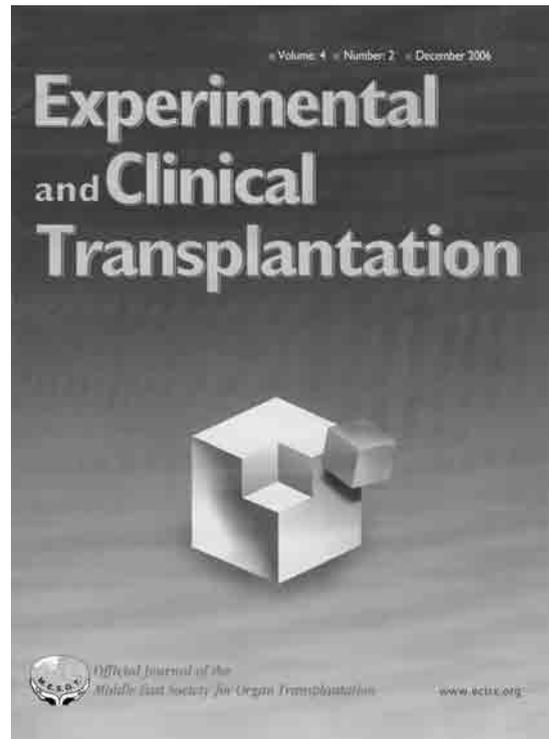


The Experimental and Clinical Transplantation

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The Experimental and Clinical Transplantation (ECT) is the official journal of the Middle East Society for Organ Transplantation (MESOT). This Society was originally founded in 1987 and the ECT has been published since July 2003. The ECT is a peer-reviewed international publication that accepts manuscripts of full-length original articles, case reports, letters to the editor, and invited reviews. Professor Mehmet Haberal is the editor-in-Chief and Professor Ahad Ghods, from Iran, is one of the Associate Editors of the ECT. Medline has listed the papers of the journal since 2003, making the ECT one of the most prestigious publications of the region. The ECT is published biannually in July and December, and the latest issue (December 2006) is now available on www.ectrx.org. Some abstracts of the papers in Volume 4, Number 2, December 2006 are as follows:



Implications of ICU Stay After Brain Death: The Saudi Experience

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Objective: The interval from brain death (BD) to organ harvesting is critical to the success of transplantation. We evaluated the time from BD onset to harvesting and analyzed sources of delay.

Materials and Methods: This retrospective study was conducted from January 1999 to December 2003. Time intervals analyzed to determine the causes of delay were: time of admission to the intensive care unit (ICU), to the report to the Saudi Center for Organ Transplantation (SCOT), to the documentation of BD, to organ retrieval and/or cardiocirculatory cessation without organ retrieval.

Results: During the 5-year analysis, 1834 people were reported to the SCOT. Of those, more than 1511 (80%) were reported during their first week of treatment in the ICU, and

BD was documented in 1099 (59.9%). The mean interval from ICU admission to organ retrieval or cardiac arrest was 10.3 days and that from admission to the report to the SCOT was 5.6 days. In the consensual group, the mean interval from the documentation of BD until harvesting was 2 days, and that from documentation until cardiocirculatory cessation without organ retrieval in the nonconsensual group was 5 days. All subjects demonstrated a significant decrease in systolic blood pressure and a significant increase in plasma sodium and serum creatinine levels. The body temperature, serum plasma levels of sodium, and kidney function (measured by the serum creatinine level) of potential donors were compared, and patients with hypothermia, hypernatremia, or renal failure had a shorter stay in the ICU.

Conclusions: Fewer than 30% of the patients could be maintained on mechanical support for more than 1 week after the declaration BD. It is crucial that we increase hospital-staff awareness about the importance of organ donation and transplantation, improve the identification of BD candidates, and enable the early reporting and documentation of BD.

Urologic Complication Rates in Kidney Transplantation after a Novel Ureteral Reimplantation Technique

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Our transplantation team has performed 1615 renal transplantations since 1975. After September 2003, we began a corner-saving technique for urinary tract continuity. In this study, we analyzed these 174 renal transplantations retrospectively. The mean recipient age was 31.6 years (range, 7 to 66). The mean donor age was 39.8 years (range, 6 to 67). For ureteral reimplantation, a running suture is started 3 mm ahead of the middle of the posterior wall and is finished 3 mm afterward. After the last stitch, both ends of the suture material are pulled, and the posterior wall of the ureter and bladder are approximated tightly. The anterior wall is sewn either with the same suture or another running suture. Since using this technique, we have not employed a double-J or any other stent to prevent ureteral complications at the anastomosis site. We have seen only 4 (2.2%) ureteral complications (2 ureteral stenosis and 2 anastomotic leaks) during a follow-up period of 18.9 months. In conclusion, due to the low complication rate, we believe that our new technique is the safest way to perform a ureteroneocystostomy.

