
We evaluated contrast enhanced spiral computerized tomography (CT) as a single session for anatomical and functional assessment of potential live kidney donors. MATERIALS AND METHODS: The study included 80 consecutive kidney donors. In addition to routine donor evaluation, radiological imaging of the kidneys was performed with spiral CT, which was also used for selective determination of the glomerular filtration rate (GFR) of each kidney. All donors underwent 99mTc-mercaptoacetyltriglycine renal scan as a gold standard for GFR determination. Anatomical results of spiral CT were compared to operative findings at donor nephrectomy. Moreover, the results of CT GFR were compared with those of standard 99mTc-mercaptoacetyltriglycine GFR. RESULTS: Spiral CT detected major renal abnormalities that might be potentially significant for safe renal donation in 4 of the 80 donors (5%). Spiral CT had 100% sensitivity, 85.7% specificity and 97.2% overall accuracy for detecting the number of renal arteries. To identify the number of renal veins spiral CT had 100% sensitivity, 92.3% specificity and 98.6% overall accuracy. A comparison between the isotope GFR of each kidney with the corresponding CT GFR showed a perfect correlation (r = 0.54, p

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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**Living-donor kidney retransplantation: risk factors and outcome**

To review the results of kidney retransplantation at our centre. PATIENTS AND METHODS: Between March 1976 and January 2002, 1406 kidneys were transplanted; among these, 54 patients received a second graft (39 men, mean age 32.1 years, sd 8.6). The donors were 48 relatives (mean age 35.4 years, sd 10.1). RESULTS: The mean (sd, range) duration of the first graft was 49.1 (45.9, 1-192) months and the main cause of these grafts failing was immunological. The mean duration of graft failure was 17.3 (10.5, 5-62) months. The rate of histocompatibility leukocyte antigen (HLA)-A, -B >3 was 16.7% and of haplotype DR matching was 11%. The immunosuppression regimen was mainly based on cyclosporin (75%). There were 33 episodes of acute rejection in 23 patients. The major complications were hypertension (70%), infections (30%) and hepatitis (11%). The overall graft and patient survival was good; 15 grafts (27%) were lost during the follow-up of 1-17 years. Ten patients died, five with a functioning graft. Multivariate analysis showed that donor relationship, primary immunosuppression, duration of first graft and serum creatinine level at 1 year were predictors of graft survival. CONCLUSION: Renal retransplantation is the treatment of choice in patients who have lost their graft. The use of related living-donors and potent immunosuppression could help to improve the outcome.

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Abstract

To overcome problems of damaged urinary tract tissues and complications of current procedures, tissue engineering (TE) techniques and stem cell (SC) research have achieved great progress. Although diversity of techniques is used, urologists should know the basics. We carried out a literature review regarding the basic principles and applications of TE and SC technologies in the genitourinary tract. We carried out MEDLINE/PubMed searches for English articles until March 2010 using a combination of the following keywords: bladder, erectile dysfunction, kidney, prostate, Peyronie's disease, stem cells, stress urinary incontinence, testis, tissue engineering, ureter, urethra and urinary tract. Retrieved abstracts were checked, and full versions of relevant articles were obtained. Scientists have achieved great advances in basic science research. This is obvious by the tremendous increase in the number of publications. We divided this review in two topics; the first discusses basic science principles of TE and SC, whereas the second part delineates current clinical applications and advances in urological literature. TE and SC applications represent an alternative resource for treating complicated urological diseases. Despite the paucity of clinical trials, the promising results of animal models and continuous work represents the hope of treating various urological disorders with this technology.
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**Tissue engineering and stem cells: Basic principles and applications in urology**

