

strictures (5 penian, 24 bulbar and 13 membranous) which have been treated by BEP. 28 cases had perineal urethral trauma, 12 cases had recurrent inflammatory stenosis and 2 cases had previous prostatic surgery. All cases underwent previous suprapubic cystostomy. In 34 cases, we used the "cut-to-light" technique (flexible cystoscope introduced antegradely), and in 8 cases the incision was made over the guidewire placed in an antegrade manner (23 cases with cold-knife and 19 cases with Nd:YAG laser). The mean follow-up period was 58 months.

Results: In 39/42 patients (92.9%), the procedure was successfully carried out. However, the global recurrence rate was 53.8% (21/39 cases), imposing further endoscopic management in order to maintain urethral patency. Regarding the location of the stricture, the recurrence rate was: 50% for penile, 47.8% for bulbar and 66.7% for membranous urethra. The recurrence rate was 65.2% (15/21 cases) for patients treated by cold-knife incision by comparison to 33.3% (6/18 cases) in those treated with Nd:YAG laser. The mean recurrence period was 11 months.

Conclusions: BEP, performed especially by the "cut-to-light technique", represents an alternative for complete urethral stenosis. This method may constitute the first-choice treatment alternative, especially for severe strictures of the bulbar urethra.

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Management of posterior urethral distraction injury

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Introduction and Objectives: Management of posterior urethral distraction injuries with a pelvic fracture are a challenge for urologic surgeons. The goal of resolving a prostatomembranous urethral injury is to provide a patent urethra with no additional complications. Suprapubic cystostomy placement with delayed surgical urethral reconstruction is the treatment of choice.

Material and Methods: Between March 2006 and January 2009 8 patients (range 40–64 years) with posterior urethral distraction injury were treated at our department. After retrograde uretrogram with presence of complete posterior urethral rupture a suprapubic cystostomy was inserted. 5 patients had also a pelvic fracture. The mean time to delayed anastomotic posterior urethroplasty was 6.5 months (range 4–8). Perineal anastomotic urethroplasty was performed in 7 patients and abdominoperineal in 1 patient. We separated penile corporal bodies in every case to achieve tension free bulboprostatic anastomosis with 8 sutures. A nose speculum was used to open prostatic apex and insert stitches from outside in, including the mucosa tissue. An urethral catheter was removed after 30 days. A suprapubic cystostomy was removed after spontaneous voiding with residual urine under 100 ml.

Results: Median follow up was 16 months (6–24). There were no operative and early postoperative complications. 1 patient noticed decrease of erectile function after removal of catheters. All patients are continent. Patients were followed up with uroflowmetry 3m., 6m. and 12m. after reconstruction of urethra. 5 patients had satisfactory uroflowmetry with median Qmax. 16 ml/s at 3 m. and 15 ml/s at 12m. 3 patients were treated with addition internal urethrotomy. 2 of them developed short stricture with decrease in Qmax. They were treated with internal urethrotomy 3 m. and 8 m. after anastomotic urethroplasty. Our first patient treated with delayed urethroplasty developed acute urinary retention 2 weeks after removal of catheters. He was treated with internal urethrotomy 2 weeks, 2m., 4m. and 6m. after acute urinary retention. Patients with additional internal urethrotomy had Qmax. 19 ml/s after 3m. and Qmax. 17 ml/s after 12m. There were no need for second urethroplasty.

Conclusions: We changed our therapeutic approach from early catheter-assisted realignment to suprapubic cystostomy and delayed urethral reconstruction. With experiences in reconstructive urethral surgery is this treatment safe with good long term results.

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Outcomes of dorsal inlay graft TIPU technique in primary hypospadias repair: Prospective clinical study investigating early and late-term urine flow measurements

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Introduction and Objectives: Tubularized incised plate urethroplasty has become a popular technique for repairing distal and proximal hypospadias in many institutions. Dorsal inlay graft urethroplasty has been described as an effective method for hypospadias repair and leads to good cosmetic outcome with low risk of complications. The main advantages of this procedure are; early removal of the urethral catheter and reducing the risk of meatal stenosis. We aimed to prospectively evaluate urine flow rates at early and late-term follow-ups in the dorsal inlay graft urethroplasty technique in primary hipospadias repair.

