684 PREALBUMIN AS AN INDEX OF NUTRITIONAL STATUS IN THE NEWBORN, F. Rothstein, D. Gregory, D. Anderson, W. Pittard, Dept of Peds, Cleveland, OH

Prealbumin (PA) electrophoretically precedes the plasma protein albumin. Unlike albumin, it has a short half life (1.9 days) and therefore, may serve as a reliable index of nutritional status. This would be particularly useful in distinguishing small for gestational age (SGA) neonates secondary to fetal malnutrition from those whose weight is constitutionally low following normal intrauterine nutrition. Therefore, plasma PA levels were measured in the cord blood of 175 neonates gestational ages (GA) 33-42 weeks using a solid phase enzyme immunoassay. Birthweight percentiles for these neonates indicate 16 were large for gestational age (LGA) ≥90th, 10 were small for gestational age ≤10th, and 149 were appropriate for gestational age (AGA) 11-89th percentile. Preterm neonates (n=32, mean ± SD, GA 36±1 wk) had a significantly ($p < .003$) lower PA mean level (8.6 mg/dl) than term (10.4 mg/dl) neonates (n=143, mean±SD, GA 40±1 wk) but there was not a significant correlation ($r=.1$, $p > .05$) between GA, birthweight or growth percentiles and plasma PA levels. Similarly, the mean PA for SGA, LGA and AGA neonates did not differ significantly. These data indicate that prealbumin is not a reliable index of fetal nutrition.

685 PROSPECTIVE EVALUATION OF RANITIDINE (R) IN PEDIATRIC ULCER DISEASE (PUD). F. Rothstein, M. Reed, B. Kaplan, J. Blumer, Dept. Ped., Case Western Reserve Univ., Cleveland, Ohio.

(PUD) is no longer a rare problem. Despite various claims for efficacy, there are few objective data available to support any treatment regimens for PUD. We are prospectively evaluating the safety, pharmacokinetics and therapeutic efficacy of $R^{(R)}$, a new H_2 antagonist in the treatment of PUD. Nine children (C) (3.5-6.5yrs) who presented with complaints of epigastric pain (8), vomiting (8), nausea (7), hematemesis (3) and melena (1) have been studied. Six C had chronic complaints (>3 wks) and 2 C had a hx of recent ASA use. All C (5M:4F) had endoscopically proven ulcers (5 gastric, 2 pyloric, 2 duodenal). Therapy was designed to achieve gastric acid suppression and ulcer healing. After basal acid output (BAO) was determined a R infusion was given to achieve 90% suppression of BAO. Individual pharmacokinetics were determined and an effective serum concentration 22.6 ng/ml (9-65 ng/ml) was required to achieve 90% suppression. Once C were eating and placed on oral R, dosage was adjusted to account for individual differences in bioavailability. Weekly followup revealed no clinical, biochemical, hepatic or renal abnormalities. Eight C were asymptomatic within the first 3 wks of R therapy. One child has shown steady symptomatic improvement but nausea persists. Complete ulcer healing has been endoscopically documented after 6 wks of therapy. An oral dose of 0.5 mg/kg q 12h is effective in healing ulcers healing in C. R appears to be a safe and effective drug for the treatment of PUD.

686 PROTRACTED DIARRHEA OF INFANCY:THE IMPORTANCE OF GLUCOAMYLASE DEFICIENCY. Jonathan J. Rome, Aubrey J. Katz, Alex F. Flores. (Spon. by Harvey Colten), Dept. of Pediatrics, Harvard Medical School, Children's Hospital Medical Center, Boston.

Intractable diarrhea of infancy is a heterogeneous group of disorders resulting in protracted diarrhea. Secondary carbohydrate intolerance plays an important role in this regard. These are usually related to lactase and sucrase deficiency. More recently, glucoamylase deficiency has been described. In all of the above instances, a marked enteritis was present. We report 2 patients who continued to have diarrhea, with positive reducing substances in the stool, while on diets with glucose polymers as the sole CHO source. These patients aged 4 & 9 months, presented with diarrhea of 1 and 4 months duration. Jejunal biopsies were normal under light microscopy and on EM. Despite minimal morphological changes, both patients had a marked decrease in lactase, sucrase, maltase, and glucoamylase activity in jejunal biopsy specimens. Duodenal fluid, amylase, and trypsin were normal. Formulae (RCF & 3232A), with glucose monosaccharide as the CHO source, alleviated the diarrhea. Conclusions: 1. Glucoamylase deficiency is a significant clinical entity and is important in perpetuating diarrhea in these patients. 2. Light microscopy of small intestinal biopsy may be normal. 3. Formulae containing glucose and fructose monosaccharides as the CHO source alleviate the diarrhea.