To overcome problems of damaged urinary tract tissues and complications of current procedures, tissue engineering (TE) techniques and stem cell (SC) research have achieved great progress. Although diversity of techniques is used, urologists should know the basics. We carried out a literature review regarding the basic principles and applications of TE and SC technologies in the genitourinary tract. We carried out MEDLINE/PubMed searches for English articles until March 2010 using a combination of the following keywords: bladder, erectile dysfunction, kidney, prostate, Peyronie’s disease, stem cells, stress urinary incontinence, testis, tissue engineering, ureter, urethra and urinary tract. Retrieved abstracts were checked, and full versions of relevant articles were obtained. Scientists have achieved great advances in basic science research. This is obvious by the tremendous increase in the number of publications. We divided this review in two topics; the first discusses basic science principles of TE and SC, whereas the second part delineates current clinical applications and advances in urological literature. TE and SC applications represent an alternative resource for treating complicated urological diseases. Despite the paucity of clinical trials, the promising results of animal models and continuous work represents the hope of treating various urological disorders with this technology.

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**Toward a standardized system for reporting surgical outcome of pediatric and adolescent live donor renal allotransplantation.**

Abstract

PURPOSE:

There is a lack of a standardized reporting methodology for surgical complications of pediatric renal transplantation. We applied Martin criteria and the modified Clavien-Dindo classification in pediatric renal transplantation.

MATERIALS AND METHODS:

We retrospectively reviewed the charts of 447 patients 20 years or younger who underwent renal transplantation between March 1976 and January 2011. Martin criteria were fulfilled and complications were graded according to the modified Clavien-Dindo classification. For early complications grades I and II were considered low grade and III to V high grade. A similar grading system was adopted for late complications.
RESULTS:

A total of 84 early complications (18.5%) occurred in 77 transplant recipients (17%). Of grade I complications 37 (8.1%) were asymptomatic lymphoceles. Grade II complications were observed in 2 patients (0.4%). Grade IIIa complications included aspiration of hematoma (1 case), percutaneous nephrostomy fixed for ureteral obstruction (3), percutaneous tube drain for symptomatic lymphoceles (7) and antegrade ureteral stenting for ureteral leakage (6). Grade IIIb complications included exploration for wound dehiscence (1 case), revision of ureterovesical anastomosis (8), marsupialization of lymphoceles (4), hemorrhage (3) and vascular thrombotic accidents (6). Graft nephrectomy (grade IVa) complications occurred in 2 transplant recipients. Among 4 mortalities (grade V) only 1 patient died due to surgical complications. On multivariate analysis delayed graft function was the only predictor of high grade surgical complications (p = 0.005). High grade surgical complications affected recipient but not graft survival.

CONCLUSIONS:

Using a standardized, high quality reporting methodology is feasible in pediatric renal transplantation. However, consensus should be sought regarding medical complications and a grading system should be developed for reporting of late complications.

Abstract

Objectives

To compare the haemorrhagic and vascular complications between paediatric and adult renal transplant recipients with a long-term follow-up.

Patients and methods

Between March 1976 and December 2006, in all, 1865 live-donor renal transplants were carried out. Patients were stratified according to their ages into two groups; paediatric (≤18 years; 259) and adult (>18 years; 1606). Variables assessed included incidence, risk factors, management and sequelae of vascular and haemorrhagic complications. The effect of these complications on patient and graft survival was compared.

Results

Haemorrhage requiring active intervention (percutaneous drainage or surgical exploration) was reported in seven children (2.7%) and 29 adults (1.8%), while thrombotic or stenotic complications were recorded in two children (0.77%) and 19 adults (1.18%; P < 0.05). Female gender, delayed onset of diuresis and acute tubular necrosis were significant predictors of vascular complications on univariate analysis, but
none remained significant on multivariate analysis. In adults, vascular complications had a significant negative effect on mean (SD) 10-year graft survival compared to patients with no complications, at 19.8 (7.63)% vs. 55.7 (1.66)% ($P = 0.01$). Children who developed vascular complications had a significantly higher 5- and 10-year graft survival rate than adults ($P = 0.01$).

Conclusion

The incidence of vascular complications is comparable in paediatric and adult transplants. Vascular complications had a significant negative influence on graft survival in adult recipients. Children who developed vascular complications appear to tolerate its effects and have a better graft survival than have adults.