

Smart Communications (SC89–SC96) Pediatric Urology

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SC89 Is still necessary a drainage placement after robotic reconstruction of the upper urinary tract in children? experience from a tertiary referral center

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Aim of the study: To compare the surgical outcomes of children submitted to robot-assisted reconstruction with or without drainage placement performed by a single surgeon in a tertiary referral center. **Materials and methods:** Patients submitted to robot assisted reconstruction including pyeloplasty for ureteral pelvic junction obstruction, end to end anastomosis for retrocaval ureter and reimplantation for vesical ureter reflux from January 2016 to November 2018 were included. Patients with ureteral pelvic junction obstruction or retrocaval ureter were selected for surgery according to the presence of symptoms and/or evidence of obstruction on diagnostic imaging. The criteria for reimplantation included breakthrough urinary tract infections, progressive renal scarring and persistent vesical ureter reflux despite watchful waiting.

Results: Overall, 31 children composed the no drain placement group and 29 the drain placement group. Preoperative feature of the two groups were comparable. Overall, only one (3.3%) postoperative complication occurred in no drain placement group and two (6.9%) in the placement group ($p = 0.512$). Length of stay was 3 (IQR 3–4) and 4 (IQR 4–4) days, respectively ($p = 0.651$). At last follow-up, overall success rate was 100% in the no drain placement group and 96.6% in the drain placement group ($p = 0.297$).

		Group A (No Drainage; n=31)	Group B (Drainage; n=29)	p-value
PREOPERATIVE DATA				
Gender, n. %	Male	16 (51.6%)	16 (55.2%)	0.782
	Female	15 (48.4%)	13 (44.8%)	
Symptom, n. %	No	7 (22.6%)	6 (20.7%)	0.859
	Yes	24 (77.4%)	23 (79.3%)	
Month, median; IQR		104; 60-168	89; 39-144	0.605
Kg, median; IQR		30; 17-52	27; 14-47.5	1.000
POSTOPERATIVE DATA				
Type surgery, n. %	Pyeloplasty	27 (87.1%)	25 (86.2%)	0.995
	reimplantation	3 (9.7%)	3 (10.3%)	
	ureterectomy	1 (3.2%)	1 (3.4%)	
Operative time, median; IQR		100; 90-110	95; 85-120	1.000
Console time, median; IQR		80; 70-80	80; 65-90	0.310
Setup time, median; IQR		21; 15-30	20; 15-25	0.593
Post op. Flacc score*, median; IQR		1; 1-1	1; 1-1	1.000
Post op. VAS, median; IQR		2; 2-3	3; 3-3	0.06
Amount discharge DR in I POD, median; IQR ml		/	50; 25-75 ml	/
Amount discharge DR in III POD, median; IQR ml		/	25; 15-40 ml	/
Days of UC, median; IQR		3; 2-3	3; 3-3	0.433
LOS, median; IQR		3; 3-4	4; 4-4	0.651
Complications, n. %		1 (3.2%)	2 (6.9%)	0.514
Readmission, n. %		1 (3.2%)	/	0.329
FU month, median; IQR		27; 19-31	18; 12-24	0.039
Success rate, %		100%	96.6%	0.297

Discussion: Robot assisted reconstruction represents a safe minimally invasive approach with optimal surgical outcomes for the treatment of upper urinary tract. Expert robotic surgeons could avoid drainage placement after surgery as this does not undermine perioperative

outcomes and postoperative success rate. Our study, first in literature, proves the interest in assessing the safety of no drainage placement also in the pediatric field.

SC90 Does the body weight influence the outcome in children treated with robotic pyeloplasty?

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Aim of the study: To investigate the influence of the body weight on peri and postoperative outcome in a series of pediatric patients with a diagnosis of ureteropelvic junction obstruction (UPJO) treated with robot-assisted laparoscopic pyeloplasty (RALP) at a single tertiary referral centre.

Materials and methods: Fifty consecutive patients treated with RALP from January 2016 to October 2018 were divided according to their weight: group A < 15 Kg, group B ≥ 15 Kg and were included in the present study. Eligible criteria for surgery were symptomatic UPJO, worsening of hydronephrosis or obstructive pattern at renogram. Success criteria were resolution of the hydronephrosis at imaging and absence of flank pain. All procedures were performed by one expert robotic surgeon.

Results: 14 patients were included in group A (median weight 12 Kg) and 36 patients in group B (median weight 36 Kg). We registered one (7.1%) Clavien 3b complication (omental hernia after removal of the drainage requiring surgical correction) and one (2.8%) Clavien 2 complication in group B (urinary infection). No difference has been found in length of hospital stay, length of catheterization, duration of procedure between the groups (p > 0,05). At a median follow up of 21.5 months, overall success rate was 98%. One patient needed nephrostomy positioning for persistent hydronephrosis.

Discussion: RALP in children <15 Kg was feasible and effective to treat UPJO with superimposable results to heavier counterparts. In our experience, the need for a different trocar placement and limited space in patients <15 Kg did not affect perioperative and functional outcomes.

