TRANSVAAL SOCIETY OF PATHOLOGISTS

SUMMARIES OF SCIENTIFIC PAPERS *

MULTIPLE ACANTHOMA IN THE SKIN OF PIGS

Prof. K. Schulz, Veterinary Research Laboratories, Onderstepoort

The outbreak of this disease which was discussed seemed to be unique since this condition had not been observed or described before in veterinary literature. The disease was confined to pigs on one farm in the Rustenburg district. There is evidence that the malady was neither infectious nor contagious. The primary lesion (histologically) was a focal dermatitis crustosa which eventually developed into an acanthoma. Of the 3 pigs kept under observation, metastasis was observed in most of the superficial regional lymph glands of one pig; in another the lymph glands were involved to a lesser extent and those of the remaining one were not visibly affected.

PORPHYRINS AND PRECURSORS IN URINE AND STOOLS OF SOUTH AFRICAN AND SWEDISH CASES OF PORPHYRIA

Dr. H. D. Barnes, S.A.I.M.R., Johannesburg

Waldenstrom has reported many cases of acute porphyria in Sweden; these patients do not show skin eruptions. Porphyria is also common in white members of the population of South Africa but these patients show varied clinical manifestations, sometimes acute symptoms, sometimes cutaneous lesions and sometimes both.

Dr. G. Dean, Prof. J. Waldenstrom, Dr. B. Haegar and I carried out a joint clinical and biochemical study of cases in both communities. The increased urinary excretion of an aminolaevulic acid and porphobilinogen shown by patients during acute attacks in Sweden and in South Africa, usually persists far into remission in Sweden, but not in South Africa. On the other hand, stool porphyrins are almost invariably greatly increased in South African patients irrespective of clinical manifestations, but are normal, or virtually so, in Swedish patients during remission and possibly only slightly increased during an acute episode.

In both countries susceptibility to porphyria follows a mendelian pattern of inheritance that is not sex-linked. The findings presented are regarded as evidence that porphyria in Sweden and in South Africa are essentially different genetic disorders.

* Read at a meeting of the Transvaal Society of Pathologists Johannesburg, 10 May 1958.

SOME PROPERTIES OF A MORPHOLOGICAL VARIANT OF A STRAIN OF PROTEUS VULGARIS

Prof. J. N. Coetzee, Institute for Pathology, Pretoria

The properties of an R variant of a strain of *Proteus vulgaris* were enumerated. A description was then given of a fluctuation test to prove the mutational origin of S variants from this R strain. The mutation rate involved was determined by means of continuous culture experiments.

PLASMA AND SERUM ANTITHROMBIN LEVELS IN DISORDERS OF COAGULATION

Dr. Basil A. Bradlow, Department of Pathology and Microbiology, Witwatersrand University

Serum and plasma antithrombin levels were studied in normal and in various clinical conditions. Raised serum levels were found in a number of haemorrhagic disorders and in liver disease. The serum level of antithrombin appeared to be influenced by the amount of thrombin formed during coagulation. In liver disease, the presence of a coagulation disturbance may affect the serum antithrombin.

LITTORAL-CELL HYPERPLASIA AND NEOPLASIA

Dr. R. F. Dorman, S.A.I.M.R., Johannesburg

Various classifications of the malignant lymphomata were discussed, particularly those of Gall and Mallory (1942), Jackson and Parker (1947) and Robb-Smith (1938 and 1947). Robb-Smith (in 1938) and Hadfield and Garrod (Recent advances in Clinical Pathology, 1942) referred to cases described by Pryce and Reburn in 1935 and Debenedetti and Florentin in 1931, respectively, in which there was wide-spread proliferation of littoral cells (lining sinuses of the lymphnodes and sinusoids of the spleen, liver and bone-marrow) associated with well-marked erythrophagocytosis.

Robb-Smith in his classification of reticulosarcoma, included differentiation of sinus-lining cells (reticuloendothelio-sarcoma, or sarcoma of undifferentiated littoral cells). However he stated: 'No examples of these tumours have been observed in lymph nodes in my personal experience . . . yet cases have been described, e.g. by Poujol in France, which appear to fulfil all the criteria for a sinus histiocytoma of lymph nodes and it is probable

that increasing accurracy in description will enable more of these tumours to be recognized.'

