17 PUBERTY AND BONE AGE IN CHILDREN WITH SEVERE MALNUTRITION.

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Early protein calorie malnutrition (PCM) causes delay on growth and bone maturation. This can be shown on body size and bone age of survivors of severe malnutrition. It has been stated that the delay on bone maturation would permit a prolongation of the growth period that favours catch up growth if nutritional conditions improve. We studied 20 children aged 12 years old (10 of each sex) who suffered PCM early in life and needed treatment in a Closed Nutritional Recovery Center (CNRC), being discharged after complete nutritional recovery. This group was compared with age and sex matched controls who had never been malnourished. Both groups belonged to the same low socioeconomic background. We found significant differences in body size both for males and females in favour of the control groups ($p < 0.001$). Bone age showed sexual differences, with delay in both groups of males ($p < 0.01$) but not in the females. In relation to puberty we found that sexual maturation in girls was similar in both groups and not related to their nutritional background. These results suggest that early, severe, treated malnutrition reduces growth but not necessarily bone maturation. Sexual maturation appears to be independent of nutritional history.

18 ANTI-POLIOMIELITIS VACCINATION IN NEWBORNS.

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In order to evaluate the effectiveness of early antipoliomyelitis vaccination in newborns using an oral vaccine made from live attenuatted viruses (OPV) or an injectable vaccine from inactivated viruses (Tetravalent Tetracoq with components against polio, tetanus, diphteria and pertussis), 120 healthy newborns were immunized according to one of the following protocols: A- Tetracoq at birth and at 2 months of age, reinforced at 9 months; B- Tetracoq at 2nd 4 months, reinforced at 9 months; C- OPV at birth, at 2 and 4 months, reinforced at 9 months; D- OPV at 2, 4 and 6 months.

Blood samples were collected from the mother and from the cord at delivery and from the children 2 months after each vaccine dose, thus obtaining a sequential evaluation of immunity towards polio virus during the first year of life for each child. Antibodies for polyoviruses P1, P2 and P3 were quantitated by a neutralization technique. Our results show that both vaccines induce immune responses when administered to newborns. Circulating antibodies decrease at 9 months in the group that received Tetracoq at birth, but immunological memory persists. After completion of the vaccination schedule, protection for polioviruses 3 was significantly higher with the inactivated vaccine than with the oral attenuated-virus vaccine.

19 LEAN AND FAT BRACHIAL AREA (LBA-FBA) AND BODY SEGMENT RATIO (U/L) OF SCHOOL AGE CHILEAN CHILDREN OF BOTH SEXES, ACCORDING TO SOCIOECONOMIC LEVEL (SEL).

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The more prevalent nutritional problem of school-age Chilean children is excess weight, specially in females belonging to the low SEL. However, it cannot be ruled out that this overweight may be associated to specific nutritional deficits. Early postnatal undernutrition produces a permanent statural deficit, specially of the lower segment of the body with alteration of the U/L segment ratio. We were interested in gathering information about LBA and U/L segment ratio of school-age Chilean children. A representative sample of 6124 school children of both sexes of Greater Santiago, Chile was obtained. This geographical area includes about 45% of Chilean school-age children. SEL was classified according to a modified Graffar scale. Brachial circumference was measured with a non-elastic band and skinfolds with a Lange caliper. Stature was measured with a measuring board and U/L segment ratio was obtained by substracting the lenght of the upper segment measured on a specially made chair from stature. Differences were studied by variance analysis and Student's T test. Males from the low SEL had decreased LBA and FBA, remaining only the last difference at greater ages. Females from the low SEL had decreased LBA only at early ages, without differences in FBA compared with the high SEL. U/L segment ratio was greater in school-age children of the low SEL of both sexes compared with those of the high SEL, a difference that disappeared in older males. These results suggest that genetic and environmental factors influence growth and development of school age children of the low SEL.

20 FROM NEWBORN INTENSIVE CARE UNIT (NICU) TO HOME: DIRECT INVOLVEMENT OF PARENTS HOUSED WITH THEIR INFANTS IN A SPECIAL RECOVERY UNIT.

