**1069** ANTIBODIES TO B-LYMPHOCYTES IN RENAL TRANSPLANTATION Robert B. Ettenger, Paul I. Terasaki, Mohammad H. Maledzadeh, Christel H. Uittenbogaart, Alfred J. Pennisi and Richard N. Fine. Univ. So. Cal. Sch. Med. & Childrens Hospital of Los Angeles & Univ. Cal. Sch. Med.

Antibodies (ab) in the serum of allograft recipients against donor lymphocytes (L) are associated with graft rejection. Because ab may be produced against B cell (BC) antigens (ag) as well as HLA ag, we prospectively evaluated the sera of 27 pediatric allograft recipients for ab against isolated T and B donor L by the microcytotoxicity crossmatch test (XM) and correlated results with graft outcome. All patients had negative TC XMs. 16 had positive (+) BC XMs, while 11 had negative (-) BC XMs. 8 grafts failed in 2 weeks to 6 months; 3 with + and 5 with - BC XMs. A serum creatinine level of <1.5 mg/dl was present at 1 month in 9 of 16 BC XM + patients (56%) vs 2 of 11 BC XM - (18%); at 3 months in 9 of 14 + BC XM (64%) vs 4 of 11 BC XM - (36%); at 6 months in 8 of 11 BC XM + (72%) vs 4 of 10 BC XM - (40%); and at 9 months in 6 of 10 BC XM + (60%) vs 2 of 8 BC XM - (25%). No statistically significant difference was present at any time interval. The sera of these 11 patients and 15 additional adult graft recipients were studied for blocking-factors in the one-way Mixed Lymphocyte Culture(MLC) (donor-stimulator;recipient-responder). Of 10 BC XM + sera, 9 (90%) showed MLC blocking; of 16 BC XM - sera, 3(19%) showed blocking ($p < .01$). These data indicate that ab against donor BC specificities are not deleterious to allograft function and may be directed against MLC stimulatory ag or ag in close proximity present on the B lymphocyte.

**1070** EXPERIENCE IN RENAL TRANSPLANTATION IN CHILDREN. Robert S. Fennell, III, William W. Pfaff, Bruce W. Bryant, Eduardo H. Garin, R. Dixon Walker, George A. Richard (Spon. by Gerold L. Schiebler), University of Florida College of Medicine, Department of Pediatrics, Gainesville.

Thirty-four renal transplants were performed in 32 children and adolescents between the ages of 5 and 21 over the past 3 years. Some children with unusual syndromes such as Juene's nail-patella, and congenital oxalosis were transplanted. Nineteen out of 26 (73%) living-related transplants and 4 out of 8 (50%) cadaveric transplants are functioning. Thirty-one out of 32 patients (97%) are surviving. Graft loss has been due to acute progressive rejection, chronic rejection, and recurrent membranoproliferative glomerulonephritis. Creatinine clearance and concentrating ability is maintained in many grafts indicating prolonged survival even in some patients with recurrent glomerulonephritis. Patterns of serum complement levels and urinary protein excretion are reviewed post-transplant. Growth patterns are also reviewed in the younger children.

**1071** PRE- AND POSTDIALYSIS SESSION PERFORMANCE OF CHRONIC RENAL FAILURE PATIENTS ON COGNITIVE TASKS. Robert S. Fennell, III, Wiley C. Rasbury, Eduardo H. Garin, George A. Richard (Spon. by Gerold L. Schiebler) University of Florida College of Med., Dept. of Pediatrics, Gainesville.

Chronic Renal Failure (CRF), like many serious maladies, can interfere with a child's ability to learn. Although some information is available on adults, a review of the literature has revealed little information on children and adolescents. This study which is part of a longitudinal research project, examined the pre- and postdialysis session performance of (N=11) CRF patients on tasks of attention, learning, and problem solving. Contrary to findings with adults, essentially no differences were found between pre- and postdialysis session performance. Slight but no statistically significant performance gains were found between first vs. second test administration of each cognitive measure. The results were discussed in terms of the methodological problems and relevance of conducting research on children and adolescents with CRF, and the implementation of a long-term research program designed to collect cognitive data on such patients over the initial diagnosis, dialysis, and post-transplant periods.

**1072** CHRONIC UNILATERAL HYDRONEPHROSIS-EVALUATION OF RENAL FUNCTION. Jeffrey Friedman, John R. Hoyer, Bama Rucker and John E. Lewy. Cornell University Medical College, Dept. of Pediatrics, New York, New York.

