	A. P.	J. P.
Serum potassium ..	22·2 mg.%	21·4 mg.%
Serum phosphate ..	3·37 mg.%	3·71 mg.%
Serum phosphatase ..	17·4 units	15·3 units
Serum calcium ..	10·0 mg.%	9·9 mg.%
Serum cholesterol ..	195 mg.%	240 mg.%
Serum protein ..	6·92 (A. 4·99, G. 1·93)	6·10 (A. 4·86, G. 1·24)
Serum chlorides ..	600 mg.%	588 mg.%
Serum sodium ..	344 mg.%	344 mg.%
Blood urea	38 mg.%	44 mg.%
Urea clearance ..	83% of normal	78% of normal
Thymol turbidity ..	4 units	4 units
Non-protein nitrogen	41 mg.%	50 mg.%

Urine:

Urinary amino-acid nitrogen	Normal 44 mg./100 c.c. (both within normal limits)	Normal 94 mg./100 c.c.
Urinary 17-ketosteroids (by Dr. Patterson)	2·0 mg./24 hr. (both low values)	1·1 mg./24 hr.

Sugar tolerance (1¼ grammes/kilo):		Urine		Urine
Fasting	70 mg.%		84 mg.%	
½ hour	200 mg.%	Nil	204 mg.%	Nil
1 hour	195 mg.%		191 mg.%	
1½ hours	79 mg.%	Sugar	66 mg.%	Sugar
2 hours	43 mg.%	plus	52 mg.%	plus
B.M.R. (Dr. E. C. Pillman-Williams)	−17·5% (calc. on weight *or* on age)		−47·5% (unsatisfactory test)	

X-rays: Skull shows intracranial calcification, probably choroid plexus. Long bones show slight generalized osteoporosis.

Mental state (Miss M. M. Dingwall).—Tests used: Merrill Palmer, Revised Stanford Binet Form L, Gesell's norms. A. P.: Chron. age 14 years 10 months. Mental age 2 years 4 months. J. P.: Chron. age 9 years 9 months. Mental age 2 years 5 months.

Although both these children are idiot one establishes a very good contact with them, and their reactions are much quicker than one would expect from this level of intelligence.

The lively emotions and the fact that the hand movements are almost adult are among the more interesting psychological observations.

[It is hoped to publish a fuller account of these two patients in the *Arch. Dis. Childh.*]

Dr. Leo Rau agreed that these two brothers were examples of a very rare condition. He had never seen anything similar in children. The main signs were the low B.M.R.; the splenomegaly; the marked hypoglycæmia; the retinal abiotrophy; and the mental changes. A similar case was shown by him at the Clinical Section on March 14, 1947 (*Proc. R. Soc. Med.*, **40**, 468). This patient had in addition to the changes mentioned inner-ear deafness, and an abnormally slow water clearance. The treatment in this case was thyroid by mouth, which led to a complete disappearance of symptoms and signs.

Three Cases of Precocious Puberty.—N. F. Elliott Burrows, B.M. (for W. G. Wyllie, M.D.).

I.—S. T., aged 7½ years.

History.—Normal baby till 1 month of age when mother noticed a white discharge from her vagina. This continued periodically. At 2 months of age she had pubic hair and her breasts were developed but she did not have any teeth until 11 months of age.

Although at 6 months a pinkish-red stain was noticed on her napkins on two occasions she did not start menstruating properly until 1 year and 7 months since when her periods have been fairly regular.

Family history.—Normal. One other sib. alive and well.

Investigations.—17-ketosteroids 2·8 mg. per day. X-ray of skull normal. Wrist X-ray showed bone age of about 12 years.

On laparotomy an enlarged uterus similar to that of a girl of 16 was found. Her left ovary contained a corpus luteum and a maturing follicle. Ventriculography showed normal filling of the ventricles. She is now 7½ years of age and becoming increasingly difficult to manage.

II.—Y. G., aged 6 years.

History.—Breasts started to enlarge soon after birth and her external genitalia developed rapidly with her age but her first menstrual period was at 4 years of age.

Family history.—Normal.

Investigations.—17-ketosteroids varied between 2·2 and 2·4 mg. per day. Ventriculography showed normal ventricular system. X-ray of skull normal. X-ray of wrists showed bone age of about 13 years. W.R. positive.

