11

EVALUATION OF THE DYNAMIC RESPONSE OF LH, FSH AND TESTOSTERONE AND FLUXOMETRIC ALTERATIONS IN PUBERAL PATIENTS WITH VARICOCELE. Fideleff H.; Boquete H.; Salsky N.; Ambiel R.; Sobrado P.; Zanchetti F.; Rocco M.; Holland M.

Unidad de Endocrinología-Hospital Alvarez-Fertilidad Masculina-Hospital Rivadavia-Buenos Aires, Argentina.

The objective of the present study was to evaluate the gonadotrophic axis and the response capacity of T in the same patient, in a group of pubertal patients with varicocele, as well as the different fluxometric characteristics they presented. Eighteen cases with varicocele were studied (unilateral 15; bilateral 3), grades 1 to 3 (Dubin-Amelar), Tanner II to IV, with chronological ages between 12 years 5 months and 16 years 1 month ($\bar{x}=14.4$ m). LH-RH test (100 ug EV) was performed in all cases, with dosages of T (ng/ml), LH (mIU/ml) and FSH (mIU/ml) in Basal (B) and LH and FSH at 30', 60' and 90'. 48 hours later HCG (1000 U/day) was applied, during 5 days, with T dosage on the 6th day. A fluxometric study was also carried out by means of testicular Doppler. Results were compared with a pubertal control group (n=6) evaluated with an identical methodology. In the varicocele group we observed (X $\pm$ SD): LH-RH test: LH B:4.90 $\pm$ 2.30, Max. Resp.:34.30 $\pm$ 13.78; FSH B:6.87 $\pm$ 3.93;Max Resp 12.53 $\pm$ 6.61; HCG test: T B:3.86 $\pm$ 1.79; post:11.28 $\pm$ 2.43. The control group presented: LH-RH test (X $\pm$ SD) LH B:4.37 $\pm$ 1.70 Max Resp.:17.43 $\pm$ 7.08;FSH B:4.37 $\pm$ 2.30;Max Resp.:11.02 $\pm$ 7.41; HCG Test:T B:3.53 $\pm$ 1.69;Post 9.58 $\pm$ 1.72. Patients with varicocele showed significant differences in the Max Resp of LH to LH-RH ($p < 0.01$). The fluxometric study was normal in the control group and in the testis without varicoceles. Fluxometric findings revealed: a)intermittent reflux;b)prolonged reflux with "stop";c)permanent reflux. It is concluded:-In the group evaluated, varicocele presented hyperresponses of LH to stimulation with LH-RH and normal T response to stimulation with HCG. This might be linked to minimal steroidal variations not detected with the methodology employed. Fluxometric would be a useful resource to corroborate the diagnosis in face of doubtful cases and for qualifying the dynamics of circulatory alterations.

12

BONE MINERAL DENSITY (BMD) EVALUATION IN GIRLS WITH TURNER SYNDROME (TS). Cassinelli H.R.; Mautalen C.; Bergada C. CDDIE, Hospital de Niños "R. Gutiérrez"; Laboratorio de Osteopatías, Hospital de Clínicas; Centro de Osteopatías Médicas, Buenos Aires.

Argentina

Osteopenia is a common sign observed in TS. The published results about BMD in these patients are controversial. In order to determine whether osteopenia is due to an estrogen deficiency, we evaluated the BMD in 2 groups of patients with TS. The results were compared with those of pre and post-pubertal normal controls. Group 1 (G1):20 patients between 5 and 18 years of age without hormonal therapy, divided in 5 sub-groups, ages 4-6.9;7-9.9;10-12.9;13-15.9;16-18.9 years. Group 2 (G2): 6 patients between 16 and 18 years under hormone therapy (estrogens+progesterone). BMD was measured at the radius shaft (RS) and lumbar spine (LS) (L2-L4) by single and dual photon absorptiometry respectively. The results showed that LS BMD was lower in the TS 10-12.9 years sub-group: (X $\pm$ SD) 0.758 $\pm$ 0.08 gr/cm 2 , compared with the matched age control group: 0.874 $\pm$ 0.09 gr/cm 2 ($p < 0.05$). Furthermore, 2 patients with chromosomal mosaicism and spontaneous complete pubertal development, showed a BMD 15% lower than matched normal controls. In G2 we observed that both RS and LS BMD were significantly decreased $\bar{x}$ RS 0.570 $\pm$ 0.08 vs 0.647 $\pm$ 0.01 gr/cm 2 ($p < 0.01$) and LS 0.903 $\pm$ 0.09 vs 1.185 $\pm$ 0.1 gr/cm 2 ($p < 0.005$). These data show that TS patients have a diminished bone mineral density, that could be due to an estrogen deficiency and to the intrinsic feature of TS genetically determined.

