1- 

**Comparison of partial urethral replacement with acellular matrix versus spontaneous urethral regeneration in a canine model**

To determine whether acellular matrix could be used for partial urethral replacement and to compare regeneration over acellular matrix versus normal spontaneous urethral regeneration. MATERIALS AND METHODS: The study included 21 male mongrel dogs in which a 3-cm segment including half of the urethral circumference was excised. In 13 dogs (study group), the defect was covered by acellular matrix of the same length and width obtained from female mongrel dogs and prepared to have complete cell lysis with keeping of the fiber framework. In 8 dogs (control group), the urethral defect was not covered by any urethral tissue. In both groups, an 8F feeding tube was kept inside the urethra for a mean duration of 2 weeks. In the study group, dogs were sacrificed at 1 week, 2 weeks, 3 weeks and then one dog every month for 10 months. In the control group, one dog was sacrificed every month for 8 months. RESULTS: All dogs survived the procedure. In the study group, 10 dogs underwent urethrogram; 8 were normal, 1 had diverticulum and 1 had relative narrowing. In the control group, 6 dogs underwent urethrogram; 5 were normal and 1 showed relative narrowing. Histopathological examination of the study group showed gradual regeneration over the acellular matrix with normal appearance at 20 weeks. In the control group, normal healing was observed at 2 months and thereafter. CONCLUSION: Regeneration of all components of the urethra can occur gradually over acellular matrix and is complete at 20 weeks. Regeneration of a urethral defect 3-cm long including half of the urethral lumen is possible with or without acellular matrix.

2-

**Canine ureteral replacement with long acellular matrix tube: Is it clinically applicable**

We evaluated the effectiveness of acellular matrix used as a tube for replacement of a relatively long segment of the canine ureter. MATERIALS AND METHODS: Acellular matrix was obtained by excision of the whole ureter of donor dogs that were sacrificed and not included in the study group. Retrieved ureters were treated to have complete cell lysis, while maintaining the fiber framework. The study included 10 mongrel dogs in which a 3 cm segment was excised from 1 ureter and replaced by a tube of acellular matrix of the same length and width. The new tube was sutured proximal and distal by watertight interrupted sutures around a 5Fr Double-J stent (Medical Engineering Corp., New York, New York) that remained for 6 weeks. Excretory urography was done 1 and 2 weeks after stent removal and the dogs were then sacrificed. Before sacrifice the ureter was exposed and carefully examined, and the whole specimen was excised for histopathological examination. RESULTS: All dogs survived surgery except 1, which died 1 week postoperatively of a malpositioned stent and urinary ascites. There was no clinically apparent postoperative complications during the presence or after the removal of the ureteral stents. One week after stent removal excretory urography showed ipsilateral mild to moderate hydroureronephrosis in 3 dogs and no dye excretion in 6 with a normal contralateral kidney. One week later no dye excretion was detected in all except 1 dog, which showed more radiological deterioration. At the time of sacrifice there was moderate to marked hydroureronephrosis above the level of the new tube in
all dogs. Although the graft was intact in all subjects, marked shrinkage was observed. On ureteral calibration there was significant narrowing of the lumen up to complete occlusion. At 8 weeks histopathological examination showed extensive fibrosis.

CONCLUSIONS: An acellular matrix tube is not able to replace a 3 cm segment of the canine ureter

3-

Sliding hernia containing the ureter: A rare cause of graft hydroureteronephrosis: A case report

Obstructive uropathy following renal transplantation is frequently reported. However, ureteral obstruction due to its incorporation in a sliding hernia is a rare event. Herein, we report a case of late graft hydroureteronephrosis secondary to a sliding hernia containing the transplanted ureter. The diagnosis was confirmed with the aid of magnetic resonance urography and antegrade urography. Following hernioplasty, a decrease of serum creatinine level was achieved with significant decompression of the system. Copyright 2004 Elsevier Inc.

4-

Surgical complications in live-donor pediatric renal transplantation: Study of risk factors

To report the surgical complications among our pediatric and adolescent renal transplants and to analyze the different factors that may influence the occurrence of such complications. METHODS: A total of 250 pediatric and adolescent renal transplants were included in this study. Of these patients, there were 154 boys and 96 girls with a mean age of 15.4+/-3.7 yr (range 5-20 yr). All patients received their kidneys from living donors. Four patients underwent renal retransplantation. Surgical complications were reported and their incidence was correlated with several pretransplant, technical and post-transplant risk factors by both univariate and multivariate analyses. The impact of surgical complications on graft and patient survival was computed using the Kaplan-Meier technique. RESULTS: Among the 250 patients, 35 surgical complications were encountered in 33 patients. These complications included urinary leakage in 10 patients, ureteric stricture in 11 patients, complicated lymphocele in eight patients, hematoma necessitating surgical exploration in two patients, wound dehiscence in one patient, stone of the graft ureter in one patient and renal artery stenosis in two patients. The incidence of urological complications (ureteral stenosis, urinary leakage and stone disease) was 8.8% and vascular complications 0.8%. Small ureteric leakage (four patients) was treated by endourologic techniques, whereas leaks associated with ureteral necrosis required open revision. Endourologic treatment was attempted in early and mild cases of ureteric obstruction. In late and severe cases, surgery was performed. On univariate analysis, the factors that significantly affected the incidence of surgical complications were recipient’s age, lower urinary tract abnormalities, the type of primary urinary recontinuity, the time to diuresis, and height and weight of the patients. On multivariate analysis, the type of primary urinary continuity was the only factor that sustained statistical significance. Neither patient nor graft survival was affected by the occurrence of surgical complications. CONCLUSION: Primary urinary continuity is the only risk factor that affects the incidence of surgical complications among pediatric and adolescent live donor renal transplants, with the extravesical technique of Lich-Gregoir providing
the best results. Surgical complications in pediatric and adolescent renal transplantation can be minimized if basic principles of careful transplant techniques are used. Prompt identification and treatment of any complication is paramount to graft and patient survival.

