Case 1: H.I.O. Antofagasta; 22 Years; Single

A young man came to consult me for glandular swelling of the neck, which had been present for less than seven years. The glands were hard, not attached to the skin; evening temperatures, obstinate itching, night perspiration, pain in the bones. Early symptoms of mediastinal compression. Neutrophil leucocytosis. Biopsy, Hodgkin's disease.

Subcutaneous injections given weekly: 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.33 ml.

Results.—With the first injection loss of weight and increase of evening temperature up to 38.5° C. were observed. After the fourth injection, disappearance of temperatures, but the other symptoms persisted. After the seventh injection, disappearance of pain in the bones, perspiration, and itching. After the eleventh injection the number of leucocytes was normal, but the neutrophilia remained high. The laboratory made a note that the pathological alterations of the neutrophils had disappeared. After the twelfth injection the symptoms of mediastinal compression, which had already begun to diminish after a few previous injections, disappeared; but with the thirteenth injection a temperature of 40° C. appeared, and lasted three days. As the symptoms had fully regressed, except for the neutrophilia, and as we did not possess sufficient experience about prolonging the treatment, we agreed to suspend it and keep the patient under observation.

Comment.—We would be profoundly grateful to Professor Gordon if he would give us advice about the future of our patient. This surprising result has caused great astonishment at the medical clinic of Professor Pradotagla, who offered a vote of thanks to Professor Gordon at a conference given by the undersigned.

(Signed) Dr. R. ALLENDES, M.

Comments by M. H. G.—Dr. Allendes misunderstood my directions, which were *not* to raise the dose if a reaction occurred. He increased it each time, and after the fourth injection, still more after the seventh, the case improved. ? Desensitization here to E.B.s the reason.

Case 2: Signor G.K. Santiago; 28 Years

A patient who had suffered from Hodgkin's disease in the last six years. He had more or less prolonged intervals of freedom as the result of three series of radiotherapy.

He consulted the undersigned in October, 1936, who advised a new series of radiotherapy combined with blood transfusion, extracts of liver, and iron for the severe hypochromic anaemia (red cells 1,700,000). Did not obtain success. Advised arsenious acid and symptomatic therapy. Regression of nearly all the objective symptoms was observed, but the unfortunate anaemia, the alterations in the haemoglobin (neutrophil leucocytosis), and the consistent size of the abdominal glands persisted. In April of this year, as the result of a sharp wound with haemorrhage, the anaemia increased—R.B.C. 850,000. At the same time a syndrome of mediastinal compression appeared through increase of the glands in the region, with stubborn diarrhoea, itching, and obstinate perspiration. Fever 39.5° C.

The family refused a thorough course of treatment, but with the repeated suffering of the patient the physician recommended symptomatic therapy for mitigation, and they accepted the use of the Gordon vaccine but rejected other very important measures, such as blood transfusion.

The undersigned recognized that after the seventh injection used in the same dosage as in Case 1 above, the injections being given for five days, symptoms of relief such as diminution of the mediastinal compression, the neutrophilia, the diarrhoea, the itching, and the perspiration had resulted.

Unfortunately, the anaemia, each time more pronounced, caused a series of syncopal attacks with peripheral circulatory failure which terminated with the life of the patient.

(Signed) D. R. ALLENDES, M.

In August, 1937, the Chilean legation applied for more sensitized E.B. vaccine, to be tried under the care of the Minister of Health in Chile, Dr. Edward Cruz Coke, so I sent some to go out in the official bag of the Embassy. Nothing came of it. They wanted more, but I refused because no reports were made.

As I have now retired no further attempts have been made to prepare vaccine of the sensitized E.B.s of Hodgkin's disease. It is, however, interesting to note that, by employing E. W. Goodpasture's method of cultivating viruses in the embryonated egg, confirmatory evidence of the presence of a virus in Hodgkin's disease has been obtained by W. L. Bostick (1948), of the pathological department of the Uni-

versity of California, San Francisco, and also by H. Lundbäck and S. Löfgren (1950), of the State Bacteriological Department and Virus Laboratory at the Caroline Institute, Stockholm.

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PUBERTAS PRAECOX CAUSED BY INTERSTITIAL-CELL TUMOUR OF TESTICLE

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It has been proved by many authors that the interstitial cells of the testis are the part of the testicle which secretes testosterone. In cases of precocious puberty caused by interstitial-cell tumours of the testis large amounts of the hormone have been found. Tumours consisting of such cells have been characterized as false tumours by Altmann and by Oberndorfer (1926), but others (Kaufmann, Chevassu, Durk) have recognized in them the characters of a true tumour. Masson (1943) regarded them as true tumours, and said that they were usually malignant and gave rise to secondary deposits after a long period. He thought they were reported as benign because the patients had not been observed for a long enough time after operation.

Cases of precocious puberty of such aetiology have been described by Rowlands and Nicholson (1929), Stewart, Bell, and Roehlke (1936), Sutherland (1948), Sandrom (1948), Werner *et al.* (1942), and, in Greece, by Demetriadis *et al.* (1948). The removed testicle of this last case was examined by us and proved to be of interstitial-cell origin. Sacchi (1895) described a similar case, but did not give a clear pathological report.