Plasmapheresis in the Treatment of Early Acute Kidney Allograft Dysfunction

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Objective: To evaluate the efficacy of plasmapheresis (PP) in kidney transplant recipients with acute humoral rejection (AHR).

Patients and Methods: A retrospective review was conducted of all kidney allograft recipients who had undergone PP rescue therapy for early acute allograft dysfunction

diagnosed as AHR at Shaheed Labbafinejad Medical Center from 1995 to 2002.

Results: Twelve patients (4 men and 8 women; median age, 32 years; age range, 15-68 years) with AHR were treated with PP. The median time from transplantation to AHR was 6 days (range, 2-7 days). PP was performed in 2 to 11 sessions (median, 8.5 sessions) in the patients studied. Eight patients responded to that treatment, and their creatinine value normalized. Those responders were monitored for a median of 162.5 weeks (range, 69.3-484.7 weeks), and all had a functioning allograft during the follow-up period except for 1 patient in whom the graft failed 154 weeks after transplantation. In the 4 remaining patients (nonresponders), the allograft failed within the first posttransplant month. The median time from the acute serum creatinine elevation to the initiation of PP was 6 days in responders and 18.6 days in nonresponders ($P = .37$).

Conclusions: We suggest that PP with or without other therapeutic measures may have a role in the salvage of grafts with early acute dysfunction that is resistant to conventional therapy. Our findings indicate that graft survival in patients with AHR who respond to PP can be comparable to that in other kidney recipients.

Impact of Mycophenolic Acid Dose Modifications on Renal Function After Kidney Transplantation

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Objective: Mycophenolic acid dose modifications after renal transplantation seem to adversely affect renal allograft outcome. The aim of this retrospective study was to examine the effect of mycophenolic acid dose modifications on renal function 1 year after transplantation and to determine the factors predictive of those dose modifications within the first year after renal transplantation.

Patients and Methods: All 130 patients at our institution who were treated de novo between January 2002 and April 2003 with either a mycophenolate mofetil-based or an enteric-coated mycophenolate sodium-based therapy and who had a functioning renal allograft 1 month after transplantation were included in this study.

Results: Fifty-seven patients (43.8%) underwent a dose modification during the first year after transplantation. One, 3, 6, and 12 months after transplantation, renal function was significantly improved in the patients who did not receive a dose modification. A mycophenolic acid dose that 1 year after transplantation was less than the initial dose received just after transplantation was an independent factor associated with deteriorating renal function. Sirolimus immunosuppression, Cytomegalovirus infection, and pretransplant lymphocyte counts were independent factors associated with mycophenolic acid dose modifications within the first year after kidney transplantation.

Conclusions: Modification of the mycophenolic acid dose may adversely affect renal function 1 year after transplantation.

Majocchi's Granuloma After Kidney Transplantation

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Mycosis may follow an atypical course in an individual undergoing immunosuppressive therapy. We describe a patient with a fungal infection that was manifested as a bilateral inguinal granuloma. Owing to suspected inguinal lymphadenopathy characterized by distinct subcutaneous swellings in the groin, a 39-year-old man who had undergone kidney transplantation 14 years earlier was admitted to the Nephrologisches Zentrum in Hann. Münden, Germany. The results of a clinical examination revealed bilateral, soft, partly fluctuant, indolent swellings in the groin as well as onychomycosis of the right great toe. An ultrasonographic scan showed bilateral hypoechoic lesions (≤ 1.5 cm) in the groin. The lesions were surgically removed, and the results of histologic examination revealed severe granulating pseudocystic inflammation with a distinct foreign body reaction. Dermatophytes of the species *Trichophyton rubrum* were detected microbiologically. After the lesions had been resected, the wound healed without complications. Immunosuppressive treatment with tacrolimus 8 mg/d and steroids 7.5 mg/d was not changed. Local antimycotic treatment of the onychomycosis with ciclopirox cream was initiated. At the patient's 2-year follow-up examination, there was no evidence of recurrence. In transplant recipients, local fungal infections should be treated as a matter of course, because dermatophytosis is present in almost every other such patient. In patients with a suspicious inguinal lesion, an atypical form of dermatophytosis must be considered. *T. rubrum*, the most frequently occurring dermatophyte, causes 80% of the dermatophytosis that develops in immunosuppressed patients.

Changes in Health-Related Quality of Life in Greek Adult Patients 1 Year After Successful Renal Transplantation

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Objectives: This study was undertaken to compare and to evaluate the health-related quality of life (HRQOL) in Greek adult transplant recipients before and 1 year after successful renal transplantation (RT) and to examine which parameters had the greatest effects on their HRQOL. The SF-36 survey score was used.

