

Clinical diagnosis of different growth disorders. The evaluation of Height (H), Weight (W), Bone Age (BA), Cortical Thickness (CT) and Metacarpal Diameter (MD) by the Standard Score Method (SD-Score) provides a useful diagnostic information. The SD-Score is typical in some conditions and suggests the diagnosis for the general paediatrician. We have analysed 4 groups of patients suffering from GH-Deficiency (GH-D, n 23), Primary Hypothyroidism (PH, n 29), Constitutional Growth Delay (CGD, n 49) and Coeliac Disease (CD, n 10, mean age 14.1 months). As normal values for the age we used those of the Growth Center of Zürich (Prader). The diagnosis of the coeliac patients was made according to the ESGAN requisites. GH was stimulated in all cases with 2 tests at least and additionally with N-Retention test in some cases. The HGH treatment confirmed the GH deficiency in all cases. The results are as follows: GH-D: H -4.54, W -2.14, BA -2.85, CT -2.42, MD -2.69; PH: H -3.37, W -1.38, BA -4.38, CT -0.66, MD -1.43; CGD: H -3.11, W -1.89, BA -2.20, CT -1.93, MD -1.35; CD: H -0.60, W -1.76, BA 0.13, CT 0.16, MD -0.01. As illustrated the most influenced parameter in the GH-Deficiency is the Height followed by the Bone Age and Metacarpal Diameter, the same applies in the CGD concerning H, W and BA but to a lesser extent whilst the Bone Age is more affected than Height in PH. In the young coeliac patients only the Weight is retarded. CT and MD are more affected in the GH-Deficiency group.

Different behavior of thyroid hormones and cortisol (F) after oral glucose load (ogl) in lean and obese children.

1. Serum levels of T₄, T₃, rT₃ and F were measured in 15 normal weight (nw) and 18 obese (ob) children aged 9-15 1/2 years after an ogl of 1.75 gm/kg body weight over a period of 3 hours. No differences were found in both groups in the baseline values of T₄ and T₃ but mean levels of rT₃ and F were higher and the ratio of T₃/rT₃ was lower in the ob children. After ogl T₄ levels decreased in both groups but stronger in the nw group. T₃, F and the quotient T₃/rT₃ decreased in the nw but not in the ob group (p < 0.01). rT₃ levels were unchanged in both groups. It is concluded that glucose stimulates T₄/T₃ conversion but not T₄/rT₃ conversion under normal conditions and that T₃ is not metabolized in the same amount during the postprandial period in ob as in nw children. This could be a factor for changed postprandial metabolism in obesity. 2. After feeding a diet of 2500-3300 kJ/die to 9 ob children for a period of 3 weeks T₃ baseline values and values after ogl were diminished and rT₃ values were elevated.

R. FRANCOIS, A. EVRARD, M. ANDRE, C. BAILLY, N. DUTRIEUX et P. BERLIER. Primary amenorrhea of auto-immune origin in an adolescent. Service S bis - Hôpital Ed. Herriot, Faculté A. Carrel, LYON France.

An 18 years old adolescent girl was seen for amenorrhea. Physical examination showed an incomplete puberty (S₃, P₃, A₁) normal height and weight (162.5 cm - 51 kg). Bone age was 14 y. In the plasma: FSH 200 UI, LH 89 UI, Oestradiol: 10 pg and 50 pg/ml. Normal levels of T₂-T₄ - TSH, Prolactin. Coelioscopy: hypoplastic ovaries and uterus, normal Fallopian tubes, caryotype XX, scintigraphy of the thyroid showed in the right lobe 2 cold nodules. Presence of antibodies against the pellucida zona of ovum and against Smooth muscles (1/50e) were found. The pathologic examination of the thyroid nodule showed a picture of adenoma with in some places lesions cells, also we can't take account this pathologic aspect. We want to stress the 2 different kinds of antibodies against ovaries: 1/ those against ovarian cells producing steroids, no specific, associated with dysfunction of ovary and other auto-immune diseases. 2/ the other, more specific and rarely associated with autoimmune disease, against ovum (either anticytoplasmic or zona pellucida).

