High and prolonged steroid excretion in association with cancer has not previously been described, and it has been shown that their association is unlikely to have been coincidental. While the findings suggested that this was due to stimulation of the adrenals by pituitary corticotrophin, the present phenomenon differed from that seen following trauma or other stress in the degree and duration of the increased 17-ketogenic steroid and 17-ketosteroid excretion.

Summary

Marked hyperexcretion of adrenocortical hormones is reported in a patient with bronchial carcinoma and diabetes mellitus.

In spite of severe steroid diabetes only few of the features of Cushing's syndrome were observed.

The possibility that marked adrenocortical hyperactivity was due to stimulation of the pituitary in response to the presence of the bronchial carcinoma is discussed.

The present phenomenon differs from that observed following trauma and other forms of stress.

My thanks are due to Dr. H. P. Brody for permission and encouragement to study the above patient, who was under his care; to Mr. M. J. Levell for the steroid estimations; to Dr. J. Dodge and D. Evans for the post-mortem and histological reports; to Mr. B. Dhillon for the bronchoscopy report; and to Professor R. P. Jepson for his kind help in the preparation of the manuscript.

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A memorandum entitled "In-patient Accommodation for Child and Adolescent Psychiatric Patients" has been prepared by the Child Psychiatry Section of the Royal Medico-Psychological Association. The recommendations are as follows: (1) That in-patient units for child psychiatric patients should be established in association with local child psychiatric or child guidance clinics. These units should be linked with mental hospitals, children's hospitals, or general hospitals. It is estimated that not less than 20 beds can serve a total population of 500,000. In addition to these local units, one unit of not less than 25 beds per regional hospital board area is necessary for a residual group of patients needing prolonged care. (2) That units for adolescent patients should be established in association with adult units. It is estimated that not less than 20 beds can serve a total population of 500,000. (3) That there should be increased provision of long-term substitute home care for disturbed children in the form of hostels or special boarding schools. (4) That there should be better provision of after-care hostels for adolescent patients.

TOXOPLASMOSIS SIMULATING GLANDULAR FEVER IN THE ADULT

BY

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Toxoplasmosis, or infection with the protozoon *Toxoplasma gondii*, may be congenital or acquired. The human disease was first recognized in infants, but later acquired acute infection in adults was also described. The source of infection is not known, but may be from animals, as the disease is common in both wild and domestic animals.

Three cases are described in which a diagnosis of glandular fever was made initially. Subsequently, the Paul-Bunnell test was found to be negative and serological tests for toxoplasmosis were positive. Poliomyelitis was considered as a possible diagnosis in Case 2, and Hodgkin's disease in Case 3.

Case 1

On December 14, 1955, a 16-year-old Irish spot welder, who had been in England for three weeks, was admitted to hospital with a history of sore throat for three weeks, and cough for five days. He had been sweating profusely and had had pain in the left wrist, knee, and ankle, and in the left side of the chest. He complained of frontal headache and had noticed a rash on his abdomen on the day of admission. He had a temperature of 102° F. (38.9° C.). The only abnormal signs were reddening of the throat, enlargement of the submental and anterior cervical glands and of the spleen, and a petechial rash on the abdomen.

The initial blood count suggested glandular fever. The white cells numbered 6,200 per c.mm., with 50% polymorphonuclears, 0.5% eosinophils, 21.5% lymphocytes, and 28% monocytes, many of which were atypical. The percentage of monocytes was reduced in subsequent counts. The Paul-Bunnell test was negative.

On January 14, 1956, the toxoplasmosis dye test showed a prozone to 1:64 and was then positive to 1:1024. The C.F.T. was positive in a titre of 1:8. A second specimen of blood examined three months later, on April 4, showed a dye test titre of 1:128 and a C.F.T. of 1:16. He was discharged from hospital symptom-free after three weeks and has remained well.

Case 2

On December 10, 1955, a 31-year-old housewife who was 16 weeks pregnant was admitted ten days after the onset of fever and backache. A week before admission she had had a sore throat and a rash, with blisters on her hands and feet and red blotches on her face, which faded after a few days. For five days her trunk and limbs felt sore, and her neck had been stiff for four days, during which she had vomited frequently.

On examination there was no rash, the cervical glands were enlarged, and neck stiffness was minimal. An apical systolic murmur was heard. The uterus was enlarged to a size consistent with a 16-weeks pregnancy. Her temperature was 100.4° F. (38° C.) and fell to normal after 24 hours. The haemoglobin was 84%, the E.S.R. 62 mm. in one hour (Westergren), and the total white-cell count 7,909, with 66% polymorphonuclears, 1.5% basophils, 22% lymphocytes, 10% monocytes, and 0.5% Türk cells. The Paul-Bunnell test was negative.

She was discharged home after a week, but when seen three weeks later she was tired and had pain in the back and legs. She had had a further attack of sore throat and the cervical glands were still enlarged. Lassitude persisted for a further four weeks.

On March 24, 1956, the toxoplasmosis dye test was positive 1:256 and the C.F.T. 1:32. Repeat examination on April 3 gave positive results of 1:64 for the dye test and 1:32 for the C.F.T. Tests on her husband were negative.