† 687 PROCOLLAGEN--BIOCHEMICAL MARKER OF GROWTH IN ENTERALLY FED VLBW INFANTS. J. C. Rowe, D. E. Carey, C. A. Goetz, E. Horak, B. Goldberg (Spon. by J. R. Raye), Depts. of Ped. & Lab. Med., Univ. of Conn. Health Center, Farmington & Dept. of Path., New York Univ., New York.

12 AGA 28-32 week gestation infants were studied during the first 2-3 mos. of life to determine the effect of feeding premature human milk (HM), fortified premature human milk (FHM) and Similac Special Care (SSC) on growth and bone mineralization. Alkaline phosphatase (AP), tubular reabsorption of phosphate (TRP), urinary calcium excretion (uCa), serum phosphorus (P), and type I procollagen (PC) were measured. Mean results:

GROUP (gp)	WT GAIN gm/d	PC (g/dl)	AP (IU)	P (mg/dl)	TRP (%)	uCa (mg/kg/d)
HM	20*	258**	399	4.7	98	6.6
FHM	29	456	392	4.9	99	10.4
SSC	27	429	217##	6.5##	95#	4.7##

*p<.02; **p<.001 (HM vs FHM + SSC).
#p<.02; ##p<.001 (SSC vs FHM + SSC).

Poor wt gain in the HM gp was associated with a significantly lower PC. The FHM gp grew as well and had similar PC levels as the SSC gp but like the HM gp exhibited biochemical evidence of phosphorus deficiency and inadequate bone mineralization: decreased P and increased AP, TRP and uCa. The data suggest that current special formulae designed for VLBW infants promote better growth and mineralization than HM or FHM and PC may prove a useful marker of optimal growth response.

688 THE RELATIONSHIP OF WIC BENEFITS TO THE DIETS OF PRESCHOOL CHILDREN: THE NATIONAL WIC EVALUATION. David Rush and Jessica Leighton. Albert Einstein College of Medicine, Dept. of Pediatrics, Bronx, NY.

We here report on the effects of the Special Supplemental Food Program for Women, Infants and Children (WIC) for 2991 randomly recruited poor preschool children, from 59 areas nationwide. Total nutrient intake, nutrient density, and intake from foods available from WIC were assessed by quantitative 24 hour diet recall. Differences between current WIC recipients (n=711), past recipients (n=637), and controls (n=762) were adjusted for age and sex, and also for social and demographic characteristics, and height. Current WIC benefits strongly and significantly affected the quality of diet, with little residuum from past WIC participation. Current WIC recipients ate no more calories or protein, but significantly more iron, thiamin, niacin, Vit. B6 and Vit. C than controls. Current WIC recipients ate 30% (3 mg) more iron, with greatest differences under one year of age. Increased intake of other micronutrients was more evenly distributed throughout the preschool years. AFDC and WIC were both associated with better diet, but WIC was particularly important for children not receiving AFDC. WIC improved black and hispanic children's diets more than that of non hispanic whites.

Observed differences are minimal estimates, given likely measurement error in this large scale field study, and since controls were more socially privileged than WIC recipients (they were nearly a cm. taller). We conclude that the WIC program has a marked beneficial effect on the diets of currently enrolled preschool children.

689 BREAST MILK FEEDING (BMF) AND INFLAMMATORY BOWEL DISEASE (IBD). Aderbal Sabra, Reuben S. Dubois, Vasundhara Tolia. Children's Hosp. of MI., Detroit.

The cause of IBD is unknown. It has been suggested that lack of BMF and early introduction of artificial feeding with cow's milk protein (CMP) may increase the liability to chronic ulcerative colitis (CUC) later in life. (E.D. Acheson and S.C. Truelove, Brit. Med. J. 4:929, 1961). The purpose of the present study was to document infant feeding practices (IFP) in patients with IBD. Mothers of 83 patients with IBD were personally interviewed by one of us (AS) on a number of occasions and a history of IFP in their children obtained. Fifty-two patients had Crohn's disease and 31 had CUC. All were seen during a 5 year period from 1978 to 1983. Sixty two patients were born in the decade 1961 to 1970 and 21 between 1971 and 1982. IFP were divided into 3 groups. BMF only for more than 6 months - 2(2.5%) BMF with CMP introduced from birth to 4 months of age - 7(8.5%) and no BMF and CMP introduced at birth - 74(89%). At 1 week of age BMF alone occured in 8 or 9.6% of our patients. This compares with the national average for the same age, which ranged from 24.9% to 28.4% during 1961 - 1970 and 24.9% to 56.4% during 1970 - 1981 (G.A. Martinez and D.A. Dodd. Peds. 71:166, 1983). The cause of IBD is probably multifactorial. These data suggest that BMF may be protective and that early introduction of dietary foreign protein antigen, especially CMP may play an important role in the subsequent development of IBD in children and adolescents.