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CLINICAL PROFILE AND OUTCOME OF CHILDREN WITH CHRONIC KIDNEY DISEASE FROM A SOCIO-ECONOMICALLY DISADVANTAGED POPULATION

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Objectives : To study the clinical profile and outcome of chronic kidney disease in children from a socioeconomically disadvantaged population

Methods : Retrospective data of children enrolled in the CKD outpatient in the last 6 years was reviewed in Pediatric Nephrology Division at an urban teaching hospital. Age at presentation, reason for consultation, primary renal disease and growth parameters noted. Z scores – weight/height at enrollment and last follow up recorded. Record made of children on renal replacement therapy. Outcome analyzed in terms of survival. Statistical analysis was done by student t test for data and Kaplan Meir analyses curves for outcome.

Results : 107 children were included, 89 patients (82%) had Congenital Anomalies of Kidney and Urinary Tract (CAKUT) and remaining 16.8%, the spectrum of diseases included FSGS, TIN, fanconi's and various forms of glomerulonephritis. Common presenting symptoms were urinary complaints with urinary tract infections (33%), acute decompensation with metabolic acidosis, dyselectrolytemia, hypertensive emergency or flash pulmonary edema (28%), not gaining weight and height and bony deformities (17.7%), combination of urinary and bony abnormalities (12%), incidentally picked up (9.3%) and antenatally detected (2.8%). Mean age of presentation in the CAKUT and non CAKUT group was 5.78+4.79yrs & 7.72+4.74 yrs (p=0.05). The mean eGFR at presentation of CAKUT and non CAKUT group was 16.77+ 9.69 ml/min/1.73m2 and 30.96 +17.64 ml/min/1.73m2 (p=0.001). Male to female ratio in the CAKUT and non CAKUT group was 3.5:1 and 2.6:1. Mean Z score for height and weight at the time of detection of CKD were −2.8+1.90 and −2.30+1.38 respectively. At the last follow up, the mean respective Z scores were −2.7+1.68 and −1.83+1.13. Comparing Z scores (weight) before and after treatment showed improvement in 71%, mean increase 1.08+0.95, worsening in 25%, mean decrease 0.99+1.03. Z scores (height) improved in 48% (mean: 1.23+1.12) and worsened in 46% (mean: 1.22+1.29). 44% (48 patients) were already in stage 5 at enrollment, the rest were in stages 4, 3, 2; 40%, 11%, 3% respectively. Finally at the end of study 69% were in CKD stage 5. 41% (31) patients opted for renal replacement therapy, either as Continuous Ambulatory Peritoneal

Dialysis 51% (16) or Hemodialysis 49% (15). Eight percent (6) patients were transplanted successfully. Survival analyses plot for the two groups of patients showed slightly lower survival in the non-CAKUT group but the results achieved were not statistically significant (p value<0.32). The cumulative probability of survival in the whole group was 85%.

Conclusions : CAKUT accounted for 82% of CKD .44% patients presented late in stage 5 CKD with emergency presentations in 28%. Majority of late presenters belonged to the CAKUT group (91.6%) . Severe growth retardation at presentation was a common feature. Despite good metabolic control and nutritional advice worsening of weight Z Sores in 25% and height Z scores in 46% was seen on follow up. 28.9% of children received RRT in the form of dialysis and 5% received kidney transplantation. The cumulative probability of survival in the whole group was 85%.

Keywords : CAKUT (Congenital Anomalies of Kidney and Urinary Tract), Hemodialysis, Peritoneal Dialysis