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ZINC NUTRITION IN CHILEAN PREGNANT TEENAGERS OF LOW INCOME GROUPS. VB. Marín, CD. Castillo, V. Gattas, F. Castillo, M. González, G. Zerazzi, ML. Alcázar. INTA, Universidad de Chile, Hospital Dr. Sótero del Rio, Santiago, Chile.

Zinc deficiency may affect pregnancy outcome. In order to begin study of zinc status in Chilean population of low income groups, we studied 124 pregnant teenagers on admission to their prenatal controls. They were 16.3 ± 1.4 years old (12-18), beginning pregnancy controls at 12.6 ± 3.7 weeks (7-20); nutritional status showed 28% deficit of weigth for height and gestational age. Dictary history records revealed daily intakes of: Zn 6.8 ± 2.7 mg, or 0.81 mg/MJ (42.5% of reccomendations); iron 18.3 ± 7.6 mg or 8.9 mg/1000 Kcal (60% of RDA) with 47.5% of animal origin; vegetal fiber 5.3 ± 2.8 g. Plasma zinc was 96.3 ± 13.7 ug/dl (15/126<80 ug/dl; Hb 13.0 ± 1.3) (4/116<11 g/d).

We conclude that Chilean pregnant teenagers of low income groups present a higher prevalence of low zinc intakes than of other nutrients, these low intakes are not associated to low plasma zinc.

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INSULIN LIKE GROWTH FACTOR-I IN SEXUAL PRECOCITY. MDS. Carvalho, RJ. Teixeira; JR. Freitas; AA. Guimaraes; HF. Souza; MM. Guimaraes. Endocrine Service - University Hospital CFF-Fedetal University Rio de Janeiro - Rio de Janeiro, Brazil.

We evaluated the plasma levels of IGF-I in 33 girls with sexual precocity to assess its efficacy as a discriminating diagnostic tool berween precocious puberty and variants of pubertal development (pubarche and thelarche). The assays were performed using an extraction process, IGF-I levels were elvated in 5 cases of precocious puberty. They averaged 0.87 ± 0.38 U/ml in precocious puberty, 0.63 ± 0.21 U/ml in pubarche and 0.47 ± 0.14 U/ml in thelarche. There was a significant difference ($p < 0.05$) between levels of IGF-I in precocious puberty and thelarche by the Bonferroni test. We conclude that the isolated determination of IGF-I is not a discrimating diagnostic test between the forms of sexual precocity. Elevated levels can be useful, suggesting the diagnosis of precocious puberty.

# 31

NORMAL THYROID GLAND VOLUME IN CHILDREN AND ADOLESCENTS OF MENDOZA (ARGENTINA). Z. Guntsche; N. Bossa; V. Cabut; L. Saborido; P. Esteves; R. Leiva; B. Rauek; JN. Rezzonico. Servicio de Endocrinología, Hospital Italiano, Mendoza, Argentina.

We estimate the thyroid volume (TV) in an endemic goiter area, establishing normal values for children. We correlate TV with age, body weight and height.We measured TV by ultrasonography (Yokoi)in 215 children and adolescents age: 0.1-18 years,healthy,without thyroid pathology, normal height and body weight and normal thyroid size estimated by palpation (W.H.O. criteria).Results: TV(cm3)±a SD

| Age | TV | Body W | TV | Height | TV |
|---|---|---|---|---|---|
| 0.5 a | 2.72 ± 0.8 | 6 Kg | 2.30 ± 0.5 | 60 cm | 2.41 ± 0.4 |
| 2 a | 4.98 ± 1.9 | 13 Kg | 3.86 ± 0.5 | 80 cm | 3.26 ± 1.0 |
| 5 a | 5.01 ± 0.9 | 24 Kg | 5.23 ± 0.4 | 105 cm | 4.95 ± 0.7 |
| 7 a | 5.75 ± 0.3 | 60 Kg | 7.37 ± 1.8 | 115 cm | 5.25 ± 1.1 |
| 9 a | 7.18 ± 1.4 | 37 Kg | 8.21 ± 1.5 | 125 cm | 6.47 ± 1.3 |
| 11 a | 8.59 ± 2.0 | 43 Kg | 9.32 ± 2.0 | 135 cm | 7.03 ± 1.7 |
| 13 a | 9.38 ± 2.3 | 53 Kg | 11.28 ± 2.2 | 145 cm | 9.31 ± 2.0 |
| 15 a | 10.1 ± 2.17 | 60 Kg | 10.96 ± 3.0 | 155 cm | 9.67 ± 2.1 |
| 17 a | 11.7 ± 2.5 | 72 Kg | 13.21 ± 1.9 | 170 cm | 13.0 ± 0.6 |

TV correlation with age (years) R2 0.60-Body weight (kg) R2 0.665-Height (cm) R2 0.731.Conclusions:1) We observed a progressive growth of the thyroid gland from birth to the end of puberty.2) Thyroid volume (TV) showed a positive correlation whith age, with body weight and with height.3) A relative greater volume was observed in infants.4) Our results agree with others of similar areas.

