1510 LONG TERM HEMODIALYSIS (HD) IN CHILDREN AND ADOLESCENTS. Valerie Johnson, Robert A. Weiss and Ira Greifer, Albert Einstein College of Medicine, Dept. of Pediatrics, Bronx, N.Y.

Despite agreement among pediatric nephrologists that renal transplantation is the therapy of choice, successful transplantation is often impossible due to cytotoxic antibodies. Ten pts (mean age at onset HD 10.8 yrs) have been on maintenance HD for more than 4 yrs (mean duration 5.3 yrs). 8 pts. have undergone successful transplantation with grafts functioning less than six months.

11,000) in one adolescent and elevated serum ferritins in seven other pts. Promoting psychosocial maturation and rehabilitation through the use of “group therapy” sessions have been successful in achieving full school attendance and realistic career planning in all patients.

1511 IDIOPATHIC HYPERCALCURIA (IHC) AND GROSS HEMATURIA (GH) IN CHILDREN. Alok Kalia and Luther B. Travis, Univ. of Texas Med. Br., Dept. of Pediatrics, Galveston, TX.

Although onset of GH prior to calculus formation has been reported, the association of GH and IHC without clinical or radiological evidence of nephrolithiasis has not been described. Six children have been identified who presented with asymptomatic and recurrent GH in whom no calculus could be demonstrated radiographically. Investigations did not reveal any renal or urinary tract pathology which could account for the hematoxyline, IHC was documented in five; the sixth later passed a calcium oxalate calculus. Five had a family history of renal calculi. Three continued to have recurrent gross and microscopic hematuria with the initial renal calculus developing after 6 months, 5 years and 10 months, respectively. Two of the others were started on a thiazide diuretic and the sixth on chlorothalidone soon after onset of hematuria and confirmation of IHC. There was prompt cessation of hematuria without recurrence after 9, 9 and 24 months. Vascular access, even in children of 8 kg, has been by fistula exclusively. Mean fistula survival in 9 pts has been 9.7 months although a tenth patient has required 19 access procedures over 6 yrs.


Because the inflammatory infiltrate in antitubular basement membrane nephritis in guinea pigs (Steblyk nephritis) is predominantly mononuclear, the stimulus for monocyte and macrophage recruitment was studied. The tubulointerstitial inflammation begins 10-14 days following injection with heterologous tubular basement membrane antigen. Sera were obtained from the renal vein in order to avoid the difficulties of systemic inactivation or dilution encountered when trying to identify chemotactic factors may prove to be responsible for CA.


Although onset of GH prior to calculus formation has been reported, the association of GH and IHC without clinical or radiological evidence of nephrolithiasis has not been described. Six children have been identified who presented with asymptomatic and recurrent GH in whom no calculus could be demonstrated radiographically. Investigations did not reveal any renal or urinary tract pathology which could account for the hematoxyline, IHC was documented in five; the sixth later passed a calcium oxalate calculus. Five had a family history of renal calculi. Three continued to have recurrent gross and microscopic hematuria with the initial renal calculus developing after 6 months, 5 years and 10 months, respectively. Two of the others were started on a thiazide diuretic and the sixth on chlorothalidone soon after onset of hematuria and confirmation of IHC. There was prompt cessation of hematuria without recurrence after 9, 9 and 24 months. Vascular access, even in children of 8 kg, has been by fistula exclusively. Mean fistula survival in 9 pts has been 9.7 months although a tenth patient has required 19 access procedures over 6 yrs.

1514 ELEVATION OF REPEROGENIC CYCLIC ADENOSINE MONOPHOSPHATE (Neph cAMP) AS EVIDENCE OF EARLY RENAL OSTEODYSTROPHY. Alan K. Krensky, Warren E. Grup, William E. Harmon, Julie R. Inselinger, John A. Kirkpatrick, Harvard Medical School, Children's Hospital Medical Center, Departments of Pediatrics and Radiology, Boston, Massachusetts.

To determine at which point in chronic renal insufficiency (CRI) the physiologic conditions for altered bone metabolism appear, radiographs, serum chemistries, parathyroid hormone (PTH), and neph cAMP were evaluated in 25 children with CRI compared to 7 children with benign renal disease and normal renal function.

Normal 7 0.6 9.7 3.9 9 50 1.4
Hemodialysis 5 9.0 9.5 3.4 94 181 4.6
CRI 10 5.7 8.6 5.3 160 370 5.4

Neph cAMP increases linearly with creatinine (Cr) (r=0.81) and PTH (r=0.89) except for patients on chronic hemodialysis, in whom a metabolic steady state did not exist, or for patients with serum Cr > 0.9mg/dl. Serum Cr appropriate for age and height was universally associated with neph cAMP < 4.0nmol/100ml GF, while neph cAMP was elevated in 9/15 patients with Cr > 1.0mg/dl and all patients with Cr > 1.5mg/dl. Both PTH and neph cAMP were elevated in asymptomatic patients with Cr as low as 1.45mg/dl. Neph cAMP > 4.0nmol/100mlGF is a reliable, non-invasive measure of early changes consistent with the development of renal osteodystrophy even before routine changes are evident.