11 DOES VESICOURETERAL REFLUX (VUR) CORRELATE WITH INTRAVESICAL PRESSURE (IVP)?

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With this purpose 14 patients with known VUR were studied with urodynamic methodology and simultaneous radiology. Evaluating IVP simultaneously with time of appearance of VUR: 1) while bladder filling (in the first or second half), 2) with the presence of uninhibited contractions (UC), 3) during voiding, 4) in the postmicturition (PM). It also was quoated if the VUR was intermitent or permanent. None of the patients evaluated had neurogenic bladder or urinary tract obstruction. All had urinary tract infection being this the reason for the urodynamic study. All the patients were females between 2 and 15 years of age. 14 patients, 28 renal units, VUR was detected in 19 units: 6 in the first half of bladder filling, 7 in the second half, 0 during UC, 1 while voiding, and 5 in the PM. 7 were permanent and 12 intermitent. Of the 12 intermitent: 6 while filling, 1 during micturition, and 5 in the PM. Of the 7 permanent: 5 in the first half of bladder filling and 2 in the second half. From the data presented it is clear that VUR does not correlate with high bladder pressure during micturition or UC, showing that VUR can appear at any moment of the vesical cycle. VUR is a radiologic sign of the incompetence of the vesicoureteral junction, and this incompetence may be is more related to the migration of the wall of the detrusor muscle of the bladder during compliance or micturition. From an hydraulic point of view, ureteral filling during VUR should depend on 3 interdependent factors: 1) the competence of the vesicoureteral junction, 2) the ureteral compliance, 3) ureteral peristaltic activity. With this criteria if appears inconvenient to clasify VUR according to the ureteral filling because this is nothing more than the radiologic evidence of the interrelation of these 3 factors unknown by this methodology.

12 EFFECT OF A NEW INFANT FORMULA TO BE USED IN A NATIONAL COMPLEMENTARY FOOD PROGRAM (NCFP) ON IRON NUTRITION STATUS IN INFANTS.

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Iron bioavailability from an infant formula (LPM) (Fe 5mg/L; ascorbic acid 50mg/L) was examined in 11 adult women using the extrinsic radioactive tag method. The geometric mean absorption from the formula was 13%. The effect of this formula on iron nutrition in infants was studied in 43 healthy term infants weaned spontaneously before 3 months of age and who received the formula until 9 months of age. For control, 55 infants received the milk which is being delivery through the NCFP (whole power, non fortified milk) (LP) and 45 infants were fed a milk formula iron fortified (Fe: 15 mg/l; ascorbic acid: 100 mg/L) (LF) which has been shown to be effective in preventing iron deficiency. Hemoglobin (Hb), mean corpuscular volumen (MCV), transferrin saturation (Fe/IBC), free erythrocyte protoporphyrin (FEP), and serum ferritin (SF) determined at 9 months of age are summarized below:

Group	Hb (g/dl)	VCM(fl)	FEP (ug/dl)	Fe/IBC (%)	SF* (ug/l)
LF	12.64(0.85)	72(3)	99(25)	14.6(6.4)	15(8-27)
p	0.05	0.005	NS	NS	0.001
LPM	12.23(1.09)	75(6)	88(30)	15.1(7.2)	6(2-18)
p	NS	0.0001	0.0005	NS	0.001
LP	11.88(1.15)	69(6)	129(68)	12.3(7.0)	10(5-18)

*Geometric mean and a limit of 1 SD.

This new formula (LPM) improved iron nutrition status in infants. This effect can be increased by adding an extra amount of iron to the formula.

13 NUTRITIONAL QUALITY OF A NEW INFANT FORMULA (LPM) FOR THE NATIONAL COMPLEMENTARY FOOD PROGRAM (PNAC) IN CHILE: METABOLIC STUDIES.

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Nitrogen, fat and caloric retention were measured in 10 male infants recovering from marasmic malnutrition when fed either LP or LPM. Subjects were 6.8 months old on average and had a W/A ratio of 72% and a W/H ratio of 95% of the NCHS standard.They went through two consecutive balance periods of 6 days each (3 days for adaptation and 3 days for urine and feces collection). Caloric density of both formulas was 85 Kcal/100 ml with 13% of calories from protein in LP and 11% in LPM. Caloric intake, absorption and relative retention was slightly and not significantly greater with LPM than LP. Fat intake was greater with LPM (5.4 gr/kg/day) than with LP (4.2 gr/kg/día) ($p<0.025$). This resulted in significative differences in fat absorption (LPM: 4.3 gr/kg/day; LPM: 3 gr/kg day, $p<0.0025$). Nitrogen intake was significantly less with LPM (487 mg/kg/day) than with LP (571 mg/kg/day) ($p<0.0025$) with a greater urinary nitrogen excretion for LP (417 mg/kg/day) than for LPM (304 mg/kg/day) ($p<0.001$). Aparent nitrogen retention for LPM was on average 115 mg/kg/day and for LP only 68 mg/kg/day. This difference was not significative because wide individual variation. Over the short period of the study no difference was detected in biochemical or anthropometric indicators of nutritional related to the feeding of LP or LPM.

