Podium Session 2: BPH/Voiding Dysfunction
June 19, 2011, 1330-1430

POD-02.01

Holmium Laser Enucleation (Holep) versus Photo Selective Vaporization (Green Light PVP/HPS) of Prostatic Adenoma Greater than 60 mL: Preliminary Results of Prospective Randomized Clinical Trial

Elmansy Hazem[1], Baazeem Abdulaziz[1], Kotb Ahmed[1], Badawy Hesham[2], Riad Essam[3], Emran Ashraf[2], Elhilali Mostafa[1]
[1]Department of Urology, McGill University, Montreal, QC, Canada; [2]Urology Department, Cairo University, Cairo, Egypt; [3]Urology Department, Theodor Bilharz Research Institute, Cairo, Egypt

Introduction and Objective: We report the first single center, prospective randomized study comparing HoLEP and PVP/HPS for the surgical treatment of large prostatic adenoma >60 mL.

Methods: Eighty patients with large prostatic adenoma (62-160 mL) were randomly assigned to surgical treatment with HoLEP (n=43) or PVP (n=37). International Prostate Symptom score (IPSS), International Index of Erectile Function (IIEF-5), Maximum Flow Rate (Qmax), Post void Residual Urine (PVR), serum PSA and transrectal ultrasound volumes (TRUS) were recorded. Operative data and number of fibers used were also recorded. Complications were defined using Clavien classification. Patients were evaluated at 1, 3 and 6 months, and at 1 year follow up.

Results: Baseline characteristics of both groups were similar; as the mean TRUS volume was 91 and 89 mL (p=0.6), Qmax was 8 and 9 mL/sec (p=0.3) and PVR was 268 and 272 mL (p=0.2), for HoLEP and PVP groups respectively. Operative time and catheter removal time were nearly equal in both groups (p=0.7 and 0.1 respectively). Eight cases from the PVP group were converted into either TURP or HoLEP intraoperatively, due to bleeding. Although we conducted the analysis according to the intent to treat, including the PVP converted cases in the PVP group, a significantly higher Qmax and lower PVR were noticed in HoLEP group during the entire period of follow up; however, no significant differences in IPSS, QOL or IIEF were detected. The percentage of prostate volume and serum PSA decrease was 78% and 88% in HoLEP group and 52% and 60% in PVP group respectively (p<0.0001 and 0.05 respectively). According to Clavien classification, 9 patients (11%) had grade 3 complications; 3 of them in HoLEP and 6 in PVP groups.

Conclusion: Both HoLEP and PVP are effective modalities for treatment of LUTS due to large size prostatic adenoma, with a reasonable rate of complications. Early functional results (Qmax and PVR) of HoLEP appear to be superior to PVP, although the quality of life and IPSS scores were nearly equal postoperatively in both groups. In our hands; cases intended to be treated by PVP had 22% risk of conversion to other modalities. This could reflect our determination to vaporize to the capsule in all PVP cases.

POD-02.02

Mod-Term Outcomes of Initial 250 Case Experience with Greenlight 120W-HPS Laser Photoselective Vaporization Prostatectomy for Obstructive Benign Prostatic Hyperplasia: Comparison of Prostate Volumes <60cc, 60-100cc and >100cc

Zorn Kevin[1,2], Gautam Gagan[1], Liberman Dan[2], Valiquette Luc[2]
[1]University of Chicago Hospital Center, Chicago, IL, USA; [2]University of Montreal Hospital Center, Montreal, QC, Canada

Introduction and Objectives: We conducted this study to perform a comparative analysis of the efficacy of GreenLight 120W-HPS laser vaporization in men with obstructive benign prostatic hyperplasia with prostates volumes <60, 60-100 and >100 cc.

Methods: The clinical data of men with symptomatic BPH who underwent PVP by a single surgeon (KCZ) between July 2007-Aug 2009 were retrospectively analyzed. Functional followup included International Prostate Symptom Score (IPSS), Quality of Life (QoL), Sexual Health Inventory for Men (SHIM) score, serum prostate specific antigen (PSA), maximum flow rate (Qmax) and post void residual (PVR) determinations and volumetric prostate measurements with transrectal ultrasonography (TRUS). Functional evaluations were performed at 3,6 and 12 months with a PSA obtained at 6 months. All men were classified into 3 groups according to TRUS volume. Change in baseline outcomes, complications and retreatment rates were compared among groups.