Two cases were presented, the first fulfilling the criteria for inclusion under littoral-cell hyperplasia with erythrophagocytosis, and the second as littoral-cell sarcoma.

IMMUNOLOGICAL DISTINCTION BETWEEN TRYPANOSOMA RHODESIENSE AND TRYPANOSOMA BRUCEI

Drs. B. Wolstenholme and *James Gear*, S.A.I.M.R., Johannesburg

Apart from its academic interest, the practical significance of distinguishing between these parasites was revealed in 1952 when a human laboratory infection occurred which was alleged to be *T. brucei*.

Having these 2 strains adapted to growth in embryonated eggs, and antigen prepared in rabbits from infective guinea pig blood, slide agglutination tests were carried out and examined by high-power, dark-ground illumination. The results indicated a clear distinction between the strains in serum dilutions from 1 : 20 to 1 : 20,480. In addition the sera of 4 patients with sleeping sickness were tested. Similar results were obtained. These sera were also tested against the red cells of chick embryos infected with *T. rhodesiense* and *T. brucei*, and it was noted that while those infected with *T. rhodesiense* were agglutinated those infected with *T. brucei* were not. This finding suggests that a specific agglutinating substance derived from the trypanosomes was absorbed by the red cells.

Recently Soltys,* using a trypanosome-agglutination technique, has also distinguished these 2 strains.

* Soltys, M.A. (1957): Parasitology. **47**, 375—395.

NORMAL URINARY 17-KETOSTEROID AND 17-KETOGENIC STEROID VALUES IN SOUTH AFRICAN BANTU SUBJECTS IN OUTWARD GOOD HEALTH

Dr. W. M. Politzer, S.A.I.M.R., Johannesburg

Urinary 17-ketosteroid and 17-ketogenic steroid values were determined in 50 healthy urban Africans, *viz.* 24 female nurses, 26 males, and on a control group of 10 European females and 10 males. The 17-ketosteroids in both the Bantu and the European group were found to be similar. The 17-ketogenic steroid values in the Bantu females were only slightly lower than those of the Europeans, whereas the 17-ketogenic steroid values in the Bantu males were significantly decreased.

RADIOACTIVE CHROMIUM (^{51}CR) IN RED-CELL SURVIVAL STUDIES

Dr. J. Metz and *Mr. D. Hart*, Isotope Laboratory, S.A.I.M.R., Johannesburg

Some of the results of red-cell survival studies with radioactive chromium, carried out over the last 2 years, were presented. In the interpretation of the survival curves the results are best expressed as the time taken for half the radioactivity to disappear from the blood ($T\frac{1}{2}$Cr). The test has proved of value in the investigation of various haematological conditions, including haemolytic anaemias, scurvy, hypersplenic states, etc. Cross-transfusion experiments, by demonstrating a diminished life-span of the red-cell in patients receiving the suspected drug, enable the diagnosis of drug-induced haemolytic anaemias to be substantiated. A significant haemolytic factor has been demonstrated in various forms of megaloblastic anaemia in the Bantu, and cross-transfusion experiments indicate a corpuscular defect. It is suggested that diminution of red-cell life-span is one of the features of the ineffective erythropoeisis occurring in magaloblastic haemopoeisis.

ACUTE DIFFUSE INTERSTITIAL FIBROSIS OF THE LUNGS

Dr. Ian Webster, Pneumoconiosis Research Unit, Johannesburg

Five cases of acute diffuse interstitial fibrosis of the lungs (Hamman-Rich syndrome) were presented, and the histological features demonstrated. One case was followed for 3 years during which time 'Meticorten' appeared to control the symptomatology. In another case it was shown that although there was symptomatic improvement, the biopsy specimens before and during treatment did not show any significant difference.

A case of the Hamman-Rich syndrome in a child of 1 year and 8 months, followed, and it was suggested that this was probably the youngest age in which this disease had been found. The etiology, pathogenesis and criteria for diagnosis were reviewed in the light of the experience gained in these cases.