Unmoderated Posters: Pediatric Urology

UP-48

Single Centre Experience with Transdermal Oxybutynin Gel for Children with Overactive or Neurogenic Bladders

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Introduction: Oxybutynin is the standard drug for management of overactive bladder (OAB) and neurogenic bladder (NGB) in children, but cannot always be tolerated in oral form. We report the use of a transdermal oxybutynin gel (TOG) as an alternative in a pediatric population.

Methods: Consecutive patients assessed in a Nurse Practitioner urology clinic over a 17 month period, diagnosed with OAB or NGB and with minimum follow-up of 3 months, were included. TOG dose was a single 1.14 mL sachet/day in all patients, based on product design (Gelnique®). Data were retrospectively collected including indication for use, previous anticholinergic therapy and side effects, and TOG tolerance. Outcomes assessed were subjective symptomatic response, defined as improvement or resolution of lower urinary tract symptoms, and side effects.

Results: 27 children met inclusion criteria (mean age=8.5 years, range 4-15; 48% male; follow-up 3-16 months). OAB was the most common indication (21/27; 78%), followed by NGB (6/27; 22%). In 17/27 (63%) there was previous exposure to oxybutynin, which was discontinued due to intolerable side effects. Overall, 26/27 (96%) reported good symptom response. Only 4/27 (15%) reported side effects (dry mouth, difficulty voiding and behavior changes), leading to discontinuation in 3 of the 4. There were no reports of worsening constipation, blurred vision, or heat intolerance with use of TOG. One patient discontinued the medication because he didn't like the feeling of the gel on his skin. Two were successfully weaned upon resolution of their symptoms.

Conclusions: Our data suggest that the use of TOG is a viable alternative for children with OAB/NGB who do not tolerate other formulations of oxybutynin, are unable to swallow extended-release tablets or have skin irritation from transdermal patches. Transdermal administration appears to be a promising delivery route that merits further evaluation in the pediatric setting.

UP-49

3D Vision Laparoscopic Ureteral Re-implantation: Benefit Compared to Conventional Laparoscopy

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Introduction: To demonstrate the advantage of using 3 dimensional (3D) vs. 2 dimensional (2D) laparoscopy for ureteral reimplantation in children.

Methods: Charts of 19 children who underwent laparoscopic extravesical ureteral reimplantation by a single surgeon from 2005 to 2013 for vesicoureteral reflux (VUR) were retrospectively reviewed. The current 3D (11 patients) cohort was compared to the previous 2D (8 patients) cohort, excluding 2002-2005 cases to account for the learning curve. Patient age, weight, gender, grade of VUR, dimension, technique of detrusor tunnel mucosal dissection, tunnel length, operative time, length of stay (LOS), and complications were retrieved. All statistical analysis was conducted per ureter (total of 28 ureters operated) using STATA to perform linear regression models and chi squared tests.

Results: The median age of all patients was 5yrs, with the distribution of grades of VUR from 1 to 5 being 1-9-8-10-0, with 4 cases of common sheath reimplantation. The mean operative time for 2D (12 ureters) and 3D (16 ureters) was 217min and 130min. When comparing 3D versus 2D, operative time was reduced by an average of 86 minutes per ureter with the use of 3D laparoscopy ($p<0.0001$), and mucosal perforation rate was decreased from 67% to 19% ($p=0.01$). Perforation increased OR time by a mean of 72 minutes ($p=0.005$). There was no significant difference between the 2 groups in the number of bilateral cases, median age, weight, mean detrusor tunnel length, nor grade of reflux. The 3D group was different in that the bipolar hook was used in 7 cases. 3D laparoscopy did not impact the LOS.

Conclusions: Operative times and mucosal perforation rates are significantly reduced with the use of 3D vision and the bipolar hook for extravesical ureteral reimplantation, compared to conventional laparoscopy with right angle monopolar electrocautery. This approach provides a novel alternative to which current robotic techniques should be critically evaluated.

UP-50

Bilateral Robot-assisted Laparoscopic Ureteral Reimplantation: Debunking the Myth of Urinary Retention

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Introduction and Objectives: The significant incidence of postoperative urinary retention following open bilateral extravesical ureteral reimplantation is well-described, and it has had an impact on the pediatric urologic management of vesicoureteral reflux (VUR). With the advent of robot-assisted laparoscopy, and its applicability to extravesical reimplantation, many authors have published promising results without the same level of urinary retention following bilateral surgery thereby challenging the existing dogma. The objective of this study is to compare rates of postoperative urinary retention between unilateral and bilateral robot-assisted ureteral reimplantation.

Methods: Review of case logs (2010-2013) at 2 separate institutions was carried out to identify cases of robot-assisted laparoscopic ureteral reimplantation. The primary outcome variable measured is the length of postoperative catheterization (indwelling or clean intermittent). Other variables analyzed included the grade of VUR, the presence of dysfunctional voiding, previous bulking agents, length of stay and post-void residuals. Statistical analysis between groups is performed using a Wilcoxon rank sum test.

