measurements of the prostate and transition zone of gland, uroflowmetry with post void residual volume evaluation). Additionally, a serum sample was obtained for Prostate Specific Antigen – PSA (total, free, free/total ratio) and PSA derivatives (PSA density, PSA density of transition zone) analysis. ANS activity was assessed by HRV measurements in resting conditions, after simulation with deep breathing (DB test) and by the tilt up test (TUT). In the HRV recording, frequency domain analysis parameters were calculated according to fast Fourier transformation (FFT) and the correlation for ANS activity parameters vs. BPH variables were analyzed.
Results: All participants presented moderate LUTS with $Q_{ave.}$ = 7.4 ml/sec. and PVR = 48±45 ml. Normalized values of LF and HF were 60.86±18.96 [%] and 39.14±18.96 [%], respectively. LF/HF ratio and its normalized value were 2.97±3.04 [1] and 1.57±1.40 [1], respectively. In response to DB, significant increases of LF, LFnu, LF/HF, LF/HFnu and total power of HRV spectrum and a decrease of HFnu were observed. The E/I ratio was 1.12±0.08. During the TUT, VLF, LFnu, LF/HF, and LF/HFnu were increased, while HFnu decreased. The 30/15 ratio was 0.98±0.05. The observed strong correlations are as follows between:

1. prostate enlargement and HFnu and LFnu power;
2. total PSA level and LFnu, HF, HFnu;
3. free/total PSA ratio and LF/HFnu;
4. PSA density of the transition zone and HF;
5. plasma noradrenalin level and HF;
6. age and LFnu, HFnu, LF/HF and LF/HFnu;
7. plasma adrenaline level and prostate enlargement: prostate length and transition zone height.

Conclusions: These results demonstrate the sympathetic overactivity of ANS at rest in patients with BPH and LUTS. It is also suggested that in the pathophysiology of BPH, the heighten activity of the sympathetic ANS, and parasympathetic drive are important.

N20

Tamsulosin with or without serenoa repens in benign prostatic hyperplasia: The Comb TAMSR trial

D. Argirovic*. *Clinic of Urology, Outpatient Clinic Argirovic, Urology, Belgrade, Serbia*

Introduction and Objectives: The Comb TAMSR trial compared one of the possible drugs combination [tamsulosin (TAM) and Serenoa repens (SR)] with TAM alone, to see if there was any difference in effectiveness and to evaluate the clinical tolerance of each in patients (pts) with benign prostatic hyperplasia (BPH).
Material and Methods: In this retrospective non-randomized study pts had to have PV < 40 ml, PSA < 4 ng/ml, IPSS score from 7 to 19, QOL > 3, Qmax from 7 to 15 ml/s and PVR < 150 ml. TAM (0.4 mg) was administered once a day for median period of 6 months or SR (320 mg per day)+TAM. PV and PSA were measured at selection and at end-point, whereas IPSS, QOL, Qmax and PVR were evaluated at baseline and later every 3 months.
Results: 77 pts were recruited, 70 were fully available: 38 into the TAM group and 32 into the TAM+SR group. No statistically significant difference was found between 2 groups, neither for the major end-point (change in total IPSS score between the baseline value and the final evaluation (TAM −4.6±3.3 vs TAM+SR −4.9 ±2.3;p = 0.16) nor for the second-end point [changes in the voiding scores −1.5±2.4 vs −1.7±2.8 (p = 0.95) and filing scores −1.7±2.8 vs −1.5±2.4(p = 0.92) of the IPSS, improvement of QOL – 2.1±0.8 vs 2.2±1.0 (p = 0.14), Qmax 3.7±2.6 vs 4.2±2.5 (p = 0.38), PV −0.2±12.8 vs −0.99±20.9 (P = 0.27), PVR −23.6 ±20.2 vs −25.4±14.8]. Both treatment groups showed similar but no significant changes in total PSA (−0.1±3.5 vs −2.5±0.2) and changes in sexual function score (0.4±3.5 vs 0.5±2.5). During the treatment period, 10 pts (26%) managed with TAM and 5 (13%) with TAM+SR had drug related adverse reactions wich included postural hypotension, dizziness, libido decrease, dry mouth, rhinitis, fatigue and asthenia. Mean improvement in IPSS was greater in men experiencing retrograde ejaculation (13%) than men who did not (−7.3±3.3 vs −6.1±2.3)(p = 0.03865) but not regarding Qmax (4.0±2.3 vs 3.4±2.5)(p = 0.0699).
Conclusions: The addition of SR to TAM did not provide any significant benefit to pts.TAM can be considered as 1st line medical treatment of LUTS due to BPH.

N21

Comparative effects of rosuvastatin and simvastatin on growth of normal prostatic epithelial cells at clinically relevant concentrations

T. Murtola[1]*, H. Syvälä[2], P. Pennanen[3], M. Bläuer[2], T. Ylikomi[3], T.L.J. Tammela[4]. *[1]Central Finland Central Hospital, Dept. of Surgery, Jyväskylä, Finland; [2]University of Tampere, Dept. of Anatomy, Tampere, Finland; [3]University of Tampere, Dept. of Cell Biology, Tampere, Finland; [4]Tampere University Hospital, Dept. of Urology, Tampere, Finland*

Introduction and Objectives: 3-hydroxy-3-methylglutaryl CoA reductase inhibitors, statins, have been shown to inhibit the growth of normal and cancerous prostate cells, indicating their chemotherapeutic and -preventive potential to prostate cancer. Although several studies with prostate cancer cell lines have revealed inhibitory effects of supratherapeutic doses of statins to involve enhanced apoptosis and cell cycle arrest, corresponding studies with noncancerous cells have not been done. In this study we compared two different statins' (rosuvastatin and simvastatin) potency to inhibit the growth of