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METABOLIC-HORMONAL CHANGES IN INFANTIL OBESITY. G. Rubio, L. Bergoglio; L. Muñoz; E. Arguello; D. Flores; B. Casco; M. Blanco; L. Fasio; N. Conci. Serv. de Endocrinol.Infantil.Hosp.Pediátrico. Lab. RIA H. Nacional de Clínicas. Lab. Central Hosp. Pediátrico.

We investigate if infantile obesity could associate to hyperinsulinism, insulin resistance, hyperandrogenism by ovarian hyperstimulation and decrease in the SHBG levels in serum, mediated by means of the IGF-I receptors. 29 obese and 9 normal girls underwent an oral glucose tolerance test with insulin dosage by RIA at 0-30-60 and 120 minutes, and:T3 and T4 by RIA,TSH,LH,FSH,PRL,IGF-I and SHBG by IRMA. a) Clinical characteristics of both groups (X±SD)

AGE (years)	12.0±2.1	13.9±1.9
Height (cm)	148.2±9.1	156.2±10.1
Weight (kg)	60.1±15.4	47.4±8.5
Puberty	III	IV
Overweight (%)	144.8±17.8	

b) Oral glucose tolerance test (X±SD)

Glucocemia (mg/dl)	0 min	30 min	60 min	120 min
Obese	93.3±13.4	127.5±24.6	106.7±27.7	95.3±18.8
Normal	90.0±5.6	134.1±17.4	120.0±47.0	98.9±23.0
Insulin (mUI/L)				
Obese	19.9±10.3	136.9±96.1	100.4±88.2	62.0±37.2
Normal	9.5±2.3 *	56.7±48.3*	61.3±40.4	44.0±20.9

c) Other determinations

	IGF-I(ng/ml)	SHBG (nmol/L)	PRL (ugr/L)	T3 (ng/dl)
Obese	310.4±207.6	48.5±25.8	11.2±5.0	174.6±33.0
Normal	414.0±193.6	81.0±26.0 *	13.9±4.4	147.4±32.4 *

Infantil obesity associated with hiperinsulinism could lead to hyperandrogenism.

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GROWTH HORMONE'S LEVELS OF SPONTANEOUS NOCTURNAL SECRETION IN SHORT STATURE CHILDREN.M. Miras; L. Muñoz; R. Kaplan;G. Sobrero; A. Paez. Córdoba's Children Hospital,Endocrinol.Service.Córdoba, Argentine.

A comparative study of spontaneous nocturnal GH secretion during sleep of short children was measured (heights below the 3rd percentike and/or height velocities below the 25th percentile for age). They had different responses to a pharmacologic stimuli test.

GH levels were measured in sera samples that were drawn every 30 minutes during 12 hours in a group of 14 children, aged 3.3-15.1 years (9 girls and 5 boys). To determine GH levels we used polyclonal RIA. The maximal responses in GH stimulated levels allowed us to classify the sample in three groups; lower than 7 ng/ml, between 7-10 ng/ml, and higher than 10 ng/ml.

The maximal response in GH stimulated levels did not exceed 10 ng/ml in 64.3% of the cases:meanwhile, in the spontaneous pooled sera this was below 3 ng/ml in 64.2% of the sample. The profile of nocturnal samplings of spontaneous GH secretions showed three significant peaks in decreasing order, between the hours 1-1.30 ($p<0.09$), 4-4.30 hs ($p < 0.06$), 6.30-7 hs ($p < 0.017$). The mean values of spontaneous GH concentration in children with stimulated GH responses < to 7 ng/ml were lower than those responses > to 7 ng/ml.An acute test with, GRF(1-29),(1.5 ug/Kg,IV) was performed in 10 patients,7 of whan exceeded 10ng/ml in GH levels.

In conclusion,the measurement of GH spontaneous secretion contributed to identify those children with low endogenous secretion.

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EPIDEMIOLOGIC FEATURES OF 31 PATIENTS WITH ADRENAL CORTICAL TUMOURS. AC. Latronico; BB. Mendonca; IJP. Arnhold; S. Domenice; G. Medureira; W. Bloise; BL. Wajchenberg. Division of Endocrinology and Metabolism, HC-FMUSP, Sao Paulo, Brazil.

Multiple etiological factors related to tumour development including smoking, drugs and irradiation have been described. We interviewed 31 patients or family members concerning the symptons of malignant tumours in relatives, the medication taken by mothers during pregnancy, smoking, alcohol dietary habits and geographic distribution. We studied 31 patients, 26 (83.8%) females and 5 (16.1%) males with adrenal cortical tumours, who ranged in age from 7 months to 64 years. All were Caucasians. Twenty eight patients (90%) had clinically functional tumours; 14 (50%) of these had Cushing's Syndrome, 10 (35,7%) had virilization and 4 (14.2%) had both. Three tumours were not functional.Thirteen patients were below 10 years of age and 11 (84%) had one or both parents who smoked from these, 3 patients (32%) were exposed to nicotine in uterus. Among the adult patients, seven(38%) were smokers.Twenty four patients were from the state of Sao Paulo (5 from metropolitan Sao Paulo and 19 from the countryside of Sao Paulo), 2 from Minas Gerais, 4 from the Northeast and 1 from the South. Among the patients from the countryside, five (26.3%) had history suggestive of direct exposure to insecticides. We identified a high incidence of malignant tumours in family members (parents or grandparents) of 16 patients (51%). The most frequent location of these neoplasms was the gastroententinal tract. Our data may suggest a role of environmetal factors, in addition to, possible familiar predisposition in the pathogenesis of adrenal cortical tumors.

