Patients with Turner's syndrome enter adult life with an overall deficiency of compact bone. Further studies are needed to assess the long-term significance of this and the possible influence on it of oestrogen therapy.

P. H. CHAPMAN. Royal Hospital for Sick Children, Glasgow. 'Prognostic significance of androgen excretion as measured by testicular function test'. In this investigation Leydig cell function was assessed by measuring plasma testosterone, urinary testosterone, and urinary androgens before and during stimulation with human chorionic gonadotrophin (6000 IU/day intramuscularly) for 3 days. From experience it was found that several of the measured androgens correlate well with the phenotype of the patient, and may have prognostic value. Representative cases will be shown to demonstrate these points, which may be stated biochemically thus: 5 α -Androstan-3 α , 17 β -diol (5 α -A-diol) is a hepatic metabolite of both testosterone and 5 α -dihydrotestosterone and at puberty the urinary excretion of 5 α -A-diol increases rapidly, the rise being related to an increased utilization of testosterone by testosterone-dependent tissues. Thus, a good *androgenic status* means adequate testosterone production in association with a high urinary excretion of 5 α -A-diol.

5 β -Androstan-3 α , 17 β -diol (5 β -A-diol) is associated with the development of the external genitalia. Good *genital status* is indicated by a high urinary excretion of 5 β -A-diol. When 5 β -A-diol is high, even in association with small external genitalia, the indication is that the external genitalia will develop provided there is an adequate supply of testosterone. 5 β -A-diol then may have prognostic value.

5 α -Androstan-3 β ol, 17-one (epiandrosterone) is a 17-oxosteroid metabolite of dehydroepiandrosterone (DHA) having retained the 3 β -hydroxyl group. If the general tissue metabolism cannot utilize testosterone, as an alternative DHA becomes the principal anabolic hormone and the urinary excretion of epiandrosterone then increases. When testosterone is utilized as the anabolic hormone urinary epiandrosterone is low. Thus, a low urinary excretion of epiandrosterone indicates good *somatic status*.

D. B. GRANT. The Hospital for Sick Children, Great Ormond Street, London. 'Two cases of micropenis with rudimentary testes'. Two patients, aged 3 months and 1 month, with the syndrome of rudimentary testes and micropenis (Bergada *et al.*, 1962) were presented. In both patients an extreme degree of micropenis was associated with an empty, hypoplastic scrotum. Both showed a normal male karyotype (XY).

HCG stimulation (5000 units $\times$ 3 days) was carried out in one patient. There was no significant change in either plasma testosterone or urinary steroids after HCG. At laparotomy testes could not be identified in either patient. In view of the extreme micropenis it was decided to rear both patients as girls and vulvoplasty with division of the scrotum was carried out by Mr. D. I. Williams.

REFERENCE

Bergada, C., Cleveland, W. W., Jones, H. W., and Wilkins, L. (1962). Variants of embryonic testicular dysgenesis: bilateral anorchia and the syndrome of rudimentary testes. *Acta Endocrinologica*, 40, 521.

G. M. KOMROWER. Royal Manchester Children's Hospital. 'Precocious puberty in association with pineal seminoma'. Case history of sexual precocity in a male child of 9 years 5 months. Duration of symptoms 4 months. Features: great increase of height and muscle bulk—deepened voice—pubic and facial hair—considerable penile enlargement without corresponding testicular growth. No behavioural or neurological symptoms or signs.

Initial investigations revealed a significant increase of urinary 17-ketosteroids, testosterone, and gonadotrophins; a marked rise of plasma testosterone and alkaline phosphatase. Initial bone age was 9½ years but within 2½ months this advanced to 13 years with a growth spurt of 5.6 cm. X-ray of skull showed calcification in the pineal region and detailed studies showed a clearly defined and isolated pineal tumour. Suprarenal and thyroid function was normal but high levels of human growth hormone were determined. Cyproterone acetate therapy was started but after one month the boy complained of headache, and on iophendylate ventriculography there was evidence of encroachment on the aqueduct of Sylvius and the tumour was removed—apparently intact. It was a pinealoma of the malignant seminoma type. After the operation the boy developed a homonymous hemianopia which subsequently has improved.

Measurements of luteinizing hormone and testosterone have been made before and during cyproterone therapy and also after the removal of the tumour. Further studies were initiated to determine whether the pinealoma was acting as an autonomous tumour or whether its effect was produced by hypothalamic disturbance. The boy has had a course of deep x-ray treatment.

D. C. L. SAVAGE. Department of Child Health, Dundee. 'Excretion of individual adrenocortical steroids in obese children'. (To be published.)

P. H. W. RAYNER and J. M. COURT. Institute of Child Health, Birmingham. 'Effect of dietary restriction and anorectic drugs on linear growth in childhood obesity'. Simple obesity in childhood is associated with advancement of linear growth. The effect of a reduced calorie intake and anorectic drugs on the growth of obese children has received less attention.

The growth of 26 obese children (17 girls aged 3 years 9 months to 10 years 3 months, and 9 boys aged 3 years 10 months to 12 years 1 month) has been studied over periods of at least one complete year. Growth velocity, expressed as a percentage of the 50th centile velocity for age, has been analysed in terms of sex, weight change, skinfold thickness change, and therapeutic regimen. Three therapeutic regimens were assessed: diet (1000 cal) alone, or diet plus amphetamine derivatives (chlorphentermine, diethyl propion), or diet plus fenfluramine.