In November 1945 laparotomy was performed and a uterus corresponding to that of a girl of 16 and large cystic ovaries were found; $\frac{7}{8}$ of each ovary was removed. The left suprarenal gland seemed larger than normal. She is now very well developed with adult breasts and some axillary and pubic hair, and is menstruating regularly. Her W.R. remains positive in spite of large doses of penicillin and arsenic.

III.—D. A., aged $2\frac{3}{4}$ years.

History.—At the age of 3 months her "mother" noticed a white discharge from her vagina. At 6 months hair was noticed in her pubic region. At 8 months she seemed to be getting over-weight and it was noticed that her breasts were enlarging.

Family history.—Adopted child; nothing known of parents.

Investigations.—17-ketosteroids 0·5 mg. per day. Laparotomy revealed a large uterus similar to that of a girl of 16 years and also enlarged ovaries—the left being firm and the right obviously cystic. X-ray skull normal, X-ray wrists corresponds to bone age of 12 years.

The child has continued to develop and since the age of a year and a half has had regular menstrual periods.

Dr. David Nabarro said that when the child Y. G. was found at the Great Ormond Street Hospital to have a positive Wassermann reaction, he was asked to see her and to give his opinion as to the advisability of giving the child anti-syphilitic treatment.

Although he had not himself previously seen precocious puberty associated with congenital syphilis, he had since been informed by Dr. S. L. Simpson that a positive serum reaction might be related to the condition, but that the majority of such cases did not have a positive W.R.

Dr. Nabarro thought it justifiable and worth while to try the effect of anti-specific treatment in this case and with this end in view the child was transferred to the Leatherhead Emergency Hospital in April 1946. She received 1·64 mega-units of penicillin in six days and a course of sulpharsphenamine was begun during the time the penicillin was being given. She was not benefited clinically, but the Wassermann and Kahn tests and the Price's Precipitation Reaction (P.P.R.) all improved after the first course of treatment. Owing to difficulties inherent in nursing and treating the patient, details of the subsequent treatment appeared not to be available.

Despite the fact that the serum reactions were positive on several occasions, from which it might reasonably be inferred that the child had syphilis, there was practically no confirmation of this. The mother had on several occasions given a negative blood test, the child is illegitimate, the father—with unknown W.R.—has returned to his own country and there are no sibs. The patient had never shown any sign or symptom of syphilis, congenital or acquired, except the positive blood reaction and the endocrine disturbance which conceivably might have a syphilitic ætiology. The six-year-old molars and central incisor teeth looked quite normal, though this was no evidence against congenital syphilis. Dr. Nabarro would suggest resuming treatment with arsenobenzenes and bismuth until blood reactions became permanently negative, though any further improvement in the patient's condition, should such occur, might be attributable to the continued effect of the operation on the ovaries and/or to the anti-syphilitic treatment suggested.

POSTSCRIPT (5.6.48).—Report on repeat blood test (Dr. Orpwood Price): "Routine Wassermann reaction positive. P.P.R. 5 units. Routine Kahn reaction negative. Compared with the results obtained two years ago she seems to be improving. Could you let me know if this is substantiated clinically?"

I am told by the Rampton doctor that she has improved very considerably, but as she has had about $\frac{7}{8}$ of her ovarian tissue removed, in addition to her anti-syphilitic treatment, it is difficult—if not impossible—to assess the value of either line of treatment separately. (D. N.)

Dr. Raymond Greene remarked that he was pleased to see again after an interval of some years, the patient, S. T. He had investigated this case, at the request of Dr. Bruce Williamson, when she was a patient at the Prince of Wales Hospital at Tottenham and he had come to the conclusion that her disorder was constitutional.

He drew attention to Novak's work on the subject of precocious puberty (*Amer. J. Obstet. Gynec.*, **47**, 20, 1944). Novak had recorded 9 patients in whom menstruation had begun between the ages of 15 months and $7\frac{1}{2}$ years in whom no evidence of abnormal endocrine gland or of a cerebral tumour had been found. He pointed out that in constitutional cases, as opposed to those occurring as a result of granulosa-cell tumours, normal ovulation occurred.

Precocious puberty due to other causes than constitutional abnormality was excessively rare.

The Chairman (Mr. L. R. Broster) said that both sex precocity and diabetes insipidus were clinical entities following encephalitis lethargica which affect the region of the hypothalamus. Sex precocity of adrenal origin can be differentiated from that of hypothalamic origin by means of the 17-ketosteroid test. It is raised in the former and normal in the latter.