Material and Methods: Between January 2003 and January 2009 we have performed 54 urethroplasties for hypospadias cripple. In 22 cases the urethral plate and local tissues were scarred, poor vascularized, infected or with hair growth and lithiasis requiring complete excision and two stage urethroplasty. All the cases had between 4–12 failed operations (scrotal and prepuce flaps or Snodgrass operation). We used buccal mucosa harvested from the check for the first stage. After a minimum 6 months interval we performed the second stage – graft tubularization. Ventral or dorsal dartos flaps were mobilized for waterproofing the suture line.
Results: The first stage complications were graft shrinkage or graft necrosis requiring partial re-grafting in 4 cases (18.2%). The second stage complications were skin necrosis with fistula and glans dehiscence in 6 cases (27.3%). The solving of these cases required another one, two, three or more operations. Final results after complication management were good from functional point of view, all patients voiding easily without postvoiding residual urine. The cosmetic results were good in 18 cases and satisfactory in 4 cases.
Conclusions: Despite of a high rate of complications (~45%), in our experience the staged approach representS a salvage surgery with good functional and cosmetic outcome in the treatment of severe forms of hypospadias cripples. For the best results the patients must be referred to the centers experienced in urethral reconstructive surgery.

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Surgical treatment of varicocele in children with open suprainguinal microscopic lymphatic sparing varicocelectomy

M. Drlik[1] *, S. Tichy[2]. [1]*Thomayer Teaching Hospital, 3-Rd Faculty of Medecine, Charles University, Dept. of Pediatric Surgery, Section of Pediatric Urology, Prague, Czech Republic;* [2]*Thomayer Teaching Hospital, 3-Rd Faculty of Medecine, Charles University, Dept. of Pediatric Surgery, Section of Pediatric Urology, Prague, Czech Republic*

Introduction and Objectives: Treatment of varicocele in children is frequently debated. Several techniques have been proposed to solve this problem. The aim of this study was to evaluate the effectiveness of open suprainguinal michrochirurgical lymphatic sparing varicocelectomy in the treatment of varicocele in children and adolescents.
Material and Methods: Total of 255 patients between the ages 11 to 18 years, who suffered from left-sided varicocele grade II–III, were treated with the open suprainguinal microscopic lymphatic sparing varicocelectomy. We reviewed the results of open suprainguinal microscopic lymphatic sparing varicocelectomy in children and adolescents performed in our department from January 2000 to December 2008.
Results: The rate of hydrocele was 1.96%. The rate of recurrence was 7.84%. No other complications (testicular atrophy, wound infection) were observed in this group. All patients with varicocele recurrence were scheduled for antegrade phlebography. Persistent shunting veins (missed during former surgery) were identified in 12 patients. These patients underwent repeated surgery with 100% success rate. A diagnosis of "distal nutcracker phenomenon" as a cause of varicocele was made in remaining 8 patients.
Conclusions: Open suprainguinal microchirurgical lymphatic sparing varicocelectomy is a safe, minimaly invasive technique with low incidence of complications. We recommend this technique as a treatment of choice.

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Experience in cryptorchidism and retractile testicles surgery at the Department of Urology of University hospital Osijek: a ten-year review

I. Radoja *, I. Perkovic, D. Simunovic, J. Galic. *University Hospital Osijek, Dept. of Urology, Osijek, Croatia*

Introduction and Objectives: Cryptorchidism is the most common congenital anomaly of male genitalia, with incidence of about 3.4% full-term babies and 30 % of premature babies. Retractile testicles is a related condition where the testes can be at times found within the scrotum and at times not. The primary management of cryptorchidism and retractile testicles is surgery and its purpose is not only to produce a good cosmetic appearance or positive psychological effect, but to reduce the risk of infertility. It is usually performed in infancy, if inguinal testes have not descended after 4–6 months. Hormonal therapy is sometimes attempted and occasionally successful. The aim of this retrospective study was to present our results of cryptorchidism and retractile testicles surgery, with emphasis on operative technique, age of the patient at the time of surgery, anatomic position of cryptorchid testes, were the testes palpable upon physical examination and presence of associated anomalies and conditions
Material and Methods: In a ten-year span (1999–2009) a total of 490 patients were operated upon for maldescent of testes. Median patient age at first orchyopexy was 7.5 years (range 13 months to 44 years). Maldescent had been unilateral in 401 patients (217 on the right side, 174 on the left), bilateral in 79, retractile testicles were found in 82, nonpalpable in 73, canalicular in 376, beyond the external ring in 21 and atrophic or absent in 20 patients. Of associated anomalies and conditions most common were cardiovascular anomalies (5), neurological anomalies (4), hypospadia (3), ipsilateral inguinal hernias (150), adhesions of the foreskin (104), phimosis (15). Of techniques Schoemaker type procedure was most commonly used with 479 procedures. Nine patients underwent exploration of the inguinal canal due to the finding of unilateral absent testicle, eleven patients underwent semicastration due to the finding of atrophic testicle.
Results: Out of 490 operated patients 485 had excellent results and were released to house care after 3 to 7 days. Complications were noted in 5 patients, including hematoma and/or oedema in 2 and other complications in 3 patients. Success was defined as scrotal position and lack of atrophy. Success rates by anatomical testicular position were 86.4 percent for peeping and 98 percent for canalicular testes and for those located beyond the external ring. Success rate for Schoemaker orchiopexy procedure was 95.7 percent.
Conclusions: Diagnosis should usually be made at birth and treatment optimally performed between 6 to 18 months of age. Our data suggest that the majority of cryptorchidism are diagnosed at pre-puberty physical examination. Success rates found in this study were similar to previously publicized dana. Combining our experience in Schoemaker procedure with education of population will result in further increase of success rate after orchiopexy.