Results: Among the 250 consecutive PVP patients, overall median age was 67 (range 48-91) years. Overall mean prostate volume and preoperative PSA were 57.1cc (32-170) and 3.4 ng/mL (1.8 -13.7), respectively. 134, 76 and 40 men had prostate volumes <60, 60-100 and >100cc, respectively. Mean laser time, energy and fibre usage were 31, 44 and 59 minutes; 163, 309 and 473kJ, and 1.4, 2.2 and 3.2 fibers, respectively (p<0.01 for all). At 1 year, mean IPSS improved 69%, 63% and 50%, Qmax increased by 194%, 175% and 162% and PVR decreased by 88%, 81% and 71%, respectively (p<0.01 for all). Mean decrease in pre-operative PSA at 6 months was 63%, 52% and 41%(p<0.01), respectively. Hospital stay, catheterization time and complication rates were comparable between groups, however retreatment rates were significantly higher for prostates >100 cc (1.5% vs 2.6% vs 9%; p=0.02).

Conclusions: At 1 year, significant and durable improvements in the subjective and objective voiding parameters wereobserved in all prostate volume groups. Although larger prostates require more time and energy delivery, photo-vaporization of theprostate is safe and efficacious as an outpatient procedure for me with LUTS regardless of prostate size. However, laser-vaporization for glands >100 cc appears to have a reduced reduction in PSA and a higher rate of retreatment. Such findings arevaluable in counseling patients undergoing PVP. Further research is required to address the optimal surgical management for men with prostate volumes >100 cc.

POD-02.03

Photoselective Vaporization of the Prostate (PVP) Using Green Light High Performance System (HPS): Is Outcome Size Dependent?

Elmansy Hazem, Kotb Ahmed, Elhilali Mostafa
Department of Urology, McGill University, Montreal, QC, Canada

Introduction and Objectives: The aim of our work was to compare the efficacy of HPS in the treatment of symptomatic BPH, for prostate glands below and above 60 grams.

Methods: A retrospective analysis of 134 patients treated by HPS was done. Nine patients were converted to other procedure due to bleeding and were excluded from the analysis. The remaining 125 cases included 89 and 36 patients with prostate size less and more than 60 grams respectively. International Prostate Symptom score (IPSS), International Index of Erectile Function (IIEF-5), Maximum Flow Rate (Qmax), Post void Residual Urine (PVR) and serum PSA were recorded. Operative data and number of fibers used and complication rates were also recorded. Patients were evaluated at 1, 3 and 6 months, and at 1 year follow up.

Results: The mean age of the patients was 73 years, the mean preoperative TRUS volume was 53.6 (15.5- 129) grams. The mean energy, operative time and the number of laser fibers were significantly higher in patients with prostate >60 grams. Functional outcomes; including IPSS, QOL, PVR and Qmax were comparable in both groups. One (1.1%) and 8 (18%) patients were converted intraoperatively to other procedure ($p<0.0001$), in patients with prostate gland below and above 60 grams respectively. Postoperative complications including stricture, bladder neck obstruction, retreatment due to residual adenoma, urge and stress incontinence were 1.6%, 2.4%, 2.4%, 18.4% and 3.2% for the whole cohort.

Conclusion: Due to our intent to reach the prostatic capsule during vaporization, the functional results, in our hands, following HPS management for BPH seems to be comparable for patients with prostate volume less and more than 60 grams. However; patients with prostate volume more than 60 grams significantly required longer operative time, more energy and nearly 1/3 of the cases required more than 1 fiber. Also the rate of conversion and redo surgery was significantly higher in patients with prostate volume more than 60 grams, making HPS, although effective, probably not the first choice for those patients with larger prostate glands.