We have established a colony of albino rats with congenital right sided unilateral hydronephrosis (RUHN). Successive breedings have resulted in a stable population where male animals have a 95% incidence of right sided hydronephrosis and females have a 60% incidence. Five male 2 month old animals with proven RUHN at sacrifice were given a standard laboratory diet with free access to water prior to study. Inulin clearances ($C_{IN}$) of RUHN kidneys averaged 249.3 ± 58.5 (SEM) µl/min·gm kidney while the contralateral non-hydronephrotic kidneys (LK) averaged 571.8 ± 72.7 µl/min·gm kidney ($p<.01$). PAH clearances ($C_{PAH}$) were 890.3 ± 162.4 µl/min·gm kidney for RUHN kidneys and 1842.5 ± 213.8 for LK ($p<.01$). The extraction of PAH was not reduced in either kidney. Fractional water excretion ($\dot{V}/GFR$) was 1.08 ± 0.19% for RUHN and 0.43 ± 0.04% for LK ($p<.01$). Sodium excretion was 0.042 ± 0.012 µEq/min·100 µl GFR for RUHN and 0.019 ± 0.005 for LK ($p<.05$). RUHN kidneys have significantly decreased $C_{IN}$ and $C_{PAH}$ and increased sodium and water excretion per unit GFR. This model of naturally occurring, congenital, partial, urinary tract obstruction results in physiologically significant hydronephrosis, and thus is a useful model for assessing the effect of this lesion on renal functional and morphological development.

**1073** INDOMETHACIN TREATMENT OF IDIOPATHIC, MINIMAL CHANGE NEPHROTIC SYNDROME. Eduardo H. Garin, Robert S. Fennell, III, Robert L. Williams, Jr., Manop Luengnaruemitchai, Abdollah Iravani, George A. Richard (Spon. by Elia M. Ayoub). Department of Pediatrics, University of Florida College of Medicine, Gainesville, FL.

Six patients with idiopathic, minimal change nephrotic syndrome treated previously with Prednisone without long-term success (4 patients steroid dependent or frequent relapser, 2 steroid resistant) received Indomethacin for five weeks. The drug was given in a dose of 1 mg/kg/day during the first week and at 2 mg/kg/day therafter. Prednisone was tapered to maintenance dose (equivalent to 20 mg Hydrocortisone/$m^2$/day) prior to the initiation of Indomethacin therapy. Urine protein excretion (Up-g/day) was measured serially before (B) and after (A) treatment with Indomethacin.

| Patient | Prednisone Response | Up (gm/d) | | |
|---|---|---|---|---|
| | | B | A | Δ(%) |
| 1 | SR | 8.3 | 6.84 | -18 |
| 2 | SR | 5.0 | 5.8 | +16 |
| 3 | SD | 1.53 | 6.1 | +298 |
| 4 | SD | 5.7 | 6.36 | +10 |
| 5 | SD | 8.2 | 9.8 | +20 |
| 6 | SD | 24.2 | 9.07 | -63 |

Indomethacin does not seem to reduce proteinuria in patients with idiopathic, minimal change nephrotic syndrome at the dosage of 2 mg/kg/day.

**1074** IDIOPATHIC, RELAPSING, MINIMAL CHANGE NEPHROTIC SYNDROME OF CHILDHOOD (IRMCHNS): CYCLOPHOSPHAMIDE EFFICACY RELATED TO PREDNISONE RESPONSE PATTERN. Eduardo H. Garin, Norman D. Pryor, Robert S. Fennell, III, William H. Donnelly, Jr., George A. Richard (Spon. by Elia M. Ayoub), Univ. of Florida, Col. of Med., Dept. of Pediatrics, Gainesville.

Twenty-three children with IRMCHNS received Cyclophosphamide for eight weeks in a single dose of 2 mg/kg/day. Patients were divided according to their Prednisone response pattern: (a) steroid dependent (SD)-- relapse occurred while Prednisone was being tapered, and (b) frequent relapser (FR)--at least three relapses in six months or four within a year, each occurring after Prednisone had been completely tapered.

The remission rate after Cyclophosphamide was as follows:

| | SD | FR | Comb. Group |
|---|---|---|---|
| | % of Patients in Remission | % of Patients in Remission | % of Patients in Remission |
| 6 mos. | 47 | 90 | 66 |
| 12 mos. | 39 | 80 | 57 |
| 18 mos. | 30 | 80 | 57 |
| 24 mos. | 20 | 69 | 47 |

The combined group remission rate is similar to those published in the literature. The difference in remission rate between FR and SD is significant ($p < 0.05$). The efficacy of cyclophosphamide in the SD patient is open to further study.