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Discharge from NICU, especially after severe neonatal illness can represent a new family crisis, particularly if parents have not been prepared to resume full care of their infant, and if the link and interdependence with the follow-up (FU) clinic has not been appropriately established. To smooth the transition from hospital to home, to complete education of parents in health care maintenance and to ensure compliance with FU, a special Recovery Unit (RU) was designed to house infants and their parents in a homelike environment before discharge. Of the 708 infants admitted to NICU (20% with congenital heart disease, 25% with surgical conditions, 30% premature, 14% VLBW infants; 50% required assisted ventilation), 530 spent an average of 6 days (3-62 days) in the RU. During this stay nurses, physicians and social workers established the goals for the hospitalization, determined the requirements for discharge, taught parents on the care for some of their infant's special needs (feeding tubes, urinary catheters, ostomy bags, medications, etc.), helped them to establish a positive problem solving and decision making attitude, and established the initial link with the FU clinic. The impact of these activities were evaluated by means of special questionnaire delivered to mothers; by determining the % of babies breastfed upon discharge and the compliance with FU. Eighty two % of the families answered that the RU helped to increase their confidence in handling their infants; 10% of mothers felt that the additional stay in the RU was unnecessary; 17% of mothers answered that they still lacked confidence. Of the babies whose hospitalization exceeded 45 days, 60% were receiving human milk upon discharge. Drop out rate in FU was 8%. RU seems appropiate to wean parents from NICU making transition to home less traumatic, and helps improve compliance with FU.

21 GROWTH VELOCITY IN VERY LOW BIRTH WEIGHT INFANTS. ARE THE REFERENCE GROWTH CHARTS APPROPRIATE?.

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Growth of very low birth weight infants (VLBWI) is usually assesed by Standard Reference Curves (SRC). These chars are composed by prenatal growth curves up to term (cross sectional studies) followed by post natal longitudinal growth charts of fullterm healthy babies. Our purpose was to compare the growth velocity of SRC with the lenght, weight and head circunference growth velocity of a population of 35 VLBWI with low neonatal morbidity and adequate weight for gestational age, who were followed up for one year of corrected age. Birth weight of this population was ($\bar{x} \pm SD$): 1290 ± 150, lenght: 38.3 ± 2.8, head circunference: 26.3 ± 1.3 and gestational age: 30 ± 1.3 weeks. The accelerated growth period of the three parameters showed a quadratic regression (parabola), with its acme retarded 4 weeks compared to SRC for weight and 5 weeks for head circunference and body lenght, its magnitude being significantly greater ($p < 0.01$) in the SRC (for weight and lenght) than in the VLBWI (350g ± 80 vs 270 ± 90 and 1.3 ± 0.2 vs 1.02 ± 0.1). Total accumulated growth at one year was similar in both curves.

Increased growth velocity in VLBWI lasted until six months of corrected age and not up to full term only as in SRC. Our results suggest that for clinical assessement of rapid growth period in premature infants, SRC do not adequately reflect changes in growth velocity during this critical period.

22 SIGNIFICANCE OF ANTITHYROGLOBULIN ANTIBODIES AND EXOPHTHALMUS AS EARLY PREDICTORS OF THE EVOLUTION OF THE JUVENILE HYPERTHYROIDISM (JH).

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JH is a discouraging disease because of the need for long treatment which results in remissions in only 30% of patients. In a previous report we showed that thyroid function 2 years after treatment with antithyroid drugs (short-term) was a predictor of the long-term evolution (9.2 ± 3.3y.), since in 90% of patients no variation of thyroid status results. In this study our aim was to find "markers" at the begining of the disease which could predict its subsequent evolution. The presence (+) or absence (-) of Exophthalmus (E), antithyroid microsomal (Mi) and Anthithyroglobulin (Tg) antibodies at the beginning of the disease were evaluated retrospectively in 35 patients followed up for 4 to 17 years. Patients were divided according to whether in remission (R,n=13) or no remission (N.R. n=22). Patients in R had Tg^+in 82% (9/11); and $Tg^+$and E^+in 87,5% (7/8); NR with Tg^- in 83.3% (20/24) and $Tg^-$and E^-: 91% (10/11); NR was associated with Mi in 4/4. Tg is a useful isolated early marker since it was frequently found in group R and absent in group NR. $Mi^+$is not reliable since is frequently present in both groups. On the contrary, $Mi^-$is a strong marker of no remission, although seldom found. When Tg and E are associated either both positive or negative, predictive value of these markers improves. These early markers are useful predictors of the evolution of JH. They can be used to avoid long medical treatments and to decide other therapeutic courses after 2 years of follow-up.