The case described by Budd (1937) is unique. An interstitial-cell tumour of the testicle developed in a man and gave rise to impotency and gynecomastia, which subsided after removal of the tumour, found to contain large amounts of oestrogens.

Case History

We have had the chance to study a case of interstitial-cell tumour of the testicle causing precocious puberty. The patient, a 6½-year-old boy without any important familial

FIG. 1. — The patient before operation.

or hereditary history, developed normally until the end of his fourth year, when his voice began to become deeper and his penis increased in size.

His physician found a smooth swelling in his left testicle, thought to be of tuberculous origin. The patient was growing rapidly and hair gradually appeared in his pubic area and lower limbs.

We examined the boy two and a half years later; he was then 6½ years old.

His physique was that of a 15-year-old boy; he weighed 42 kg. and was 140 cm. tall. His upper limbs were in normal proportion to his trunk, while the lower limbs were shorter and robust. Hair growth was abundant in the pubic area, thighs, and legs. His face had a velvety appearance due to fine hair. No axillary hair was present. The cardiovascular and respiratory systems were normal. His teeth were normal for his true age. No abnormalities were found in the nervous system. The fundi of the eyes were normal. His psychological state and behaviour were those of his true age. The penis was of adult proportions (see Fig. 1). The left testicle showed a hard swelling the size of a small apple, with a round smooth surface. The epididymis was normal. The right testicle was normal, the size of a walnut. No erections, ejaculations, or masturbation were reported by his parents.

Laboratory Examinations.—X-ray examination showed a normal sella turcica. Nothing abnormal was found in the kidney regions. X-ray films of the hands showed the bone formation of a 15-year-old person. The basal metabolic rate was -20%. Blood examinations gave: red cells, 4,160,000 per c.mm.; white cells, 9,800 per c.mm. (polymorph neutrophils 62%, proleucocytes 3%, polymorph eosinophils 1%, lymphocytes 32%, monocytes 2%); thrombocytes, 250,000 per c.mm.; haemoglobin, 80%; blood sugar, 0.106%; blood calcium 13 mg. per 100 ml.; red-cell Cl, 0.199%; red-cell NaCl, 0.315%; plasma Cl, 0.333%; plasma NaCl, 0.549%; blood cholesterol, 0.164%. Wassermann reaction, negative; Mantoux reaction, negative; glucose-tolerance test showed a normal curve; urine, normal.

FIG. 2.—The compact and in some places strap-like disposition of the neoplastic cells is shown. The neoplastic tissue is divided into islet-like gatherings by bands of connective tissue containing blood vessels. ($\times 120$.)

FIG. 3.—The neoplastic cells are closely packed, and have relatively abundant protoplasm with vacuoles and clear limits, giving a mosaic-like picture. No nuclear divisions can be seen. ($\times 540$.)

The only positive finding, then, was the tumour of the left testicle, and the probable diagnosis was that of an interstitial-cell tumour.

In July, 1947, his left testicle was removed. The pathological examination of the tumour showed the following. The removed testicle was $4 \times 4 \times 3$ cm. in size with a normal epididymis. In section a diffuse growth of a whitish-grey neoplastic tissue was seen. The normal tissues were pushed to the surface. Microscopically, large neoplastic cells were seen, having in the majority a polyhedral shape, sometimes ellipsoidal, with abundant eosinophil protoplasm. The nuclei were round, with a fine net of chromatin, and had a nucleolus. These cells were closely packed, and formed masses, between which there was very little connective tissue. The new growth was divided by bands of connective tissue containing blood vessels, in different-sized areas. In some places the nuclei of the neoplastic cells were different in size and coloration, but nuclear divisions were rare. Generally no tense proliferation was found. In some places cloudy degeneration of the protoplasm was seen, and many small droplets of fats and lipoids were present in the protoplasm of the neoplastic cells (Figs. 2 and 3).

Professor Catsaras concluded that it was a myeloid neoplasm, arising obviously from the interstitial cells of the testicle, with no characters of malignancy.

The patient was examined nine months after the operation and found healthy. Somatic growth continued, although not as rapidly. Weight, 43 kg.; height, 146 cm. The hair growth in the thighs and legs appears to be diminished, but remained the same in the pubic area. His voice was still deep. Behaviour was normal.

Two and a half years after the operation the weight was 55 kg. and height 148 cm. Hair was scanty in the lower limbs. He had a childish expression and his voice was now much less deep. The size of the penis had diminished. There was no evidence of metastases.

Summary

A case of interstitial-cell tumour of testis causing precocious puberty is described.

No evidence of metastases was found 2½ years after operation.

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Anaesthetists and surgeons from nine Western European countries recently took part in a two weeks' course on anaesthesia in London. The course was arranged jointly by the British Council and the Faculty of Anaesthetists of the Royal College of Surgeons of England. Members of the course visited several of the London teaching hospitals to watch practical demonstrations of modern methods of anaesthetic technique in all fields of surgery, and at the end of each day they were able to discuss current problems with the demonstrators. Countries represented at the course included Austria, Finland, France, Germany, Italy, the Netherlands, Norway, Sweden, and Switzerland.