

83

E. CACCIARI*, A. CICOGNANI*, P. PIRAZZOLI*,
F. BERNARDI* and F. ZAPPULLA* (Intr. by G. Giovan-
nelli). Clinica Pediatrica, Università di

Bologna, Italy. Effect of long term GH administra-
tion on the pituitary-thyroidal function in idiopathic
hypopituitarism.

24 euthyroidal children suffering from idiopathic
pituitary dwarfism were studied. The thyroidal situa-
tion 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 basal conditions
and after TRH were controlled. None of the children
examined during the various checks presented the
various indices at a pathological level simultaneous-
ly. These data seem to demonstrate that the risk of
provoking an alteration in the thyroidal function
through GH treatment is very slight.

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 retarda-
tion 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 retarda-
tion (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 in-
creased levels of GH persist this does not result in in-
creased SM levels reflecting a central role of insulin in
SM generation.

84

S. BERNASCONI, G. GIOVANNELLI, G. NORI,
M. ROCCA, M. VANELLI, R. VIRDIS

Dept. of Pediatr., Univ. of Parma - Italy -

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 si-
milar 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 wi-
thin the untreated patients. The hypo-responders did not
constitute a statistically defined group, although some pa-
tients showed peak values for both LH and FSH lower
than normal. HCG test (5000 U/m²) 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.

87

J. SACK, D. URBACH, R. THEODOR and B. LUNENFELD

Institute of Endocrinology. The Chaim Sheba

Medical Center, Tel Hashomer, Tel Aviv Universi-

ty, 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 signi-
ficant increase in growth hormone concentration occur-
red 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 you-
ngest 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.

85

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

Plasma DOC and 18OHDOC and urinary tetrahydroDOC
(THDOC), free DOC, and 18OHDOC (per m²/24h) were measured by
radioimmunoassay in children with no endocrinopathies (age
6m-18yr). No hormonal differences were seen between the dif-
ferent 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:	PL DOC	TH DOC	Free DOC	Free 18OHDOC	PL 18OHDOC
mean±SD	ng/dl	µg/m ² /24h	µg/m ² /24h	µg/m ² /24h	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-hy-
droxylase deficiency. 4) Impaired 18-hydroxylation in 11-hy-
droxylase defect may indicate that 18- and 11-hydroxylation
involve the same enzyme in the zona fasciculata.

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 I) whose family histories
included 7 cases of well documented A.D. and in 7 addition-
al 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 injec-
tion of short acting Synacthen) were observed in one
patient from group I and 3 patients from group II. Six
other patients from group I 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 I and 4 patients from
group II, 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 insuffici-
ency.