

SC338 Urethral strictures treatment with holmium:YAG laser in paediatric patients

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Introduction: Paediatric urethral strictures are not as uncommon as often assumed. It is a challenge for the paediatric urologist to choose the correct treatment to avoid recurrent strictures. Based on the few available reports, strictures are broadly classified based on aetiology. The classifications include congenital/idiopathic, iatrogenic, inflammatory, lichen sclerosis (LS), and traumatic strictures. We report our technique for treating urethral strictures with HOLMIUM: YAG LASER. **Materials and methods:** At Children Hospital Bambino Gesù, in the last 2 years in, we have treated 5 children with the HOLMIUM:YAG LASER technique. All had a reduction in urinary flow (Q max <10 ml/sec). Four patients underwent a dynamic MRI cyst-ureter showing urethral stricture. For the endoscopic procedure an 8–9.8ch cystoscope was used along with the HOLMIUM:YAG LASER and a 200/272 micron probe. The micron probe was set at a power of 0.8J and a frequency of 0.8/1 Hz. At the end of the procedure, a Foley bladder catheter was placed for 15 days.

Results: Six procedures were performed, no intra or post-operative complications occurred. The average hospital stay was one day, and all patients tolerated the management of the bladder catheter well at home. The uroflow tests at one and 6 months after the removal of the bladder catheter showed an improvement in urinary flow. One patient had a recurrence of stenosis 8 months after treatment.

Conclusions: Endoscopic treatment with HOLMIUM: YAG LASER can be a valid treatment for urethral strictures in the paediatric patient, for rapid hospitalisation, and the absence of complications.

SC339 Robotic bladder neck plication for incontinence treatment

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Introduction: The robotic approach allows to easily perform reconstructive procedures in the pelvis. In this video we describe bladder neck plication, robotically assisted, to achieve continence in an adolescent girl.

Materials and methods: A 12 year-old-girl has been evaluated in our Centre for persistent total urinary incontinence.

She was initially treated elsewhere for a vaginal ectopic left megaureter with uretero-vesical reimplant and subsequently with multiple bulking agent endoscopic injections.

Cisto-colposcopy revealed a short urethra and a patulous bladder neck. Ectopic ureteric stump was visible between urethral and vaginal opening. MCU and Urodynamics evaluation showed a bladder with incontinence starting from 60 ml with a capacity of 200 ml without developing high voiding pressures. A laparoscopic robotic-assisted bladder neck plication was electively selected as already described for incontinence both in epispadias repair and after robotic prostatectomy.

Results: The patient was discharged on 4th post-operative day without complications. After 2 months a MCUG confirmed spontaneous voiding (bladder volume 300 cc) without post-void residuals and renal US showed normal upper urinary tracts. After 6 months, she remains completely dry.

Conclusions: Anatomical access to the bladder neck region is extremely difficult in open surgery especially in adolescent patients.

Robotic access is an excellent alternative with optimal anatomical exposure.

Bladder neck plication, compared to full reconstruction (keel BN) is a less invasive procedure and ideal to obtain adequate voiding continence in selected patients.

SC340 Pediatric robot-assisted pieloplasty combined with endoscopic intra-caliceal laser lithotripsy

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Introduction: Ureteropelvic Junction (UPJ) obstruction associated with calyceal stones is a condition of difficult management. We present a case of a 4 years old child underwent robot-assisted pyeloplasty with multiple large calyceal stones treated with laser lithotripsy introduced into the open renal pelvis.

Materials and methods: A 4 years old child was referred for right flank pain and frequent urinary infection to Urological Department. CT scan showed right UPJ obstruction and 5 large radiopaque stones, 2 in renal pelvis (19 and 8 mm), 2 in inferior calyx (16 and 10 mm) and 1 in medium calyx (16 mm). Robot-assisted pyeloplasty was planned. During the procedure inflamed ureter was identified, no cross vessels were found. Firstly, pelvic stones were removed with robotic grasper, then renal pelvis was tractioned with a stitch to ensure wider exposure. Secondly, a flexible ureteroscope with 7.7/9.5 Ch and European flexion was inserted through a laparoscopic trocar with the possibility to explore pelvis and all calyces. Holmium laser lithotripsy with a 270-micron fibre was performed. No significant residual stones were identified with endoscopy or intraoperative fluoroscopy. Ureter anastomosis and pelvis was performed with Anderson-Hynes technique after insertion of a double-J stent.

Results: No intra-operative complications were collected. Drain was removed after two days from surgery and catheter was removed after 3 days. No infection of urinary tract, haematuria, or others postoperative complications were found during follow up. Robot-assisted pyeloplasty combined with laser lithotripsy with flexible ureteroscope throughout a laparoscopic trocar is feasible and effective in a paediatric patient.

Conclusions: A combined robot-assisted surgery with intra-operative lithotripsy gives advantage of using the same surgical access. It avoids a second procedure and reduces complications. A multidisciplinary approach is mandatory in these cases, because urologist, paediatric surgeon and anaesthetist can customize and plan the type and time of the intervention.

SC341 Ureterostomy for clean intermittent catheterization in children

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Introduction: Clean Intermittent catheterization (CIC) has become the first-line and preferred method of drainage in patients with neurogenic lower urinary tract dysfunction and obstructive diseases.

Materials and methods: from November 2018 to November 2019 we had 3 patients that presented with an important loss of renal function necessitating a nephrectomy and we used their ureter to create a cisto-ureterostomy for clean intermittent catheterization. The first patient had a Prune-Belly SyndRome with a disfunctional megabladder associated with severe hydronephrosis due to bilateral V° vesicoureteral reflux and a severe reduction of right kidney function (<10%).