POD-02.04

Improved Clinical and Urodynamic Outcomes and Quality of Life in Patients with Urinary Incontinence due to Neurogenic Detrusor Overactivity Treated with OnabotulinumtoxinA

Herschorn Sender[1], Cruz Francisco[2], Pommerville Peter[3], Gajewski Jerzy[4], Thompson Catherine[5], Lam Wayne[5], Haag-Molkenteller Cornelia[5]
[1]Division of Urology, University of Toronto, Toronto, ON, Canada; [2]Department of Urology & IBMC, Hospital S. João & Universidade Do Porto, Porto, Portugal; [3]Vancouver Island Health Authority, Victoria, BC, Canada; [4]Queen Elizabeth II Health Sciences Centre, Halifax, NS, Canada; [5]Allergan LLC, Irvine, CA, USA

Introduction and Objective: To evaluate efficacy and safety of onabotulinumtoxinA (onabotA) 200U and 300U versus placebo (PBO) for treatment of urinary incontinence (UI) in patients with neurogenic detrusor overactivity (NDO).

Methods: In this multicentre, double-blind, randomized, PBO-controlled study, patients with NDO (≥14 UI episodes/wk) due to multiple sclerosis (n=154) or spinal cord injury (n=121) and not adequately managed by anticholinergics received 30 intradetrusor injections of PBO (n=92), onabotA 200U (n=92), or 300U (n=91). Patients could request a 2nd treatment from 12 wks post 1st treatment onwards. Primary endpoint was change in number of UI episodes/wk at 6 wks after 1st treatment. Secondary endpoints included urodynamic measures (change from baseline [BL] in maximum cystometric capacity [MCC], maximum detrusor pressure [MDP] during 1st involuntary detrusor contraction [IDC]) and the patient-reported Incontinence Quality of Life Instrument (I-QOL) total score. Adverse events (AE) were recorded throughout.

Results: Mean age (SD) of participants was 45.8 (±13.5) y. At BL, patients reported a mean 33.5 UI episodes/wk, and 59% were taking anticholinergics, with no differences between groups. Significant benefits were observed from wk 2 onwards. At wk 6 (primary endpoint), UI episodes/wk were significantly reduced in both the onabotA 200U (-21.8) and 300U (-19.4) groups vs PBO (-13.2; $p=0.002$ for both comparisons vs PBO). MDP during 1st IDC was also significantly reduced in both onabotA groups vs PBO, and MCC and I-QOL were significantly improved. Median duration of effect (time until patient-requested retreatment) was 92 days for PBO and 295 days in both onabotA groups. AEs were mainly limited to the urinary tract with 40%, 56% and 64% reporting UTIs and 3%, 20% and 32% reporting urinary retention in the PBO, 200U and 300U groups, respectively. In patients not using clean intermittent catheterization (CIC) at BL, 5%, 21.4% and 34.9% initiated CIC in the PBO, 200U and 300U groups, respectively, at 6 wks.

Conclusions: Significant improvements vs PBO in UI episodes/wk, MCC, MDP, and QOL were seen with onabotA 200U and 300U, with no clinically relevant difference in efficacy between onabotA doses. Both onabotA doses were well tolerated.

POD-02.05

Post-Operative Pain in Women Who Have Undergone a Tension-free Vaginal Tape via an Obturator Route Procedure

Setterfield Jeremy[1], Steele Stephen[1,2]
[1]Queen's University School of Medicine, Kingston, ON, Canada; [2]Department of Urology, Queen's University, Kingston, ON, Canada

Introduction and Objective: Vaginal tapes for stress urinary incontinence have been successful in treating stress urinary incontinence (SUI). Complications, however, do occur. Most complications have been well described but what has not been well documented is the degree of musculoskeletal pain that women suffer post-operatively. The purpose of this study was to assess post-operative back, groin, thigh, and hip pain in women who underwent a tension-free vaginal tape via an obturator route (TVT-O) for SUI.

Methods: We identified and mailed a questionnaire to seventy-seven patients who had undergone an uncomplicated TVT-O within the last three years. The questionnaire attempted to quantify post-operative pain intensity at the back, groin, thigh, and hip areas using a 10 point visual analogue scale. Post-operative quality of life was assessed using the Dallas Pain Questionnaire (DPQ). Mean values and their 95% confidence interval were calculated.