Case 3

On March 16, 1956, a 36-year-old woman who worked as an assembler was seen in the out-patient department. She had noticed enlarged axillary glands since November, 1955, but had otherwise felt well. She was found to have enlarged axillary lymph nodes and a palpable spleen. Later, cervical and inguinal glands were also felt.

The blood count was normal. The E.S.R. in one hour was 9 mm. (Westergren) and the Paul-Bunnell test was negative. A lymph-node biopsy was performed and the histological report (Dr. D. Brewer) was: "An enlarged lymph node measuring 1.6 and 2.5 cm. It shows marked follicular lymphoid hyperplasia. It appears to be a reactive process. A prolonged search revealed no organisms."

On April 13 the toxoplasmosis dye test was positive to a titre of 1:64 and the C.F.T. to 1:8. Tests on this patient's daughter were negative.

Discussion

No history of contact with sick animals was obtained from any of these patients, though a cat was kept in two of the households. No specific treatment was given, as in each case the diagnosis was not made until the acute stage of the disease was over. *Toxoplasma gondii* is sensitive to sulphonamides, particularly sulphadiazine and sulphadimidine, and to pyrimethamine ("daraprim"), which appears to act synergistically with sulphonamides (Eyles, 1953).

There have now been numerous case reports of congenital toxoplasmosis and also of an increasing number of cases in adults. The three cases described here varied in acuteness and severity: the first two patients were ill, whereas the third complained only of lymph-node enlargement. None of these patients completely fulfils the serological requirements for diagnosis (Sabin *et al.*, 1952). However, the high titres in Cases 1 and 2, with the characteristic clinical picture, make the diagnosis of acute toxoplasmosis almost certain. In Case 3 the serological tests were done so long after the onset of lymphadenopathy that high values would not be expected.

The occurrence of the acute illness during the fourth month of pregnancy in Case 2 made foetal infection likely, but on May 11, 1956, she was delivered of a normal baby, which has since shown no signs of congenital toxoplasmosis. After birth the dye-test titre was 1:8 in the mother and 1:16 in the baby, and the C.F.T. in each was anti-complementary. On November 11 the dye test was positive to a titre of 1:8 in the mother and 1:4 in the baby and the C.F.T. was negative for each. These results probably indicate passive transference of immunity from mother to child and exclude active disease in the child.

Gard and Magnusson (1951) reported a case of acute illness in the first month of pregnancy associated with a dye-test titre rising to 1:4000. The child was normal, and the dye-test titre at 3 months was lower than at birth, indicating a passive immunity. Stanton and Pinkerton (1953) described the case of a woman who had cervical-gland enlargement in early pregnancy. Biopsy was performed and two pseudocysts were seen on histological examination of the material. The dye test for toxoplasmosis was positive in a titre of 1:1024 14 weeks after the onset of cervical-gland enlargement, falling to 1:64 after 43 weeks. Animal inoculation failed to reproduce the disease. The infant's dye test at birth was positive to a titre of 1:256. The child was normal and remained so. The authors suggested that the original toxoplasma infection of the mother might have occurred five years earlier when she had weakness, fever, lymphocytosis, and lymphadenopathy, and that the illness in pregnancy was an exacerbation of this.

Paulley *et al.* (1956) reported a normal pregnancy in a woman probably suffering from toxoplasmic myocarditis, but foetal infection would not be expected during the chronic stage of the disease in the mother. Sabin *et al.* stated that none of the 67 subsequent pregnancies in 45 mothers of congenitally affected children had shown evidence of toxoplasmosis. It has been assumed that transmission of disease to the foetus occurs during asymptomatic or unrecognized maternal infection in the early months of pregnancy. The cases reported here, and those of Gard and Magnusson and of Stanton and Pinkerton, show that infection of the child is not inevitable.

Summary

Three cases of illness with lymphadenopathy probably due to acute toxoplasmosis are described. In one the disease occurred in the fourth month of pregnancy and there has been no evidence of its transfer to the child. It is probable that acute toxoplasmosis is not so rare as is suggested by the comparatively small number of reported cases.

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HAEMOGLOBIN L: A NEW HAEMOGLOBIN FOUND IN A PUNJABI HINDU

BY

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On examining the blood of an East Indian patient admitted to hospital for investigation of erythema nodosum it was seen that his haemoglobin consisted of two fractions. One of them was normal adult haemoglobin (haemoglobin A), and the other a minor component moving on paper electrophoresis at pH 8.6 more slowly than haemoglobin A. Six haemoglobins are known to move more slowly than haemoglobin A under these conditions; they are in order of increasing mobility C, E, S and D, G, F. The minor component of the patient's haemoglobin moved differently from all these. On paper electrophoresis in barbiturate buffer of pH 8.6 using a hanging-strip technique (for details see Lehmann and Smith, 1954) or horizontal paper electrophoresis between glass plates (for details see Smith and Conley, 1953), and on zone electrophoresis using starch blocks (Kunkel and Wallenius, 1955; for details see Kunkel, 1954), the abnormal component moved between haemoglobin S (or D) and haemoglobin G (See Figure).

Following paper electrophoresis the separated fractions were dried on the paper, stained with light green (Danger-