# 32

COMPARATIVE RESULTS OF ECOGRAPHIC AND THYROID SCANNING STUDIES IN CONGENITAL HYPOTHYROIDISM. E. Kreisner; RC. Maia. Hosp. Univ. Materno-Infantil Presidente Vargas - Porto Alegre - Brasil.

Thyroid ecography was performed in 29 patients with CH and, thyroid scanning with tecnecium was performed in 26. Twenty two cases of thyroid dysgenesis were identified by scanning. 14 had athyreosis, 2 had hypoplasia and 6 had an ectopic gland. In all 22 cases, a concommitant ecographic study showed an absent gland in the cervical region. In the other 3 patients, which were not scanned, ecographic studies identified a detectable gland, which was compatible with the diagnosis of thyroid dysgenesis. In 3 patients, the ecography identified gland at the usual site, which concentrated isotope in two cases, and did not concentrated in the third, compatible with abnormal synthesis or secretion. In one, there was a large goiter, clinically palpable at birth. Another case was of recurrent CH in the same family, characterized by autosomic inheritance suggesting dishormonogenesis. The third case appeared to represent a possible TSH receptor defect or a trapping abnormality. In one case, the gland was identified by both diagnostic procedures, It was our only case of transitory CH. In conclusion, ecography is a very sensitive method for the diagnosis of thyroid dysgenesis, although it cannot discriminate the form. On the other hand, identifing gland in a suspicious case of CH suggests dyshormonogenesis or transitory CH, which has important clinical implications.

# 33

EFFECT OF CHRONIC ZINC ADMINISTRATION ON THE GROWTH OF PREPUBERTAL BOYS WITH SHORT STATURE. FC. Cristovao; J. Golabek; CA. Longui; NJ. Brandao; ALN. Duarte; SMS. Trecco; IJP. Arnhold; BB. Mendonca. Division of Endocrinology, University of Sao Paulo, Brazil.

Zinc has multiple effects on somatic development: It acts as a cofactor in IGF-I action,it is part of several enzymatic systems, releases growth hormone (GH) and influences DNA and RNA metabolism. We studied 15 prepubertal boys with short stature (height <-2SD) and peak GH levels after ITT or clonidine stimulation test > 7 ng/ml. After a pretreatment period of at least 6 months, zinc sulfate x 7H2O 70 mg, t.i.d. was given during 12.9 months.

| | Pretreatment | | | After 1y.Zinc therapy | |
|---|---|---|---|---|---|
| C.AGE (y) | BONE AGE (y) | GROWTH VEL. (cm/y) | HEIGHT SD+ | GROWTH VEL (cm/y) | HEIGHT SD+ |
| 8.4±1.3 | 5.5±1.5 | 4.35±0.88 | -2.85±0.57 | 4.62±0.84 | -2.66±0.5 |

* $p < 0.05$, paired test

All patients remained prepubertal, had an increase in appetite and suffered no side effects. We observed a slight increase in growth velocity and a significant improvement in height SD. Individually, height SD improved in 80% and remained unchanged in 20% of patients. We conclude that chronic zinc administration can improve height in boys with short stature.

# 34

BONE DENSITOMETRY IN PATIENTS WITH HYPERGONADOTROPIC HYPOGONADISM UNDER HORMONAL REPLACEMENT THERAPY. EMF. Costa, EA. Mantovani, CAM. Vasconcelos,IJP. Arnhold,MOR. Leite, A.Boreli, BB. Mendonca. Gonads and Intersex Unit Div. Endocrinology - HC-FMUSP, Sao Paulo, Brazil.

Our objetive was to analyze the bone density of the lumbar spine (L1-L4)expressed by Z index=(Xa-XnI/SD)of BMD(g/cm2)in 17 patients, 12 females and 5 males, with hypergonatropic hypogonadism(HH) under hormonal replacement therapy. Young normal adults were taken as reference.The bone densitometry was performed by Hologic apparatus QDT.1000/w (S/N 871). The 12 females patients were 12 or 31 years old at the beginning of treatment(X±SD=19.5±6.0). Ten patients had Turner's Syndrome, one case had 46,XY and one case had 46,XX gonadal dysgenesis. The patients were treated with conjugated estrogens (0.15-0.625 mg), estrogen esters (2mg) or ethinyl estradiol (30-50 ug/d) associated with progesterone for a period of one to sixteen years. The 5 male patients were 13 to 21 years old at the beginning of treatment (X±SD = 17.0±2.9) Four of these patients had Klinefelter's Syndrome and one patient had anorchia. They were treated with testosterone esters at a dose of 125 to 250mg every 15 to 21 days for a period of 4 to 8 years (X±SD= 5.6 ±1.6).The female Z index changed from -4.05 to -1.2 and the male Z index changed from -1.69 to + 2.7. We did not observe any relation between chronological age at the begining of treatment or the length of treatment ($p<0.05$). All female patients showed negative Z scores and in 5 the value was below -2SD. All the males had Z scores within 2SD of normal controls. We conclude that androgen replacement therapy was able to preserve bone mass, while estrogen replacement therapy was not able to normalize bone mass. This observation suggests that complementary therapy should be used in female petients with HH