Results: The response rate to the questionnaire was 57%. Figure 1 demonstrates the proportion of patients who experienced pain and the mean pain intensity. Patients without pain (24%) were excluded from the pain intensity analysis. Mean post-operative pain duration lasted between 5 and 10 days, excluding five patients who suffered from chronic pain (two months or greater). Over-the-counter analgesics were commonly used post-operatively. More worrisome, however, was that 10% of

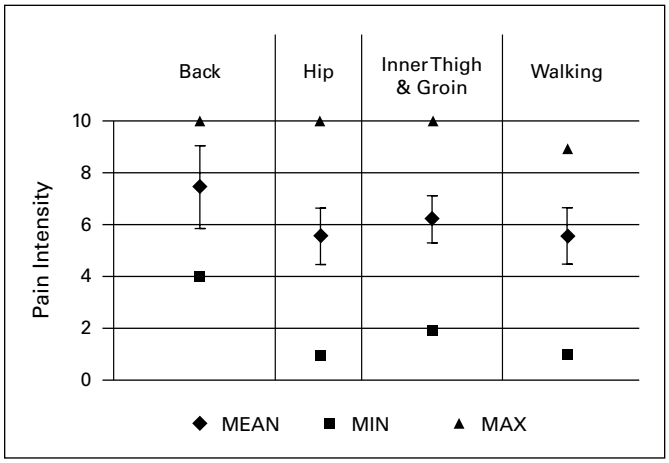

Fig. 1. POD-02.05

patients required oxycodone for pain relief. Quality of life was measured with the DPQ. Daily activities and work/leisure were most affected by the post-operative pain.
Conclusions: Though inner thigh and groin pain has been well described in the literature, this is the first study that we are aware of that quantifies the significant degree of post-operative hip and back pain experienced by patients undergoing a TVT-O procedure. It seems plausible that the majority of this hip and back pain is the result of placing women in the exaggerated lithotomy position for the duration of the operation. Further research will include a follow-up study examining whether a pre-operative stretching regime is effective in reducing post-operative musculoskeletal pain.

POD-02.06

The Effect of a 6Fr Catheter on Pressure-Flow Studies in Women: Is it Really Obstructive?

Richard Patrick, Icaza Ordonez Nydia, Tu Le Mai
Department of Urology, Université de Sherbrooke, Sherbrooke, QC, Canada

Background: Urodynamic studies (UDS) allow for direct assessment of the lower urinary tract symptoms (LUTS). The pressure-flow studies are one of the most important parameters evaluated during the UDS in order to determine if the patient is suffering from bladder outlet obstruction (BOO). There is currently no consensus on the definition of BOO in women but UDS criteria such as a Qmax ≤15 mL/s and a PdetQmax ≥ 20 cm H2O is generally used. However, the use of transurethral catheters during the pressure-flow studies has brought up concerns about its potential obstructive nature which could result in false positive BOO diagnosis. Thus, the objective of this study is to evaluate the effect of a 6Fr transurethral catheter on pressure-flow studies and to evaluate whether it might potentially contribute to the obstruction.
Methods: This is a retrospective study of 615 women referred for an evaluation of lower urinary tract symptoms and who underwent an urodynamic study. Non invasive free-flow uroflowmetry (UFM) was performed before every urodynamic studies and postvoiding residual urine volume (PVR) was recorded. Cystometrogram (CMG) was then performed using a 6 Fr double lumen transurethral and PVR recorded at the end of the procedure.
Results: The mean age of the population was 62±13 years old. The maximal flow rate (Qmax) was significantly higher (p<0.001) in the free-flow studies [20.0 mL/s (range 13.7–28.5)] than in the pressure-flow studies [17.5 mL/s (range 11.8-25.2). This difference becomes even greater (-6 mL/s) if we analyze only the patients (n=155) who voided a volume varying by less than 20% between the free and pressure-flow studies. Furthermore, 132 women (18%) in the overall population would have been misinterpreted as having an obstructive voiding pattern while similar findings were observed in 40 women (26%) in the sub-analyzed group if only the Qmax obtained during the pressure-flow study would have been used.
Conclusion: This study shed the light on how important is the flow-free study in the interpretation of the UDS. We believe that they should be performed in all patients before pressure-flow studies because of the potential obstructive nature of the 6Fr catheters which could results in an unnecessary diagnosis and treatment.