5-

**Tunica albuginea acellular matrix graft for treatment of Peyronie’s disease: An experimental study in dogs**

To study the value of an acellular matrix graft of the tunica albuginea for reconstruction of the penis in cases of severe Peyronie’s disease. MATERIAL AND METHODS: In nine mongrel dogs, an acellular matrix graft of the tunica albuginea was used to cover a 30 x 10 mm² tunical defect. Equal numbers of animals were sacrificed at 1, 3 and 6 months after surgery. Before death, an erection was induced by means of papaverine injection and cavernosography was performed. After death the penis was prepared for histopathological study. RESULTS: All animals survived the surgery and none developed haematoma, wound infections or dehiscence. All dogs developed a straight, rigid erection. Cavernosography showed patent corpora cavernosa in all animals. The papaverine injection and cavernosographic results did not change over time. Inspection of the graft site and measurement of its length and width showed healing with no contracture. Histologically, the regenerated matrix appeared thicker than the neighbouring tunica albuginea in the 1-month group; otherwise the appearance was normal. Gradual orientation of the fibrocytes, capillaries and collagen fibres was demonstrated at 1 month and was complete at 3 and 6 months. Comparison between an implanted tunica at 6 months and a control tunica from a normal dog showed no significant histological difference. CONCLUSION: A homologous acellular matrix graft of the tunica albuginea may be an alternative treatment for severe cases of Peyronie’s disease.

6-

**Routine insertion of ureteric stent in live-donor renal transplantation: Is it worthwhile**

To evaluate the impact of the routine use of double-J stents in live-donor renal transplantation at a single institute from a prospective randomized study. METHODS: A total of 100 patients were prospectively randomized into two groups of 50 patients each. Group 1 received a routine double-J silicone ureteral stent and group 2 did not. A standard Lich-Gregoir ureteroneocystostomy was performed in both groups. In group 1, the patients were scheduled for stent removal after 2 weeks. RESULTS: Both groups were comparable in terms of age, sex, ischemia time, number of renal arteries, and time to diuresis. In group 1, two grafts were lost in the early postoperative period and those patients were excluded from the final analysis. None of our patients in either group had developed a ureteral stricture at a mean follow-up of 10.8 +/- 3.6 months. In the stented group, 2 patients developed a urinary leak, but no leakage was reported in the nonstented group (P = 0.14). Although 19 patients in group 1 (39.6%) had a urinary tract infection, only 9 in group 2 (18%) showed evidence of a positive urine culture (P = 0.02). The presence of a ureteral stent and female sex were the independent predictors of postoperative urinary tract infection on multivariate analysis. The mean serum creatinine at discharge was 1.2 +/- 0.3 mg% and 1.2 +/- 0.4 mg% in groups 1 and 2, respectively (P
CONCLUSIONS: The results of our study have shown that routine ureteral stent insertion has no impact on the rate of vesicoureteral leakage or obstruction in live-donor renal transplantation, whereas it is significantly associated with an increased incidence of urinary tract infection. Stenting should be limited to patients with a pathologic and/or defunctionalized bladder.

7- Live-Donor Renal Transplantation at the Urology & Nephrology Center of Mansoura

Based on more than 1,200 living donor transplants performed at the Urology & Nephrology Center at Mansoura University between 1976-1998, we report: 1. The overall graft survival rate was 75.8% and 51.9% at 5 and 10 years, respectively, with a projected half-life of 10.7 years. 2. Three factors acted as independent variables that significantly influenced graft survival: the number of HLA mismatches, the number of acute rejection episodes and the presence of posttransplant hypertension. a. Grafts with 2 or fewer HLA-A, -B and -DR mismatches had a significantly better survival rate. b. The incidence and the number of early acute rejection episodes had a significant negative impact on graft survival. c. A significant reduction in graft survival was associated with hypertension uncontrolled by or newly developed after transplantation. 3. Bilharziasis had no impact on the outcome. 4. Despite improvements in tissue matching and immunosuppression, an important proportion of grafts is still lost following living-donor kidney transplantation. 5. Efforts must be directed to identify better regimens, which can provide adequate immunosuppression and minimal nephrotoxicity.

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