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Prolactin receptors in the testes of cryptorchid (CRYP) rats.

The effect of unilateral CRYP on prolactin (PRL) binding in the CRYP and the con.lat testes was investigated in the rat. CRYP was rendered surgically at 3 weeks, and 3, 6 and 9 wks later PRL binding was measured in testicular homogenates. Binding decreased at 3 wks from 0.64±0.08 ng/testis/100g rat in control to 0.37±0.06 in CRYP and 0.43±0.07 in con.lat testes. At 6 wks control testes bound 0.87±0.01 ng/tes/100g rat, CRYP 0.12±0.01 and con.lat increased to 0.82±0.01. At 9 wks: control 0.7±0.01, CRYP 0.12±0.01 and con.lat 1.13±0.04. Orchiopexy was performed in another group of rats at 6, 9 and 12 wks of age. The 6 wks orchp. produced a slight improvement in PRL binding by the CRYP testes. The 9 and 12 wks orchp. did not improve the decreased binding. The con.lat testes bound more than did the nonorchp. con.lat. S.c. PRL in PVP, 0.5 mg/kg 3 t.w. for 5 wks induced an increase in PRL binding by control, CRYP and con.lateral testes. To search into the possible mechanism of these changes one group of rats were given 5 mg/kg s.c. testosterone, and another 500 IU/kg HCG 3 t.w. for 5 wks. Testosterone produced a fall in PRL binding by control, CRYP and con.lat testes. HCG did not alter binding by any of these preparations. In conclusion: 1. CRYP in the rat impair PRL binding and produce a con.lat increase. 2. Orchiopexy restores PRL binding only if done before 6 wks of age. 3. The con.lat increase in PRL binding is not mediated by changes in testosterone or gonadotropine levels.

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Iodine-induced hypothyroidism following lymphography. Hypothyroid goiter is rarely observed in children following iodine application. Recently, Koutras et al. (J. Pediat. 83, 83, 1973) reported on a boy developing hypothyroid goiter induced by lymphography. This complication is not mentioned in the new literature on lymphography in children. We observed a 15 year old boy with a previously normal thyroid function who developed hypothyroid goiter following the injection of 8 ml Lipiodol (480 mg iodine/ml). Lymphography was performed because of a soft tissue tumor of the thigh. Within 6 weeks the thyroid enlarged to a goiter grade II and the boy exhibited mild clinical and biochemical symptoms of hypothyroidism (T₄: 2.8 µg/100 ml, FT₄: 0.8 ng/100 ml, T₃: 1.47 ng/ml, TSH: 72 µU/ml). The urinary iodine excretion was extremely elevated (18 µg/day, normal: ~ 40 µg/day). Therapy with thyroxine was started and goiter disappeared. Although iodine excretion was still 2.5 mg/day after 5 months therapy was discontinued and thyroid size and function remained normal. 5 other patients closely followed after lymphography exhibited no inhibition of thyroid function inspite of excessive iodine excretion. Our patient demonstrated a long lasting Wolff-Chaikoff effect with a delayed adaptation to high iodide concentrations. This rare complication should be kept in mind in the care of patients after lymphography.

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GH secretion by cultured rat pituitary cells under radiotherapy. Radiotherapy to the CNS has been shown to impair GH secretion by children. In this study a tissue culture model of dispersed rat anterior pituitary cells was used. The cells were irradiated through a cobalt machine in a single or fractionated doses, in the range of 100-1500 rads. A dose response cell survival curve revealed T-50 at 300 rads 48 hrs. after treatment. Survival of control, non-irradiated cells was 75% at that time. GH secretion into the culture medium on the 7th and 11th day after irradiation showed a dose response increase at 100-500 rads with a decline in secretion under higher doses. Treatment of cells during transport and irradiation with 0.5 nM estradiol produced a significant increase in GH secretion 11 days later. These preliminary data indicate that: 1. Cultured rat anterior pituitary cells are a valid model for studies on irradiation effect on somatotrophs. 2. Radiotherapy enhanced GH secretion at low doses and impair it at high doses. 3. Estradiol treatment of the cultured cells during irradiation may improve GH secretion.