Material and Methods: Consecutive 45 patients with primary hypospadias undergoing TIPU by using inlay dorsal graft between June 2006 and June 2008 were enrolled into this study. Posterior urethral plate is incised and the graft prepared from prepuce is sutured from the old meatus to the tip of the glans. Urethra is sutured with 6/0 vicryl over the 8f urethral catheter. The urethral catheters were removed at 24–48 postoperatively in all subjects. Urine flow measurements were performed at early and late follow-up periods. The uroflowmetric parameters were compared between a mean of 10 days and 8.7 months postoperatively using the t test and $p < 0.05$ was accepted as statistically significant. All patients were also evaluated for the cosmetic results and complications rates.

Results: The mean age of all cases was 7.36 ± 3.95 (2–17) years. Two patients had proximally and 43 had distally located hypospadias. In all patients, neo-meatus with a slit-like appearance was observed postoperatively at the tip of the glans penis. Postoperative fistula was encountered in 6 patients (13.33 %). No stenosis has been detected in all subjects. In patients who achieved voiding habit and who did not have chordee or fistula, an uroflowmetric study was carried out at 10 days and a mean of 8.7 months postoperatively. A urine flow measurement at 10 days (Mean Qmax: 7.85 ± 3.52 ml/sec and Qave: 4.86 ± 2.15 ml/sec) and 8.7 months (Mean Qmax: 9.34 ± 5.4 ml/sec and Qave: 6.85 ± 4.17 ml/sec) revealed statistically comparable results ($p = 0.357$ and $p = 0.203$, respectively).

Conclusions: Dorsal inlay graft urethroplasty allows the early removal of the urethral catheter after hypospadias repair. In this study, we demonstrated that uroflowmetric parameters in a successful TIPU procedure with inlay dorsal graft were not different and the complication rates are satisfying at the early and late follow-up periods.

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Primary management of the posterior urethra by traction over the Foley catheter in patients with pelvic fractures

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Introduction and Objectives: Pelvic fractures with injury to the posterior urethra are quite rare. There is no uniform policy

regarding treatment. Operative realignment of the disrupted urethra over the Foley catheter is an old method giving the best results with regard to the serious sequelae of the injury, such as incontinence, impotence and stricture of the urethra. However, it is usually performed after initial operative procedure of stabilization of fractured pelvis.

Material and Methods: We performed a retrospective analysis of 17 polytraumatized patients with type C pelvic fractures and complete disruption of the posterior urethra treated by traction over the Foley catheter in one single surgical procedure in teamwork of traumatologist and urologist.

Results: Nine patients didn't have any complications one year after the procedure. In eight cases we found short partial stenoses of the posterior urethra, which were successfully resolved by intraurethral dilatation with bougienage intraurethral resection or in one case by transperitoneal resection. There was no impotence and no incontinence found.

Conclusions: The method used was successful and offered good results with few complications and avoiding additional interventions.

Poster session 8: Bladder cancer, Urinary diversion and Pediatric urology

Saturday, 24 October 2009, 09:20–11:30

Poster room 2

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Prognostic value of gene PAX5 expression in the Ta,T1 urothelial urinary bladder carcinoma

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Introduction and Objectives: The aim of the study was to assess PAX-5 gene expression level in Ta,T1 urothelial urinary bladder carcinoma and to find out its prognostic value.

Material and Methods: 147 patients with Ta,T1 urothelial urinary bladder carcinoma have been enrolled into the study so far. The PAX-5 expression was evaluated quantitatively by real-time PCR method using ABI PRISM 7000. As a reference gene the GAPDH gene was used, mRNA and cDNA were isolated by OLIGOTEX Method using kits (Qiagen) and High Capacity cDNA Archive kit (Applied Biosystème). All the patients were followed afterwards and treated following common schemes, the follow up time was 23.88±10.36 months.