13

EVALUATION OF THE EFFICACY OF GROWTH HORMONE TREATMENT WITH RECOMBINANT HUMAN GROWTH HORMONE (rhGH) IN "SHORT NORMAL" CHILDREN WITHOUT GH DEFICIENCY. Boguszewsky M.S.; de Lacerda Filho L.; Sandrini R.

Depto de Radiatría da Univ. Fed. Paraná-Brazil.

Some children with GH deficiency on tests for growth hormone secretion and with normal laboratory evaluation for short stature, present abnormal growth velocity (GV) or predict adult height (PAH) below the target height (TH); probably they will not attain a final height in accordance with their genetical potential. We studied 14 of those children: 8 boys and 6 girls, ages between 8 and 12.4 years ($\bar{x}=10.0$ y). Eight children were classified as familial short stature and 4 as "idiopathic" short stature: 2 other had abnormal GV. rhGH, 1 U/Kg/week, SC, in daily dosis was given. Six children with pubertal signs (Tanner stages II and III) were treated concomitantly with long acting LH-RH analog (Decapeptyl 3 mg, IM, monthly). The results of the treatment at 6 (14 patients) and at 12 months (5 patients) were:

	Pre-treatment	6 Months(14p)	12 Months(5p)
GV (cm/y)	4.27 $\pm$ 0.98	9.88 $\pm$ 1.79	9.08 $\pm$ 1.40
H-GDS	-2.28 $\pm$ 0.93	-2.05 $\pm$ 1.03	-2.01 $\pm$ 0.82
PAH (Bayley-Pinnau)	153.3 $\pm$ 9.84	156.4 $\pm$ 12.0	155.7 $\pm$ 10.8

No side effects were observed and TSH, T4, T3, glycoemia and urine analysis were normal. In agreement with literature these results suggest that to some "short normal" children the use of rhGH could increase the final height.

14

PREVALENCE OF THYROID DISEASE IN INSULIN-DEPENDENT DIABETIC CHILDREN. Thorella I.; Ugarte F.; García H.; Pérez V.; Pantan E.; Barrera A.; Cortínez A.; Eyzers M.

Unidad de Endocrinología Infantil. Servicio de Radiatría,Hospital Sotero del Río. Chile

Insulin-dependent Diabetes (IDD) is known to be associated with other autoimmune diseases, such as Chronic Lymphocytic Thyroiditis. Different publications reveal the presence of positive anti-thyroid antibodies (APT) in 8-40% of the IDD (with predominance of females) vs. 0.5% in healthy children. In order to know the prevalence of the thyroid disease in our IDD population -which is not reported in the local literature- we studied 50 children with IDD and 26 healthy controls from 3 different hospitals of Santiago, in which T4-TSH was performed by RIA and APT hemagglutination, physical examination and anthropometry. APT over 1:20 was considered (+).

RESULTS: Of the 50 IDD, 21 (42%) were male and 28 (58%) were females with a mean age of 11.2 (3.6-17.7) and with 4.7 years (0.1-12) of IDD evolution. Of them, 12/50 had goiter (66% women), 11/50 (22%) had APT (+) (73% women), 8/50 (16%) had high TSH (62% women) and in 23 (46%) one or more of the foci.

	N	WITH GOITER	TSH 6mu/ml
IDD WITH APT (+)	11	4 (36%)	4 (36%)
IDD WITH APT (-)	39	7 (18%)	5 (12%)

Of the controls, 1/26 (3.8%) had APT (+) and none had high TSH.

CONCLUSION: The suspicion of a high prevalence of the thyroid disease (Goiter and/or high TSH) in our population of IDD children (36%) makes it advisable to continuously search for this pathology, both to characterize the risk of thyroid dysfunction and the need of eventual tests to be taken. On the other hand the high rate of APT (+) in relation to the healthy population, strongly suggests its autoimmune nature.

