83 E.CACCIARI*, A.CICOGNANI*, P.PIRAZZOLI*, F.BERNARDI* and F.ZAPPULLA*(Intr.by G.Giovannelli). Clinica Pediatrica, Università di Bologna. Italy. Effect of long term GH administration on the pituitary-thyroidal function in idiopathic hypopituitarism.

24 euthyroidal children suffering from idiopathic pituitary dwarfism were studied. The thyroidal situation was evaluated through the assay of T3, T4 and the use of the TRH test. All of the children were treated with HGH in 3 different ways. After no less than 16 months of treatment, and at intervals of 6 months, plasma T3 and T4 levels as well as TSH vasal conditions and after TRH were controlled. None of the children examined during the various checks presented the various indices at a pathological level simultaneously. These data seem to demonstrate that the risk of provoking an alteration in the thyroidal function through GH treatment is very slight.

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LH-RH and HCG tests in cryptorchidism

LH-RH test was evaluated in 87 prepuberal cryptorchids, 67 before therapy and 20 after surgery (6-36 months). The following results were obtained: 1)LH and FSH values similar to normal subjects. 2)no difference between mono- and bilateral cases. 3)no difference between untreated and operated groups. 4)considering the 95% tolerance limits of the normal a group of hyper-responders emerged within the untreated patients. The hypo-responders did not constitute a statistically defined group, although some patients showed peak values for both LH and FSH lower than normal. HCG test (5000 U/m^2)was also evaluated in 31 cryptorchids before therapy. No statistical difference was found vs. controls. However, 27% of the bilateral group demonstrated Testosterone peak values below the normal range.

In conclusion, both tests allow further discrimination among the heterogeneous group of cryptorchids but are still of limited use for a selective therapy in each case.

85 W.RAUH*, K.GOTTESDIENER*, N.SONINO*, D.CHOW*, L.LEVINE* M.NEW, Cornell Univ Med Col, NY, USA. Deoxycorticosterone(DOC) and 18HydroxyDOC(18OHDOC) in Childhood.

Plasma DOC and 18OHDOC and urinary tetrahydroDOC (THDOC), free DOC, and 18OHDOC (per m^2/24h) were measured by radioimmunoassay in children with no endocrinopathies (age 6m-18yr). No hormonal differences were seen between the different age groups. The effects of dietary sodium changes, ACTH(60U/24h), and dexamethasone (2mg/24h), and the findings in 17- and 11-hydroxylase deficiencies are summarized below:

Values: mean±SD	n	PL DOC ng/dl	TH DOC µg/m^2/24h	Free DOC µg/m^2/24h	Free18OHDOC µg/m^2/24h	PL 18OHDOC ng/dl	(n)
Base	52	18±9	18±13	.13±.1	1.2±.7	1-10	(5)
lo salt	13	19±8	19± 5	.22±.2	1.3±.5	-	
hi salt	13	12±5	18±14	.1±.06	1.0±.4	-	
ACTH	14	181±94	195±74	2.4±1.7	43±2.5	50-200	(3)
DEX	5	4±2	3±4	.01±.01	0.3±.2	< 1	(3)
17OH def	1	211	52	2.7	44.0	277	(1)
11OH def	1	1586	395	1.2	0.8	2	(1)

Conclusions: 1)Plasma DOC and urinary THDOC, free DOC, and 18OHDOC remain constant throughout childhood. 2)DOC and 18-OHDOC are regulated mainly by ACTH. 3)Measurement of DOC and 18OHDOC is useful in the diagnosis of 17- and 11-hydroxylase deficiency. 4)Impaired 18-hydroxylation in 11-hydroxylase defect may indicate that 18- and 11-hydroxylation involve the same enzyme in the zona fasciculata.

86 K.W. KASTRUP and B. PEITERSEN[X]. Childrens Hospital Fuglebakken, Copenhagen, Denmark.
Somatomedin and urinary Growth Hormone in diabetic children.

18 boys and 12 girls with diabetes (average duration of diabetes: 4.4 years, average age: 11.1 years with age at diagnosis: 5.9 years) were studied over a 3 year period. SM was measured on 3 or 4 occasions with chick-bioassay. GH was measured with a previously reported RIA method. All children were within normal range for height although the majority was below the 50% percentile. The average retardation in bone age was about 1 year. Average SM activity was for the group as a whole 0.87 ± 0.21 U/ml (normal range 1.0 ± 0.19 U/ml). This was not related to duration of diabetes, regulation or age at diagnosis. Children with long-standing diabetes or with diagnosis at time of puberty had SM values of 1.06 ± 0.28 U/ml and 1.15 ± 0.16 U/ml respectively, most likely related to pubertal growth. Low values were found in a newly diagnosed patient (0.30 U/ml) and in 3 patients with the most pronounced growth retardation (0.48 ± 0.10 U/ml). GH in urine was slightly increased in the group with long standing diabetes due to change in glomerulo-tubular function or increased secretion. If increased levels of GH persist this does not result in increased SM levels reflecting a central role of insulin in SM generation.

87 J.SACK, D.URBACH, R.THEODOR and B.LUNENFELD Institute of Endocrinology. The Chaim Sheba Medical Center, Tel Hashomer, Tel Aviv University, School of Medicine, Israel.
The effect of TRH administration on GH, FSH, LH, PRL and TSH secretion in hypothyroid children.

The effect of TRH given i.V. was studied in 7 girls and 1 boy with primary hypothyroidism aged 4 to 15.6 years. In all children an exaggerated thyrotropin and prolactin response was observed. In 4 children a significant increase in growth hormone concentration occurred within 15 minutes after the TRH administration and in 1 child within 60 minutes. LH concentration did not change. FSH concentration increased only in the 2 youngest girls, whereas a significant decrease of FSH was observed in the 3 oldest girls. These data suggest that in hypothyroid children TRH induced pituitary hormone secretion is affected in a non-specific (changes in GH and FSH) and non-uniform manner indicating a spectrum of hypothalamic-pituitary derangement.

88 M.C. RAUX-EUKIN, M.T. PHAM-HUU-TRUNG, M.F.PROESCHEL; F. GIRARD - INSERM U 142-Hopital TROUSSEAU, Paris, France. Intr. by F. GIRARD
ACTH investigations in familial Addison's disease (A.D.) and Schilder Addison's disease (S.A.D.)

ACTH determinations and cortisol (F) assays were performed on 9 symptom-free children (group 1) whose family histories included 7 cases of well documented A.D. and in 7 additional children with neurological features of leucodystrophy. Biological adrenal insufficiencies (ACTH 300-2,600 pg/ml and failure of increasing of F in response to the injection of short acting Synacthen) were observed in one patient from group I and 3 patients from group 11. Six other patients from group 1 had ACTH values within the normal range (0-90 pg/ml) and normal F responses to the Synacthen stimulation (9-16 µg/100 ml over the basal levels) and were subsequently considered normal. In the remaining 2 patients from group 1 and 4 patients from group 11, ACTH levels were found to range from 52 to 180 pg/ml and F responses were poor (0-6 µg/100 ml). Only one response reached 14 µg/100 ml with a corresponding ACTH level of 140 pg/ml. Those last results are thought to indicate the very early beginning of adrenal insufficiency.