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Synopsis from the paper: [Katz A, Bock GH, Mauer M. Improved growth velocity with intensive dialysis. Consequence or coincidence? *Pediatric Nephrology* 2000;14:710-2.](#)

Management of growth retardation in infants on dialysis is a daunting task. Attention to providing optimal nutrition, correcting acidosis and electrolyte abnormalities, managing renal osteodystrophy and treating anemia, even when combined with the use of recombinant human growth hormone, still do not result in normal growth patterns.

We describe an infant diagnosed with renal failure secondary to hyperoxaluria type I at the age of 2.5 months and managed by CAPD. His care was transferred to the University of Minnesota in preparation for combined liver-kidney transplantation. Over a 5.5 month period his height increased from 60 to 73 cm and weight from 5.5 to 10 Kg (from the 50th percentile for height and weight to the 75th and 90th percentile respectively). This height gain corresponds to a yearly growth velocity of 29 cm, which is much superior to the average yearly height gain of 4.5-6.2 cm seen in infants on dialysis and is similar to that of healthy infants (23 cm/Y).

The only modification introduced to his care was intensification of his dialytic regimen: three weekly hemodialysis sessions were added to CAPD for one month followed by hemodialysis only, delivered six days/week. We hypothesize that these exceptional changes in growth parameters are related to a more aggressive approach to dialysis and recommend that the effects of intensified dialysis regimen on growth of infants and children should be studied.

Commentary by Todd S. Ing, MD

Infants and children when placed on peritoneal dialysis or hemodialysis regimens of the conventional varieties often experience problems with growth. Dr. Katz's group was surprised to encounter a very rapid growth rate in an infant with renal failure who had been treated with a combination of CAPD and thrice weekly hemodialysis sessions for 1 month and thereafter with 6 times a week hemodialysis treatments for 4.5 months. This phenomenal and unprecedented growth rate makes one wonder whether conventional dialysis therapies as currently practiced are adequate enough treatments for these growing youngsters. Further clinical experiences pertaining to the possible relationship between intensive dialysis and optimal growth are anxiously awaited.