103 SIX YEARS EXPERIENCE IN HOME HAEMODIALYSIS (HHD) OF CHILDREN

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In a 6 year period 23 children age 5 to 14 yrs were trained for regular HHD usually with the mother as partner. Cimino fistulae, parallel-flow dialyzers and bed scales were used almost uniformly. The mean number of dialysis sessions(3x/wk) from start to discharge was 55(41-71). The mean distance between center and home was 150 km. HHD was supervised mainly by phone calls and home visits by nurses, technicians and the psychosocial team. 3% of all dialysis sessions after discharge were done on holidays and 16% after readmission to hospital for problems of vascular access(54%), overhydration/hypertension(12%),transfusions(5%),subsequent training(13%),social(6%), and other reasons (11%). One child died. School performance of most pts was comparable to that of healthy children. Tolerance to the considerable stress varied depending on the family structure. 16 pts were transplanted within 1-59(mean 15) months after start of HHD. In conclusion, HHD is an acceptable transient treatment form, which in our experience is possible in about half the children with end-stage renal failure. It requires cooperative, emotionally stable patients and parents and continuous support by an expert dialysis team.

104 A NEW METHOD FOR THE PURIFICATION OF BLOOD IN CHILDREN WITH CHRONIC RENAL FAILURE

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Recently, a method for the purification of blood by the use of high flux membrane or charcoal has become an accepted measure for treatment of chronic uremia in children. Since 1979, six children aged 1 to 16 years and weighing 8 to 50 kg were treated by hemodiafiltration (HDF) or hemodialysis with charcoal for 1 to 6 months in preparation for renal transplants. Three patients were treated by HDF twice weekly for 4 hour periods, using either 6 layers of PAN membrane or PMMA membrane. Two patients were treated by conventional dialysis with 100 gm charcoal in series twice weekly for 4 hour periods. Results were satisfactory as compared to conventional dialysis. An average reduction of BUN, Creatinine and Phosphate during 4 hours HDF was 66.7(%), 59.3(%) and 48.3(%) respectively. In combination series, an average reduction of BUN,Creatinine and Phosphate was 68.3(%), 64.0(%) and 46.2(%) respectively during 4 hours treatment period. Symptoms and signs were very few in each session. In conclusion, extended blood purification by the use of high flux membrane or charcoal are feasible even for small children or infants.

105 CHRONIC PERITONEAL DIALYSIS IN CHILDREN (IPD AND CAPD).

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Between 1977 and 1980 four patients, three to ten years old, were treated with Intermittant Peritoneal Dialysis (IPD) and / or Continuous Ambulatory Peritoneal Dialysis (CAPD) during a period up to 21 months. The results were comparable to those of hemodialysis. Peritoneal dialysis was very well tolerated. The simple technic of CAPD suits the needs of home dialysis in small children. Mothers of these children easily learnt CAPD and were able to integrate it into the family's daily routine. Peritonitis as the most serious complication occurs more than twice as often in children as in adults. Therefore we had to stop CAPD in two cases. We conclude that CAPD can be used in children for a limited time when there are serious problems with hemodialysis.

106 EXPERIENCE WITH INTERMITTENT HOME PERITONEAL DIALYSIS (IHPD)IN CHILDREN.

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Maintenance IHPD has been made possible in recent years by the development of automatic dialysis systems and permanent peritoneal catheter. We have used IHPD in our ESRD program because of geographic factors, technical difficulties encountered with hemodialysis due to inappropriate size of the existing dialyzers,and the lack of suitable vessels for an adequate vascular assess.

Our experience involves 9 children maintained on chronic IHPD for 3-30 mos. Ages ranged from 6-13 years, 2 were anephric, 4 were oliguric, 3 had polyuria. Medical problems encountered included: growth failure, hypertension, anemia, renal osteodystrophy and peritonitis. Inadequate growth was a significant complication in 7/9 patients. Hypertension was adequately controlled in 7/8. The mean interval between blood transfusions was 6.8 wks and progression of renal osteodystrophy was observed in 3/9 patients. Five patients had a total of 8 episodes of peritonitis during 101.5 dialysis-month, an incidence of 1 episode/12.6 patient-month,or 0.55% of all 1440 dialysis. Eight are alive, 1 died following a cadaveric kidney transplant and 3 remain on IHPD. Three underwent a successful live-related transplant, 5 patients underwent a cadaveric kidney transplant, 2 have good functioning grafts and 3 had irreversible acute rejection. Although no form of dialysis is optimal,IHPD can be as effective as hemodialysis and offers certain psychosocial and medical advantages.

107 COMPLICATIONS OF LONG TERM CONTINUOUS AMBULATORY PERITONEAL DIALYSIS (CAPD).

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CAPD is being considered frequently as an alternative method to more traditional modes of pediatric dialysis. We have dialyzed 5 children ages 6 wks. - 12 yrs. for 1 - 10 months over the past 2 yrs. Our initial enthusiasm has been tempered by the development of complications in 3 major areas: technical, medical and interpersonal. Technical difficulties include Tenckoff tube blockage, leaking, dislodging and inguinal hernias. The prime medical problem is peritonitis characterized by fever, abdominal pain and cloudy drainage. Recurrent peritonitis is generally secondary to tubing disconnection, tube sleeve infection or non-bacterial (reactive) peritonitis. Volume overload and hypertension become problems usually when pts. are switched to intermittent peritoneal dialysis for treatment of peritonitis and an unrestricted diet is maintained. Interpersonal problems include unreasonably high expectations of the patient during the training period, maintenance of a sense of independence from hospital and the inability of staff to adequately convey the gravity of the complications. We still consider CAPD a viable treatment choice. However, when embarking on this route one must seriously consider the above problems and develop appropriate management strategies.

108 DIALYSIS AND TRANSPLANTATION IN EUROPE, 1979.

Donckerwolcke, R.A.; Chantler, C.; Brunner, F.P.; Kramer, P.; Brynger, H.; Hathway, R.A.; Jacobs, C.; Selwood, N.H. and Wing, A.J.. Registration Committee of the European Dialysis and Transplant Association.

The results of dialysis and transplantation of children (aged less than 15 years at initial treatment) in Europe at the end of 1979 will be reviewed. Results of a survey concerning growth, bone development and pubertal state will be presented. Organisational aspects of dialysis and transplantation will be discussed. Survival and rehabilitation will be examined and differences between dialysed and transplanted patients analyzed.