19 D. EVAIN†, M.O. SAVAGE†, E. BINET†, J.L. CHAUSSAIN and J.C. JOB, Hôpital St-Vincent de Paul, Paris, France

Dihydrotestosterone (DHT) receptor in human foreskin cytosol. Studies in normal subjects and male pseudohermaphrodites (MPH)

Defective masculinization may be due to absent binding of androgen to the target organ receptor. Cytosol prepared directly from a fragment of foreskin was incubated with ^{3}H-DHT and analysed by polyacrylamide gel electrophoresis. 10 prepubertal subjects, 5 adults, 4 boys with anterior hypospadias and 3 MPH were studied. Two binding peaks were seen. One was displaced by cyproterone acetate and methyltrienolone but not by estradiol, was modified by high ionic strength and corresponded to the intracellular receptor. The other was the plasma sex binding protein. Receptor binding was similar in newborns, normal boys and anterior hypospadias (≃30 f.moles/mg cell prot.). Higher values were found in adults (≃80 f.moles). No receptor was found in familial MPH Type I, and incomplete testicular feminization but was present in mixed gonadal dysgenesis. This method permits a rapid assessment of androgen receptivity.

20 M.O. SAVAGE†, J.L. CHAUSSAIN, D. EVAIN* and J.C. JOB, Hôpital St-Vincent de Paul, Paris, France

Hormonal studies in male pseudohermaphroditism (MPH)

Plasma testosterone (T), T response to hCG (3 x 1500u), estradiol (E2), basal and post-LHRH (0.1 mg/m2) LH and FSH, and serum TeBG binding capacity were determined in 50 MPH with XY karyotype aged 6 months to 20 years. 4 had mixed gonadal dysgenesis and 2 deficient T biosynthesis. In the remainder, 28 were prepubertal and 16 pubertal. In the prepubertal subjects, basal T (0.21± 0.04 ng/ml) and E2 (15.08±2.32 pg/ml) were elevated ($p < 0.05$) and T response to hCG (2.40±0.31 ng/ml) was diminished ($p < 0.02$). TeBG, basal and post-LHRH LH and FSH were normal. In the pubertal subjects (10 had gynaecomastia) comparison with controls showed elevation of basal T ($p < 0.001$), E2 ($p < 0.05$), TeBG ($p < 0.02$), basal LH ($p < 0.001$) and FSH ($p < 0.05$) and peak FSH ($p < 0.01$). Elevation of T and E2 in prepubertal MPH in addition to pubertal elevation of T, E2, TeBG, LH and FSH may be characteristic of androgen unresponsiveness.

21 Maguelone G. FOREST, Michel DAVID*, Jean BERTRAND INSERM, Unité 34, Hôpital Debrousse, Lyon, France.

Dynamic study of the plasma levels of testosterone (T) following various modes of therapy (oral, local or systemic) and relation to efficiency.

In the need to 1) test end-organ sensitivity in infants with male pseudohermaphrodism, 2) treat micropenis in childhood and 3) treat anorchid adolescents, 4 modes of therapy were used in 30 subjects : T derivatives per os (A) or systemic (D), local application of T solved in cream (B) or alcohol (C). Using A or B, T levels were barely changed, results negative. Treatment C (3-6 mg x 2 daily) led 2 hours later to peak levels of T (810 ng/dl) higher than in adult male. At the 4th-6th hour T levels are more dose than time related. Using treatment D (100 ± 20 mg/m^2 IM) T levels rose over 3000 ng/dl 2 hours later, decrease in 3-4 days, then plateaued for about a week to drop correlatively with time on the 3rd week. At 4th-10th days, levels of T in the male adult range are strongly dose related.

In conclusion A and B might lead to an "illusive" treatment. C induces twice a day high levels of T. Effects are related to the length of treatment. D is a more reproducible therapy : a single injection for purpose 1 and repeated twice a month for purpose 3 ; for both purposes a dose of 120 mg/m^2 appears adequate for positive effects.

22 B M LAURANCE*, A BRITO* and J WILKINSON* (Intr by: W Hamilton)
Queen Elizabeth Hospital for Children, London E 2.

Prognosis of the Prader-Willi Syndrome.

Although the clinical features in childhood are well recognised, little is recorded about later development. 15 patients aged 15-40 years have been reviewed. All have the recognised features of the syndrome in childhood. Salient features in adulthood are an insatiable appetite, an IQ of 50-85, a generally placid temperament but a tendency to tantrums. Extreme obesity (mean weight 87.5 kg; range 50.0 kg to 174.6 kg) is associated with somnolence. Eleven have scoliosis clinical or radiological. All males are hypogonadal. In females menses are uncommon but one started regularly at age 29 years. Six have diabetes or pre-diabetes; general illnesses are rare. In addition 6 patients have died (7 to 26 years) but in the only patient who had a post mortem the brain was considered normal.

23 M.ROGER†, J.L. CHAUSSAIN, P. CANLORBE and J.C. JOB Fondation de Recherche en Hormonologie et Hôpital Saint-Vincent-de-Paul, Paris, France.

Prolactin (PRL) response to thyroliberin (TRH) in abnormalities of pubertal development.

The occurence of abnormal PRL secretion in abnormal pubertal development was investigated by means of TRH stimulation tests (200 µg IV/m2). Among 5 boys aged 1 to 10 with precocious puberty (PP) 3 cases of idiopathic PP had PRL responses within the normal range for prepubertal children (19-52 ng PRL F3/ml) and 2 with a cerebral tumor had high responses. In 14 girls with untreated PP, the response level (m± sem) was 40.7 ± 4.2, significantly higher than in normal children (30.9 ± 1.5). An additionnal girl with neurofibromatosis had a very high response. In 14 boys aged 14 to 17 with lack of puberty the base levels were normal ; in only 1 case was the response high. Among 13 girls aged 13 to 18 with lack of sexual (especially mammary) development the response level was slightly elevated in 3 cases (including a tumor of the 3 d. ventricle) and very highly elevated in 2 cases in whom a PRL secreting tumor was subsequently removed. Thus a PRL secreting tumor may be responsible of retarded puberty with no mammary development, and PRL measurements can provide indirect evidences of tumoral processes in pubertal abnormalities.

24 K.C. COPELAND,* L. PAUNIER,* and P.C. SIZONENKO. Endocrine Unit, Dept. of Pediatrics and Genetics, University of Geneva, Geneva, Switzerland.

Adrenal androgen secretions in patients with hypogonadotropic hypogonadism and idiopathic delayed puberty.

The secretion of adrenal androgens (dehydroepiandrosterone and dehydroepiandrosterone-sulfate) and growth patterns of 4 boys with a diagnosis of hypogonadotropic hypogonadism (HH) were analyzed and compared with those of 8 boys with a diagnosis of idiopathic delayed puberty (IDP). The boys with HH presented at an older age with delayed puberty and normal heights, growth patterns having been normal except for the absence of the pubertal growth spurts. Adrenal androgens were normal for chronologic age and high for bone age. The boys with IDP presented at a younger age, usually with marked growth retardation. Adrenal androgens were low relative to the chronologic age but normal relative to the bone age. Low adrenal androgen secretions secondary to a delayed maturation of the adrenal cortex is postulated to account for the delayed skeletal maturation and short stature associated with IDP. A measurement of adrenal androgens is of significant value in the diagnostic evaluation of the patient with retarded puberty.