Results: Forty-eight cases of robot-assisted ureteral reimplantation between 2010 and 2013 were available for review (27 bilateral, 21 unilateral). The bilateral group was catheterized for 2.9±4.1days (90th percentile 7.0 days) versus the unilateral group 2.3±3.0days (90th percentile 6.8 days) resulting in no significant difference in the rate of urinary retention ($p=0.40$). In multivariate analysis, the presence of dysfunctional voiding, previous bulking agents, the grade of VUR or the surgeon/institution did not significantly affect the duration of urinary retention.

Conclusions: Ninety percent of patients following either unilateral or bilateral robot-assisted laparoscopic ureteral reimplantation will have return to spontaneous voiding within a week of surgery. In the robot era, bilateral extravesical ureteral reimplantation does not predispose to postoperative urinary retention.

UP-51

Three Year Outcomes of Recovery of Erectile Function after Open Radical Prostatectomy with Sural Nerve Grafting by a Multidisciplinary Surgical Team

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Introduction and Objectives: Surgical treatment of high risk prostate cancer with wide neurovascular bundle (NVB) excision can provide excellent oncologic control but often results in loss of erectile function. Younger patients may benefit from sural nerve grafting (SNG). However, prolongation of surgical time with limited benefit reported on medium range follow-up has been a deterrent in offering this modality. A multidisciplinary approach in collaboration with a plastic surgeon can expediently provide a high quality graft with minimal morbidity. We report the 3-year outcomes of standardized SNG performed by our multidisciplinary team.

Methods: We prospectively included 66 patients (patients) undergoing radical prostatectomy (RP) from 2002 to 2010. All patients had a preoperative International Index of Erectile Function (IIEF) score of >20 and 51 % were aged <60. All RP were performed by a single urologist while the SNG was contemporaneously harvested by a plastic surgeon. Decision of NVB excision and SNG on each side was based on the Ohori nomogram regarding likelihood of extra-prostatic extension. At yearly follow-up visits, patients completed the IIEF self-assessment questionnaire. All patients were encouraged to use PDE5i perioperatively. We defined recovery of potency if the postoperative IIEF-EF domain score was >22.

Results: 65% of patients underwent unilateral SNG. Preoperative clinical parameters are listed in Table 1. Mean surgical time was 164 min (71-221), estimated blood loss was 310 ml (100-1000) and preoperative IIEF score was 23.4±1.6. At a mean follow-up of 35 months, 19 (28.8%) patients had preservation of potency (IIEF score >22), 7 (10.6%) patients had IIEF 18-21, 28 (42.4%) patients had IIEF 11-17 and 12 (18.1%) patients had IIEF 1-10. The IIEF-EF score for patients with unilateral and. bilateral SNG, was 12.9±4.9 and 14.8±5.3 respectively. History of diabetes (p=0.001) and age (p=0.007) negatively correlated with recovery of EF. 60% patients used PDE5i and we observed a significantly higher EF recovery (43% vs. 17%, p=0.009) in this subgroup.

Conclusions: In our experience, the plastic surgeon provided good quality nerve grafts without disrupting, prolonging or complicating the surgery. Although IIEF scores were not stellar SNG may be beneficial in selected younger patients (<60 years) who warrant NVB wide excision.

Table 1. UP-51. Preoperative clinical and pathological characteristics of the sural nerve graft (SNG) patients

Characteristics	All patients (n=66) N(%) or mean (SD)	USNG (n=43) N(%) or mean (SD)	BSNG (n=23) N(%) or mean (SD)	*p*-value
Age (yr)				
≤60	34 (51)	19(44)	8(35)	0.165
>60	32(49)	24(56)	15(55)	
BMI (Kg/m^2)				
<25	40(61)	27(63)	13(56)	
25-30	15(22)	10(23)	5(22)	0.415
>30	11(17)	6(14)	5(22)	
Pre-op PSA ng/nl	7.19 (3.84)	7.42 (3.94)	7.03 (3.65)	0.988
Prostate Volume	37.87(9.9)	39.18(11.18)	35.04(6.33)	0.249
Clinical Stage				
T2b	59(89)	38(88)	21(91)	0.885
T3a	7(11)	5(12)	2(9)	
% Tumour Involvement				
<20	2(4)	2(5)	-	
20-40	20(30)	12(28)	4(17)	0.976
40-60	20(30)	14(32)	9(39)	
>60	24(24)	15(15)	10(44)	
Gleason Score				
≤6	20(30)	20(46)	6(26)	
7	33(50)	21(49)	13(56)	0.847
>8	13(20)	2(5)	4(18)	
Pre-Operative IIEF score				
1-10 (Severe ED)	-	-	-	
11-17 (Moderate ED)	-	-	-	
18-21 (Mild-Moderate ED)	-	-	-	
22-25 (Mild ED)	60(100)	43(100)	23(100)	0.185
>26 (No ED)	-	-	-	

N: number; IIEF: International Inventory of Erectile Function; BMI: body mass index; UNSG: unilateral sural nerve graft; BSNG: bilateral sural nerve graft.