15

DIAGNOSIS OF AMBIGUOUS GENITALIA AT PREPUBERTAL AGE BY THE CHRONIC HCG TEST. Rigon A.C.; Arnold I.J.P.; Mendonça B.B.; Vasconcelos C.; Lando V.S.; Kcheh M.B.F.; Bloise W.

Unidade de Ginecologia e Intersexo-HC-FMSP-Sao Paulo, Brazil.

We evaluated the contribution of the chronic hCG test (50-100 U/kg/dose, 4/4 days, 4 doses) to the differential diagnosis of ambiguous genitalia in prepubertal age. The prepubertal control group was formed by 9 male individuals with normal external genitalia and unilateral cryptorchidism, whose ages ranged from 2 to 8 years. The study group consisted of 36 children with chronological ages (C.A.) of 1 to 11 years, with ambiguous genitalia, submitted to cytogenetic, radiologic and histologic evaluations. The results of the test with Basal (B) and Peak (P) hCG. 48 or 72 hrs after the last dose, were compared with those of the control group and we considered as altered values those who fell over or under the mean + 2 standard deviations of the control groups.

We observe that 100% of the patients with true hermaphroditism, 5-alpha-reductase and undetermined MH presented a normal increase of testosterone, while 50% of the patients with mixed gonadal dysgenesis and 100% of those with testosterone synthesis error presented a low increase of this hormone. A patient with 17-alpha-hydroxylase deficiency showed high basal levels of progesterone (10 ng/ml) and the patients with 17-beta-HSD synthesis error presented high levels of androstenedione post-hCG.

We conclude that the testicular response to hCG at prepubertal age can be normal in true hermaphroditism and mixed gonadal dysgenesis, and that this test was useful for the identification of the testosterone synthesis errors and deficiency of 5-alpha-reductase.

16

REPRODUCIBILITY OF PHARMACOLOGICAL GH RESERVE TESTS IN CHILDREN OF NORMAL SIZE. Fideleff H.; Boquete H.; Salsky N.; Cabut V.; Pagano S.M.; Holland M.

Unidad de Endocrinología,Hospital Alvarez-Buenos Aires-Argentina.

Considering the controversies on the most adequate methodology for evaluating growth deficits and the variability of physiological studies in 24 hrs, we decided to investigate the reproducibility, in one same individual, of two pharmacological tests routinely applied. In this preliminary study, we evaluated 20 prepubertal normal children (M 18-F2), whose chronological ages ranged from 5 to 12 years 11 months ($\bar{x}$ 9.6 y) and bone ages between 5 years and 12 years 6 months ($\bar{x}$ 8.75 y). All had normal size and growth rate (SDS > -2) and normal weight (BMI > 16). They were separated into two groups: I (n=10) submitted to clonidine test (100 μ m 2 body surface) with basal GH dosages (ng/ml), for 60' and 90'; and II (n=10) submitted to exercise test plus propranolol (0.5 mg/Kg) dosing GH (ng/ml) B and post-exercise.

Tests were repeated at one week intervals and each child was his/her own control. In group I the following was observed: 1st test :B(X $\pm$ SD) 1.74 $\pm$ 1.97; Max. resp (X $\pm$ SD) 14.32 $\pm$ 8.89. 2nd test:B(X $\pm$ SD) 1.8 $\pm$ 2.4;Max.resp.(X $\pm$ SD) 17.61 $\pm$ 10.45. In group II:1st test:B (X $\pm$ SD) 1.27 $\pm$ 0.54;Max. resp. (X $\pm$ SD) 16.09 $\pm$ 9.6; 2nd test:B (X $\pm$ SD) 1.53 $\pm$ 1.27;Max. resp. (X $\pm$ SD) 12.82 $\pm$ 6.03. The Student's test for paired samples (B vs B and Max. Resp. vs Max. resp.) for both groups showed no significant differences. The analysis of individual tests for both groups showed 20% of dissimilar responses when a value of GH $>$ 10 ng/ml was considered as a positive response, and 10% when this value was set at 7 ng/ml. The X2 test showed a pNS for the limit of 10 ng/ml and a p<0.05 for 7 ng/ml.

Conclusions:-At the conditions of this research, the population studied showed no statistically significant differences between each test and its repetition; - Disparity of some individual responses-variable, depending on where the "normality" limit is set- shows the need of establishing this limit more accurately and based upon adequate population studies.