SC91 Results and complications of retrograde approach (URS/RIRS) in pediatric urolithiasis: A multicentric experience

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Aim of the study: Incidence of pediatric urolithiasis is increasing in industrialized countries. Treatment of this disease follows the same surgical procedures as in adults.

Materials and methods: We have retrospectively reviewed all the kidney units (RUs) which underwent to URS/RIRS at 3 centers from January 2009 to December 2018 up to 16 years of age. Data reported include: lithiasic volume, radiological exposure, operative time, complications according to Clavien classification at 3 months and stone free rate.

Results: We have performed 74 procedures (44 RIRS and 30 URS) in 66 RUs with an average age of 7.24 years (range: 2–16 yy). RUs treated in pre-school age (0–4 yy) were 19; 34 in pre-puberty (5–11yy) and 13 in puberty (12–16 yy). In 39 cases a pre-operative urethral stent was applied (17 cases with age <4, 18 between 5–11 and 4 between 12–16). Average lithiasic volume was 1.165 cm². Mean operative time was 77.3 ± 41.64 minutes (range: 15–140 min) with a radiological exposure of 25 “± 28” (range: 5 “-1’20”). At the end of the procedure a Double J (DJ) was applied in 45 cases (8 cases with age <4, 27 between 5–11 and 10 between 12–16) and a Mono J (MJ) in 29 cases (13 cases with age <4, 11 between 5–11 and 5 between 12–16). Stone-free rate has been 81.8% (54/66, 13 cases with age <4, 31 between 5–11 and 10 between 12–16). Nine patients required a second intervention to achieve a complete stone clearance. Complications recorded at 90 days include a case (1.5%) of migration of a fragment in the urethra causing hydronephrosis and renal colics at 49 days to the operation (Clavien 3b) that was treated with URS; 8 cases (12.1%) which required the administration of painkillers during the first 48 hours postoperative (Clavien I); 5 cases of urinary tract infections during hospitalization (7.5%) treated with antibiotic therapy (Clavien II).

Discussion: Miniaturization of the instruments with the increased incidence of pediatric urolithiasis have led the endourologist to treat more patients in pediatric age. However, particular attention should be paid to treatment planning in patients under 6 years of age, where, based on our experience it is useful to apply a urethral stent for kidney stones or proximal and mid-lumbar ureteral stones before surgery. In our cases, in only three patients under 6 years of age, no pre-operative DJ stent has been required, since it were two patients with stones located in the distal part of the ureter. Another consideration should be the choice of the urethral stent to be applied at the end of the intervention (DJ vs MJ) to avoid excessive use of painkillers or access to the hospital for intolerance, bearing in mind the need to submit the patient to an additional anesthesia for DJ removal. In 60% of patients under the age of 5 years we preferred to apply a MJ, leaving a DJ alone in cases requiring a second intervention, where the procedure lasted more than an hour or in presence of lithiasic sand related to the dusting of the stone.

Preoperative data		Kg = 15 (n ; %)			P-value (<0,05)	
		Kg < 15 (14; 28%)	Kg > 15 (36; 72%)			
Gender, n. %	Male	6	42,9%	21	58,3%	0,97
	Female	8	57,1%	15	41,7%	
Side, n. %	Right	4	28,6%	16	44,4%	0,30
	Left	10	71,4%	20	55,6%	
Age (months), median IQR		25	18-36	118	89-171	
Weight (kg), median IQR		12	11-13,8	36	27,4-51	
Symptoms at diagnosis, n. %		9	64,3%	32	88,9%	0,04
Anatomic variant, n. %		0	0%	9	25%	0,03
Crossing vessels, n. %		3	21,4%	15	41,7%	0,18
Preoperative Nephrostomy, n. %		1	7,1%	2	5,6%	0,83
APD preoperative, median IQR		27	18-36	30	24,5-41,5	0,09
Surgical and perioperative data		Kg < 15 (14; 28%)	Kg > 15 (36; 72%)		P-value (<0,05)	
Overall Operative time, median IQR		95	90-110	90	85-108	0,63
Console time, median IQR		75	70-85	73	65-80	0,58
Set-up time, median IQR		20	15-25	20	15-28	0,74
Drainage, n. %	yes	10	71,4%	14	38,9%	0,39
	No	4	28,6%	22	61,1%	
Catheter, median IQR		3	3-3	3	3-3	0,85
APD postoperative, median IQR		12	9-18	12	10-14,5	0,68
LOS, median IQR		4	3-4	4	3-4	0,66
Follow-up months, median IQR		20	14-25	25	14-30	0,40
Readmission, n. %		1	7,1%	1	2,8%	0,47
Relapse, n. %		1	7,1%	0	0%	0,10
Complication, n. %		1	7,1%	1	2,8%	0,47

Table 1. APD, anterior-posterior pelvic diameter; LOS, lenght of stay

Differences in symptoms and anatomic variant are found statistically significant
There were no significant differences found in any of the parameter