Materials and Methods: Eighty-five Greek hemodialysis patients underwent RT at the Transplant Unit of Evangelismos General Hospital of Athens, including 44 men and 41 women (mean age, 43.8 years; range, 21-59 years). Thirty-nine patients had received a kidney from a living-related donor, and 46 from a cadaver. The scale scores of a Greek version of the SF-36 survey were compared between the transplant and the hemodialysis patients. We also examined the relationships of the scale scores with the patients' age and the type of donor.

Results: According to the SF-36 health survey, transplant recipients had better results for general health perception ($P \leq .001$), role-physical functioning ($P \leq .01$), role-emotional functioning ($P \leq .01$), and vitality ($P \leq .01$). In addition, the scale scores of physical

functioning, general health, and vitality of the patients who were younger than 30 years old at the time of transplantation were significantly higher than those of the patients who were older than 30 years, while the scores of bodily pain, general health, and physical functioning were significantly lower in cadaveric graft recipients compared with living-related graft recipients.

Conclusions: The SF-36 health survey is a validated and comprehensive instrument for evaluating renal transplant patients' HRQOL. Our data demonstrate an improvement in HRQOL in renal transplant patients from before to 1 year after successful RT. The data also confirm that the recipients' age at transplantation and the type of donor were important factors affecting the HRQOL.

Cytokine Gene Polymorphisms in Renal Transplant Recipients

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Objective: Acute rejection remains an important cause of graft loss after renal transplantation, and cytokines are key mediators in the induction and effector phases of all immune and inflammatory responses. However, the influence of gene polymorphisms on the functional immune response of transplant recipient outcomes remains controversial.

Materials and Methods: The amplification refractory mutation system polymerase chain reaction was used to detect the interleukin-10 (IL-10) (-1082 G/A), tumor necrosis factor-alpha (TNF-alpha) (-308 G/A), and interferon-gamma (IFN-gama) (+874 T/A) single nucleotide polymorphisms in 100 of the first adult kidney recipients at our institution who were receiving cyclosporine-based immunosuppressive therapy. The diagnosis of acute rejection was based on clinical and histologic findings according to the Banff criteria.

Results: The results of multivariate analyses showed no significant association between episodes of acute rejection and single nucleotide polymorphisms in IL-10, TNF-alpha genes, or dinucleotide repeat polymorphisms in the IFN-gama gene.

Conclusions: Our results demonstrate that cytokine gene polymorphisms did not influence the early outcome of kidney transplantation.

Renal Function and Histology in Kidney Transplant Patients Receiving Tacrolimus and Sirolimus or Mycophenolate Mofetil

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Objective: The aim of this study was to assess the effects of tacrolimus in combination with either sirolimus (n = 10) or mycophenolate mofetil (n = 7) on renal function and renal histopathologic factors 6 and 12 months after kidney transplantation.

Materials and Methods: Renal function was assessed by the glomerular filtration rate (as

measured by the inulin clearance rate) and by determining renal functional reserve. A renal allograft biopsy was performed at the time of transplantation and 6 and 12 months later.

Results: Serum creatinine levels tended to be higher in the sirolimus group 12 months after transplantation. In contrast, inulin clearance and renal functional reserve were similar in both groups 6 and 12 months after transplantation. With respect to histopathologic findings, only mononuclear-cell interstitial inflammation was significantly higher in the sirolimus group than in the mycophenolate mofetil group 12 months after transplantation. However, the progression of tubular atrophy, interstitial fibrosis, and vascular fibrous intimal thickening within the first postoperative year was significantly greater in the sirolimus group.

Conclusions: In the long term, the addition of sirolimus to treatment with tacrolimus in de novo renal transplant patients might more adversely affect renal allograft survival than might the addition of mycophenolate mofetil to tacrolimus therapy.

Renal Autotransplantation for Complex Renal Arterial Disease: A Case Report

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A renal artery aneurysm in a stenotic renal artery is a rare clinical entity with an incidence of 0.015% to 1% in patients with renovascular hypertension. Interventional stent placement is the first line of treatment for simple aneurysms of the proximal renal artery. However, renal autotransplantation has been used as an alternative treatment for complex lesions and for lesions originating from the distal renal artery. We present a patient with a renal artery aneurysm, renal artery stenosis of the segmental branches of the left kidney, and occlusion of the right renal artery. The surgical strategy included renal explantation, ex vivo renal preservation, ex vivo reconstruction of the 2 renal artery branches, and renal heterotopic autotransplantation. We conclude that renal autotransplantation is a safe and effective surgical procedure for patients with complex renal arterial disease.