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The incidence and management of crossing vessels in children with pyeloureteral obstruction

B. Sulya *, M. Sajthy, A. Kiss, M. Merksz. *Heim Pal Children Hospital, Dept. of Urology, Budapest, Hungary*

Introduction and Objectives: Pelviureteral obstruction in childhood is the consequence of congenital stenosis or a crossing vessel to the lower renal pole. In a retrospective analysis of children operated at our department, we evaluated the frequency and treatment modalities of these two disorders

in various age groups, as well as the late outcome of the interventions.

Material and Methods: A total of 120 operations were performed on 114 children (6 children underwent bilateral operations) between the 1st of January 2000 and the 31st of May 2006. The cause of obstruction was congenital pyeloureteral stenosis in 75, a crossing vessel in 45 cases. Patients were divided into three age groups (I: <1 year, II: 1–5 years, III: >5 years). Long term follow-up (more than 3 years) including abdominal ultrasonography, intravenous urography and radioisotopic examinations was performed.

Results: The incidence of crossing vessel increased with age (Group I: 12%, Group II 43% Group III 53%). An Anderson-Hynes pyeloplasty was performed in 105 cases. Transection, transposition or hitch of the crossing vessel without pyeloplasty was sufficient in 7. Nephrectomy was done in eight children. Improvement in hydronephrosis and drainage occurred in 105 kidneys out of 112 (93.8%). Secondary nephrectomy or reoperation was required in 1 case, each. Transection of the lower pole artery did not result in significant loss of parenchyma according to follow-up investigations.

Conclusions: Neonatally or postnatally diagnosed hydronephrosis is caused by pyeloureteral stenosis in the majority of cases. Therefore, a negative ultrasonography of the infant does not preclude the possibility of a childhood hydronephrosis due to crossing vessels. In older children more than 50% of all hydronephrosis are caused by crossing vessels. This should be considered when the surgical plan is devised. In our opinion, vascular surgery without pyeloplasty is appropriate only in selected cases. Crossing vessels often lead to so-called "intermittent hydronephrosis", therefore in case of recurrent pain control abdominal ultrasonography is required when symptoms appear.

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Hinman-Allen syndrome: Is it safe to perform augmentation in high risk patients? A comparative study with long term follow-up

M.S. Silay*, O. Tanriverdi, T. Karatag, M. Aydın, M. Kadihasanoglu, K. Horasanli, C. Miroglu. *Sisli Etfal Training and Research Hospital, 2nd Dept. of Urology, Istanbul, Turkey*

Introduction and Objectives: Hinman-Allen syndrome is a rare and severe form of dysfunctional voiding mostly represents at school-age and can lead to renal failure. We aimed to compare the upper urinary tract status in a group of moderate-high risk patients with Hinman-Allen syndrome either treated by surgery or conservative therapy in the long-term follow-up.

Material and Methods: We retrospectively reviewed our experience in 67 children with non-neurogenic neurogenic bladder in up to a ten-year period and identified a subset of 22 patients who are at moderate-high risk for upper tract damage. No patients with evidence of a neurologic or obstructive lesion were included in the study. Radiological and urodynamic investigations revealed thick walled bladders with high pressure leading to an increased risk of upper tract deterioration with the absence of neurological disorder in all cases. Group 1 consisted of 8 patients who were surgically treated and group 2 was consisted of 14 patients who were approached conservatively. All patients were followed closely at 3-to-6-month intervals with serial physical examination, upper tract imaging and urine culture.

Results: Mean age on referral was 9.88±3.83 in group-1 and 8.79±3.14 in group-2 ($p = 0.267$). Mean follow-up was 64.0±25.9 and 52.8±13.4 months (30–120) in group-1 and group-2 respectively ($p = 0.365$). No significant difference was detected in urinary infection rates between both groups. No patient had new onset hydronephrosis, whereas renal deterioration, defined as cortical thinning or scarring on renal scan was present in 25% and 14.3% in group-1 and group-2 respectively ($p > 0.05$). Only 1 patient required dialysis in group 2 at the end of follow-up.

	Group 1 Mean±SD	Group 2 Mean±SD	p value
Age	9.88±3.83	8.79±3.14	0.267
Follow-up (month)	64.00±25.94	52.86±13.44	0.365
Asymptomatic UTI (n)	5.00±3.25	2.71±3.00	0.070
Symptomatic UTI (n)	1.00±1.07	0.93±1.64	0.525
Baseline creatinine (mg/dl)	1.77±1.55	1.20±1.02	0.145
Creatinine at the end of follow-up (mg/dl)	0.93±0.59	1.61±2.78	0.868

Conclusions: The main goal in the treatment of patients with non-neurogenic neurogenic bladder is to preserve upper urinary tract functions. Patients with Hinman-Allen syndrome who are refractory to conservative treatment or present with an advanced pathologic condition may require surgical intervention. We demonstrated that long-term follow-up results of augmentation cystoplasty are plausible and comparable with conservative therapy in moderate-high risk patients.