14 FORMULATION OF AN INFANT FOOD FOR THE NATIONAL PROGRAM OF COMPLEMENTARY FEEDING.

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A milk based infant food was formulated for 0-12 months old infants to replace powdered cow's milk which is distributed by the National Program of Complementary Feeding of the Ministery of Health. The Program supplies 2 kg/month of whole powdered milk to this population of infants and this means that in some cases the protein provided is higher than 200% of the recommended daily dietary allowances while in other cases the energy supply reaches only 50-60% of the RDA. This fact led us to develop a new more balanced formula but with a similar cost of whole powdered milk for this age group. The new formula has the following nutritional characteristics: casein/whey protein: 40/60; highly digestible fats, an optimun level of essential fatty acids; carbohydrates with excellent digestibility; vitamins and minerals; the protein and caloric supply can be easily modulated between 1.5- 2.25 g/100 cc and 50-75 Kcal/100 cc respectively; adequate renal solute load (105-106 mOsm/lt). A study of the technical and economical feasibility was done in order to assure that all the previous characteristics were present within the cost initially set as objective. This was confirmed when the Ministery of Health called for a public proposal to produce 40 Ton of this infant formula to use it in a field study (about 3000 infants). This proposal was won by an important local milk industry and the cost of the product was 80% of the cost of whole milk. A shelf-life was carried out with this infant formula to determine its optimun stability.

15 GLUCOCORTICOIDS AND ADRENAL ANDROGEN FUNCTION IN PEDIATRIC PATIENTS WITH END STAGE RENAL DISEASE (ESRD).

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Delayed gonadal and/or adrenal puberty in children with ESRD diminishes patient self-esteem and hamper rehabilitation. Data detailing adrenal puberty in patients with ESRD are not available. For that reason 26 patients (16 male; 10 female) who were between 6.5 and 22.5 years of age (mean: 14.5) were studied. Ten patients were pre-pubertal, 8 pubertal and 8 post-pubertal. All of them were on chronic hemodialysis. The Tanner stages (pubic hair development) were delayed in 56% of patients. Serum cortisol (C) was increased in all, but 2 patients. Serum Δ4-androstenedione (Δ4) was normal in all but 2 patients. Serum dehydroepiandrosterone sulfate (DS) was increased in 6 out of 11 pre-pubertal and pubertal males. Bone age showed a positive correlation with DS ($r= 0.53$; $p<0.005$). Serum ACTH was normal. A reduction of 50% in C and 78% in DS was found after dexamethasone suppression (DX); but Δ4 did not suppress post DX. ACTH stimulation test increased C by 50% and Δ4 by 80%, but no stimulation was observed in DS. CONCLUSIONS: In pediatric patients and young adults with ESRD, we found: 1) Increased C levels and partial DX resistance of pituitary-adrenocortical axis, similar to that found in Cushing's disease or in stress; 2) Delayed development of the androgen producing zona reticularis, suggested by the lack of response of DS to ACTH; 3) The dissociation between C and adrenal androgens observed is consistent with the existence of different mechanisms of control for these two adrenal functions.

16 HEMOLYTIC UREMIC SYNDROME: EARLY RENAL LESIONS AND LATE PROGNOSIS.

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The histological studies and clinical histories of 60 patients with Hemolytic Uremic Syndrome (HUS) followed up at the Children's Hospital of Cordoba City (Argentine) between 1965-1982 were reviewed. Histological studies were performed with biopsy specimens in 54 cases and with necropsy specimens in the other 6. In all cases the studies were performed during the first four weeks of the disease. In 47 cases (78,3%) typical thrombotic microangiopatic lesions (MATR) were found, while in the another 13 cases (21,6%) the lesions were inespecific. The lesions were classified into threee groups: TYPE I: those cases with focal MATR or inespecific lesions (41,7%); TYPE II: those cases with difusse MATR (36,6%) and TYPE III: those cases with difusse MATR complicated with cortical necrosis or vascular damage (21,6%). Fourty three patients were re-examined with clinical and laborattories tests during 1983. Twenty three of them were cured while the another twenty showed some renal secuelae. Thirteen had proteinuria, two arterial hypertension and five chronic renal failure. Healing was observed in 65% of the patients with lesions TYPE I, in 34,7 of the patients with lesions TYPE II and in 0% of the patients with lesions TYPE III. The patients with lesions type I or II only showed proteinuria as renal secuelae, but those with lesions type III developed proteinuria, arterial hypertension and or chronic renal failure. We conclude that the present histopatological classification of the early renal lesions are useful ir order to predict renal damage in late period of the disease. Chronic renal failure depends on the presence of cortical necrosis or vascular damage.