Results: Tumor recurrence was detected in 78 (53 %) patients. In a group of 82 patients with PAX5 positivity higher than 0, (PAX5 > 0, PAX5 positive group) the tumor recurrence was detected in 78 (53 %) patients. In the other group of 65 patients with zero PAX5 expression (PAX5 = 0, PAX5 negative group) the tumor recurrence was detected in only 28 patients (43.1 %). The patients with the PAX5 expression higher than 0 were of 1.7 higher tumor recurrence risk than the patients with the zero PAX5 expression. The invasive form of the tumor was detected in 12 patients (8.2 %). In the group of 147 patients, the number of tumor progression was very low, so it was not possible to define the PFI. Following the multivariate Cox model of proportional risks, the variables were PAX5 expression, clinical tumor stage, tumor grade, multiplicity and tumor size. The PAX5 expression and tumor multiplicity were only independent tumor recurrence predictors. It was not possible to predict the tumor progression risk because of a low number of progression cases.

Conclusions: In a big group of patients we have confirmed the prognostic significance of PAX5 gene expression when

predicting the Ta,T1 urinary bladder carcinoma recurrence risk. This prediction was independent of clinical prognostic factors used in every day.

The study was supported by IGA MZ NR 8934-3 a VZ MSM 0021620808 grants.

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Nuclear matrix protein 22 urinary marker in diagnosing and follow up of urinary bladder tumors

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Introduction and Objectives: Cystoscopy in complement with urinary cytology represents the gold standard for diagnosing and follow up of patients with urinary bladder tumors. Despite the fact that numerous tumor markers have been developed in the past decade, they are still neither routinely used in the clinical practice nor recommended by the EAU guidelines. In our study we have focused on performance of nuclear matrix protein 22 (NMP22) tumor marker test and BladderChek[®] in-office test for detection of bladder tumors.

Material and Methods: NMP22 was measured with an ELISA assay (Matritech, Inc, USA). This test is an enzyme immunoassay where antibodies contained recognize the head domain of NuMA, nuclear mitotic protein. NuMA has been shown to be present in malignant tissues at levels more than 10 times higher than in normal tissue. The assay is designed to quantify NMP22 in stabilized voided urine. BladderChek[®] (Matritech, Inc, USA) in-office test detects elevated NMP22 concentration in 4 drops of voided urine in a panel well incubated for 30 minutes.

Results: NMP22 in urine was measured quantitatively in 94 patients and BladderChek[®] test was done on 75 urine samples preoperatively or during follow up. Urinary cytology was available for 94 patients and histology report of transurethral resection of bladder lesion was obtained in 40 patients. For prediction of malignant histological result sensitivity and specificity were 18% and 100% respectively for BladderChek[®] test, 37% and 100% for voided urinary cytology and 44% and 88% for NMP22 at 7.5 kU/l cutoff value. Area under the curve in the ROC graph for quantitative NMP22 test was 0.73.

Stratified for grade sensitivities of BladderChek[®] test, voided urinary cytology and NMP22 quantitative test were 10%, 10% and 36% for low grade and 40%, 55% and 42% for high grade tumors respectively. Neither BladderChek[®] test nor voided urinary cytology found any of papillary urothelial neoplasm of low malignant potential (PUNLMP) tumors, while NMP22 test detected half of them. Stratified for stage in superficial bladder tumors sensitivities of BladderChek[®] test, voided urinary cytology and NMP22 quantitative test were 9%, 15% and 25% for Ta and 67%, 75% and 78% for T1 tumors respectively.

Conclusions: NMP22 test showed higher sensitivity and lower specificity than voided urinary cytology. Area under the ROC curve for NMP22 test indicates moderate performance of this test. The sensitivity of BladderChek[®] test is low. At present time we would not recommend any of the three noninvasive tests, namely voided urinary cytology, NMP22 test or BladderChek[®] test as a replacement for cystoscopy during diagnosing or follow up of urinary bladder tumors.