The second patient had a plurimalformative syndrome: myelomeningocele, anorectal malformation and horseshoe kidney with a dysplasia on the left and a pyeloureteral junction syndrome on the right side. The third patient had a prostatic lymphangioma, that forced the use of a permanent indwelling bladder catheter, associated with bilateral hydronephrosis and severe reduction of right kidney function (<10%).

In all the cases we performed a nephrectomy with a mini-invasive approach (2 laparoscopic procedures and a robotic-assisted procedure) associated with the creation of a cisto-ureterostomy for CIC.

Results: the post-operative period was uneventful in all cases with no complications. Clean Intermittent Catheterization was started 6 weeks after the surgery.

Conclusions: cisto-ureterostomy for CIC represents an excellent alternative to Mitrofanoff appendicovesicoscopy in those selected cases in which a severe reduction of kidney function is found.

SC342 Transitional urology for spina bifida patients: a 8 year experience from a multidisciplinary pediatric – adult team

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Introduction: Urological Transitional Care in patients born with spina bifida (SB) and related neurogenic bladder dysfunction are getting increasing importance because life expectancy has become higher (1). The optimal strategy has yet to be defined. (2) The aim of the study is to present the 8 years of experience with the transitional clinic program at our institution and the results of the process.

Materials and methods: A transitional clinic plan dedicated to adolescents with SB and neurogenic bladder started in 2012. The transitional process was described in an integrated care pathways. Adolescents enrolled in the transitional process had a yearly clinical consultation in a multidisciplinary clinical setting with pediatric urologists, adult urologists and other specialists as needed. After 1–3 outpatient clinic consultations, patients were shifted from pediatric to adult care (from Pediatric Hospital to Adult Spinal Unit). All clinical relevant data were transmitted and pediatric specialists continued to be available.

Results: 40 patients were enrolled in the transition pathway, age 15–18 years. Diagnosis was myelomeningocele in 23, occult spinal dysraphism in 7, others in 10; 17 could walk without any support, 10 were on wheelchair, 9 on wheelchair and/or walking with supports. Mental impairment was mild in 5 and severe in 5. Nine patients voided spontaneously, 23 were on CIC, 8 both. 24 were treated with antimuscarinic therapy, 9 performed TAI for bowel management. Urological procedures performed during childhood were botulinum toxin injections in 4, bulking agents injection for VUR in 4, Mitrofanoff procedure in 1, Malone antegrade continence enema procedure in 1. All patients had normal renal function. Renal ultrasonography was normal in 30, showed minor degrees of scarring or hydronephrosis in 10.

After completing the transition process (4 months to 7 years from transition) 34 patients are on yearly follow-up at the Adult Spinal Unit. Additional procedures performed for continence were botulinum toxin injection in 2 and bulking agents injections in 2. All patients have normal renal function.

Conclusions: As far as we know, this is the first experience in Italy of a structured Transitional Clinic for patients with SB and/or neurogenic bladder, with multidisciplinary pediatric and adult specialists, a large population and relevant follow-up. As many patients with SB survive through childhood, the role of pediatric urologists is to assure prosecution of care until adulthood. The organization and

management of the transition clinic program are challenging, time-consuming and require personal commitment. The rate of drop out was low (15%), and one of the main goal of transition, which is the preservation of normal renal function, was attained throughout childhood and adolescence up to adulthood in all cases.

SC343 Urodynamic evaluation before and after surgery for retethering in patients with myelomeningocele

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Introduction: Tethered spinal cord syndrome (TCS) is a spectrum of neurologic disorder caused by an abnormal attachment of the spinal cord which determines its pathological stretching over time. About 10–30% of children might develop retethering following myelomeningocele repair. The aim of the study is to evaluate urinary symptoms in patients with retethering before and after surgery.

Materials and methods: Retrospective review of clinical notes of patients treated for retethering at a single institution from 2005 to 2019. All were treated at birth for myelomeningocele, except for one who underwent intrauterine surgery. Cistometry was performed before the second untethering, at 6 months and then annually.

Results: Data about 7 female and 1 male were available. Before surgery, 7/8 patients practiced CIC of whom 2/7 also use Valsalva to empty the bladder. 1/8 uses Credè manoeuvre only. 2/8 patients were on antibiotic prophylaxis for recurrent UTIs. 6/8 Patients presented detrusor overactivity with reduced compliance. 2/8 patients had hypoactive detrusor activity with normal compliance.

Mean age at second untethering was 17,5 years (range 7–38). For 2/8 patients retethering was suspected because of worsening of urodynamic findings: reduction of compliance and increased detrusor pressure. 6/8 patients presented with motor and neurological symptoms.

After surgery, 3/8 patients improved the urodynamic parameters (mean follow-up 7,5 years, range 1–14). The 2 patients with recurrent UTIs had no more infections. 1/8 developed urge incontinence between CICs with parallel increased detrusor pressure at cystometry. Urodynamics parameters did not change before and after surgery for 4/8 patients. Pdet max in the 6 patients with detrusor overactivity were not significantly different before and after surgery ($p = 0.36$).

Conclusions: Urinary symptoms are not a common presentation of retethering. Urodynamic pattern also does not change significantly after second untethering. At long-term follow-up attention must be paid mostly on neurological and motor symptoms if the suspect of retethering arise.

SC344 The asymptomatic, high-grade refluxing male. Clinical follow up of a new cohort of patients derived from prenatal diagnosis

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Introduction: Relationships between VesicoUreteral Reflux (VUR) and febrile urinary tract infections (FUTI) are long established and a huge amount of often conflicting data are accumulating about follow up and treatment. However, technical refinements of prenatal diagnosis have recently allowed to identify a new subset of patients with high grade reflux and no symptoms for which guidelines of management are lacking.