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EXCESIVE GROWTH HORMONE SECRETION OF PREPUBERTAL ONSET. MC. Arriazu, M. Roubicek. Hospital Privado de Comunidad. Mar del Plata. Argentina.

A 10.9 years old girl was studied for tall stature, with onset before the age of 6. Her height of 175.6 cm was ± 4.4 SD above the mean. The basal level of growth hormone (GH) was elevated on several occasions (9.9-20 ng/ml). The phenotype was otherwise normal and the bone age was advanced. (12.5 years for 10,9 years of chronological age . The oral glucose loading was ineffective in suppressing GH levels and stimulation tests with clonidine and TRH did nor modify substantially the basal GH levels. Computered Tomography and Magnetic Resonance Imaging, failed to show a pituitary mass. The plasma IGF-I level was 4.27 U/ml, within the normal pubertal range. The extraction IGF-I level was elevated (> 2 SD P 50), and the IGF-Binding Protein 3 was 5-10 times the normal control levels, suggesting GH hypersecretion. A terapeutic trial with Bromocryptine was started at age 11.91 years when she was 180.3 cm tall, resulting in a marked slowing of her growth rate. IGF.I levels decreased gradually, without any change in the basal GH levels. After 10 months of treatment she grew only 1.2 cm, less than the expected rate in her first post-menarchal year. We wish to emphasize the usefullness of IGF-I and IGF-BPs measurements in the diagnosis and follow-up of GH hypersecretion.

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COMPARISON OF IMMUNOFLUORIMETRIC (FIA) AND RADIOIMUNOASSAY (RIA) METHODS FOR THE MEASUREMENT OF BASAL AND GnRH STIMULATED LEVELS OF GONADOTROPINS IN NORMAL CHILDREN. BB. Mendonca, MF. Borges, MC. Batista, FO. Magalhaes, EA. Mantovani, MBF. Kohek, W. Nicolau. Radioimunoassay Lab. H. Clinicas. FMUSP., Sao Paulo, SP, and Triangulo Mineiro Sch. of Med., Uberaba, M.G., Brazil.

The FIA methods show better sensitivity and specificity than RIA. Normal reference values have not been determined for children. We measured serum LH and FSH levels under basal conditions and after GnRH stimulation (100ug iv) in 21 normal children (11 boys,ages 4-11 years, and 10 girls,ages 4-10 years)using RIA and FIA methods. All children had Tanner I pubertal development and prepubertal serum levels of testosterone and estradiol. RIA measurements were performed by double antibody kits purchased from Pharmacia. Sensitivity was 0.95 IU/L for LH and 2.5IU/L for FSH. FIA determinations were obtained with Delfia LH Specific and FSH kits kindly provided by Pharmacia. The intra and interassay coefficients of variation were below 5 and 12% respectively.

	R I A				F I A			
GROUP	LH (UI/L)		FSH (UI/L)		LH (IU/L)		FSH (IU/L)	
	BASAL	PEAK	BASAL	PEAK	BASAL	PEAK	BASAL	PEAK
Boys	3.57±	9.7±	5.4±	32±	<0.6±	3.1±	1.64±	15.8±
	0.62	2.9	1.28	14		1.98	0.86	6.4
Girls	3.7±	10±	4.0±	10.9±	<0.6	2.8±	1.25±	4.7±
	0.69	5.2	0.6	4.4		2.8	0.59	2.6

FIA measurements basal and after GnRH stimulation are lower than RIA. Thus normal reference values obtained with RIA methods cannot be used in the interpretation of FIA measurements. The results may be used as FIA reference velues for children.

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USEFULNESS OF LH MEASUREMENTS BY A HIGHLY SENSITIVE INMUNORADIOMETRIC ASSAY IN RESPONSE TO GnRH IN THE DIFFERENTIATION OF DIVERSE GONADOTROPIC PATHOLOGIES. M. Stivel; GG. Arias; SB. Campeni; C. Aranda y A. Oneto. Divi. Endocrinol. Hosp.Durand. Bs.As. Argentina.

The onset of puberty is characterized by and increase in plasma LH associated with nocturnal sleep, which is absent in hypogonadotropic hypogonadism (HH) patients. Immunoradiometric assay IRMA, a highly sensitive assay provides improved detection of the quantititative changes of serum gonadotropins during puberty. The purpose of this study was to determine the LH normal response to GnRH, measured by IRMA, among pubertal stages and establish if it improves the differentiation between delayed puberty (DP) and HH. Basal and GnRH stimulated levels of LH were measured in 38 normal children (prepubertal n=18;early pubertal n=11; advanced pubertal n=9):nine with DP(TANNER I,test.vol. < 3; CA m±SD: 13.84±1.14; BA 11.94±0.47) and 7 with HH (TANNER I, test vol < 3;BA 13.83±1.12).

	PREPUB	EARLY PUB.	ADVANCED PUB.	DP	HH
BASAL	0.45±0.14	0.82±0.43*	3.78±1.86**	0.51±0.16	0.50±0.20
PEAK	2.71±0.89	0.83±4.95**	24.06±8.66**	10.94±4.65	2.00±2.04

Values(mUI/ml) the X±SD (*) $p<0.002$, (**) $p < 0.0001$ VS previous stage or DP VS HH. Patients with DP could not be distinguished from those with HH, neither by clinical criteria nor by baseline values of LH. However, the LH responses to the GnRH test differentiated DP from HH ($p<0.0001$). LH responses did not overlap in either group. These results suggest that even without pubertal signs (male BA: 11.94±0.47 y), administration of GnRH with LH measurements, represents an alternative method to multiple nocturnal sampling and would help in differenciating gonadotropin deficiency from delayed puberty.