Oral Presentations – EUSC 2018 and 15th Annual AAU Conference

[1] Ejaculation-preserving transurethral bipolar prostatectomy: Enucleation vs resection

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Objective: To assess the feasibility and safety of a novel ejaculation-preserving transurethral bipolar resection of prostate (ep-TUBRP) and compare the resection technique to the enucleation technique.

Methods: After obtaining local ethics approval, 100 consecutive patients with benign prostatic obstruction (BPO) and normal sexual activity were enrolled from June 2015 to June 2016. These patients were selectively randomised into two groups; 50 patients in each group. Group 1 underwent ejaculation-preserving transurethral bipolar enucleation of prostate (ep-TUBEP) and Group 2 underwent ep-TUBRP. All patients were evaluated pre- and postoperatively using the maximum urinary flow rate (Qmax); post-void residual urine volume (PVR); International Prostate Symptom Score (IPSS); and the five-item version of the International Index of Erectile Function (IIEF-5), including two additional questions evaluating ejaculation and orgasm. All patients were followed-up at 1, 3, and 6 months.

Results: Overall, 100, 98 and 97 patients were evaluated at 1, 3 and 6 months, respectively. All preoperative parameters such as age, prostate-specific antigen (PSA), prostate volume, Qmax, PVR, IPSS, and IIEF-5 were comparable between the two groups (all \( P > 0.05 \)). At the 1-month follow-up, antegrade ejaculation was preserved in 88 of 100 (88%) (45 patients in Group 1 and 43 in Group 2). In addition, there were significant improvements in Qmax [from a mean (SD) of 6.54 (1.72) mL/s to 15.38 (3.02) mL/s], PVR [from a mean (SD) of 94.4 (41.85) mL to 25.04 (32.72) mL], and IPSS [from a mean (SD) of 21.7 (6.6) to 11.72 (2.39)] compared with the preoperative measurements. Moreover, these improvements were maintained at the 3- and 6-month follow-up visits (all \( P < 0.001 \)). No serious adverse events were reported.

Conclusion: Ejaculation-preserving transurethral bipolar prostatectomy seems safe and effective for preservation of antegrade ejaculation with either the resection or the enucleation technique.

doi:10.1016/j.aju.2018.10.048

[2] Neoadjuvant intravesical chemotherapy to treat extended large non-muscle-invasive bladder cancer

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Objective: To report our experience with the use of neoadjuvant intravesical chemotherapy in the treatment of large exophytic bladder tumours. About 75% of bladder cancers are superficial at diagnosis. Sometimes, symptoms are mild or absent, and the tumour can grow unnoticed into a large intra-luminal, bulky mass.

Methods: At transurethral resection of bladder tumour (TURBT), the aim was to perform a complete resection as far as possible, or at least a reliable tumour biopsy, and to resect to the tumour base to exclude deeply invasive disease. At 15 days postoperatively, patients were started on a short and intensive schedule of intravesical bladder chemotherapy with six doses of 40 mg mitomycin (MMC). This was followed by a second TURBT with deep bladder wall biopsies to complete resection and staging.

Results: In all reported cases, an initial complete resection was not possible. In seven cases (47%) T staging was inconclusive (Tx), with six of the seven cases having high-grade tumours and one a low-grade tumour. In the remaining eight of 15 cases, six (40%) were of a Ta-low grade, and two (13%) were of a T1-high grade. The two patients with a Ta-low grade tumour refused the option of immediate radical cystectomy (RC) and preferred a bladder-sparing treatment.
option. After neoadjuvant intravesical chemotherapy, complete resection was then feasible in all patients. One patient (7%) was consequently diagnosed with a T2 tumour and underwent RC. Two patients (13%) had no muscle cells in their histology and thus remained unstaged.

Conclusion: A neoadjuvant MMC schedule after initial incomplete resection of large non-muscle-invasive bladder tumours and before a second complete resection appears to be a viable and safe alternative. If done carefully and expeditiously, it does not delay a potentially curative early RC.

doi:10.1016/j.aju.2018.10.049

[3] Incorporation of the fluoroless C-Arm Trainer at the American Urological Association hands-on training of percutaneous renal access: Pilot study

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Objective: To assess the usefulness of incorporating the C-Arm Trainer (CAT) simulator into the annual American Urological Association (AUA) hands-on course for training of the percutaneous nephrolithotomy (PCNL) procedure.

Methods: This prospective study was conducted during the annual meeting of the AUA in 2017. The course included four stations for training the ‘bull’s eye’ technique for obtaining fluoroscopic-guided percutaneous renal access (PCA) using the CAT. After a didactic session, all participants were asked to complete a short questionnaire and undergo a pre-test to obtain a PCA in the posterior middle calyx. This was followed by 30-minute practice on the simulator prior to undergoing a post-test. All participants were assessed during the pre-test and the post-test using a four-item checklist. Furthermore, all participants were asked to complete a qualitative analysis self-assessment questionnaire after the pre- and post-test. Immediately after the course, all participants were invited to complete a course evaluation questionnaire. At 2 months after the course, all participants were asked to respond to a post-course survey to assess the usefulness and clinical impact of the course.

Results: A total of 38 physicians, who attended the hands-on course, voluntarily participated in the study. Most of them were attending urologists (79%), with a mean of 9-years of independent practice. Only 21.1% had previous practice on PCNL simulators. Compared with the pre-test, there was significant improvement in the checklist total score ($P < 0.001$), temporal demands ($P = 0.003$), situational stress ($P = 0.003$), and performance ($P = 0.003$) during the post-test. The participants considered the CAT very useful for training in PCA (score 5.3/6). A total of 14 (36%) participants responded to the course evaluation questionnaire, seven (50%) evaluated the course as excellent, four (28.6%) as very good, and three (21.4%) as good.

Conclusion: The CAT simulator was considered useful for training in PCA. There was significant improvement in the qualitative and quantitative parameters during the post-test compared with the pre-test.

doi:10.1016/j.aju.2018.10.050

[4] Learning curve of percutaneous renal access on a virtual reality simulator: Pilot study

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Objectives: To assess the learning curve of percutaneous renal access (PCA) using the PERC Mentor simulator.

Methods: Urology postgraduate trainees (PGTs) from postgraduate years (PGY) 4 and 5 were recruited. Participants received educational demonstration on how to perform the PCA using the ‘bull’s eye’ technique before being asked to perform task five on the PERC Mentor simulator, where they had to correctly puncture the middle calyx over a stone in a left kidney model. All participants were assessed objectively by the PERC Mentor simulator and subjectively by the validated Percutaneous Nephrolithotomy-Global Rating Scale (PCNL-GRS) tool. The learning curve of PCA was considered with plateauing in PCNL-GRS score, operative and fluoroscopy times, and absence of complications.

Results: Four urology PGTs (three PGY-4 and one PGY-5), with median (range) age of 30 (27.8–32.3) years and without prior PCNL experience, participated in this study. Most of the participants were male (three of the four). Participants had previously performed a median of 100 cystoscopies, 50 TURBT, and 27.5 TURP prior to this study. The PGTs performed a total of 68 PCA