

of kidney substance. When the capsules were stripped back the parenchyma was found to be not pale and anemic, as has been stated by some, but very hyperemic. As there was free bleeding on the left side, a tampon of iodoform gauze was introduced. Convulsions ceased after the operation; consciousness and memory gradually returned; the quantity of urine markedly increased, and albumin and casts almost disappeared. Urinary fistulas developed on both sides but eventually closed. Unfortunately at five weeks the child died of pneumonia and convulsions, but the mother made a good recovery.

---

## PATHOLOGY AND BACTERIOLOGY

---

UNDER THE CHARGE OF

OSKAR KLOTZ, M.D., C.M.,

DIRECTOR OF THE PATHOLOGICAL LABORATORIES, SAO PAULO, BRAZIL,

AND

DE WAYNE G. RICHEY, B.S., M.D.,

ASSISTANT PROFESSOR OF PATHOLOGY, UNIVERSITY OF PITTSBURGH, PITTSBURGH, PA.

---

**The Erythropoietic Action of Germanium Dioxide.**—Maintaining exact conditions of control, HAMMETT, NOWREY and MÜLLER (*Jour. Exper. Med.*, 1922, 35, 173) injected a sterile 0.4 per cent solution of germanium dioxide into four lots of male and female albino rats. Two lots received in four doses at intervals of four days a total of 6.6 mg. per kilo of body weight and the other two were given 45 mg. in three doses at similar intervals. Weekly determinations of the erythrocyte and leukocyte counts of the blood were made seven days apart. It was found that all of the test rats responded to the germanium dioxide by a marked and sustained rise of from one to nearly five millions in the number of erythrocytes in the blood. Those rats which showed a lower initial count responded better, and *vice versa*. There was no indication that the larger doses of germanium dioxide exerted a greater stimulating effect on the production of the resultant erythrocythemia than the smaller doses. Evidently the effect appeared quickly, the red cell count rising within a week after two injections. The coagulability of the blood became increased while color changes were noted in the liver and bone marrow. In a second communication, HAMMETT and NOWREY (*Jour. Exper. Med.*, 1922, 35, 507) reported the results of a histological comparison of the liver, spleen, bone marrow, circulating young erythrocytes and differential counts in the albino rats receiving germanium dioxide, with their litter controls. It was found that while the livers of the test animals showed a capillary dilatation and engorgement, and the spleens were more congested than in the controls, there was no evidence of red-cell formation in these organs. In the bone marrow, however, there was evidence of a marked stimulation in formation of nucleated erythrocytes, as well as an increase in the young red cells in

the circulating blood. No noteworthy differences in the values for the various types of leukocytes in the circulation, as determined by differential counts, could be found. The authors conclude from their experiments that germanium dioxide is a potent erythropoietic agent and that the source of the erythrocythemia is the increased production of red-cell precursors by the bone marrow.

**The Internal Secretion of the Pancreas.**—With the knowledge that since the acinous but not the islet tissue of the pancreas degenerates after ligation of the pancreatic ducts, and assuming that trypsinogen or its derivatives was antagonistic to the internal secretion of the gland, BANTING and BEST (*Jour. Lab. and Clin. Med.*, 1922, 7, 25), working in conjunction with J. J. R. MACLEOD, have conducted certain experiments on dogs in an attempt to prepare an active extract of the island of Langerhans. The pancreatic ducts were ligated for ten weeks, to allow complete degeneration of the acinous tissue, after which interval the degenerated pancreas was quickly removed under chloroform anesthesia and the extract prepared by slicing into a chilled mortar containing Ringer's solution and partially freezing the tissue. The half-frozen gland was then macerated and filtered, and the filtrate, now at body temperature, was injected into eight to sixteen month old dogs depancreatized by the Hédon method or at the initial operation. The results of various experiments on six dogs are shown in detail with the aid of charts. Over seventy-five doses of extract from degenerated pancreatic tissue have been administered to ten different diabetic animals. It was found that intravenous injections of the extract invariably reduced the percentage of sugar of the blood and the amount of sugar excreted in the urine, the extent and duration of the reduction varying directly with the quantity of the extract injected. Rectal injections were not effective and pancreatic juice destroyed the active principle of the extract and boiled extract produced no effect on the reduction of blood sugar. Extracts made 0.1 per cent acid were effectual; however, in lowering the blood sugar, and extracts prepared in neutral saline and kept in cold storage remained potent for at least seven days. The presence of the extract enabled a diabetic animal to retain a much greater percentage of injected sugar than it would otherwise. That the reducing action was not a dilution phenomenon was indicated by the fact that the hemoglobin estimations before and after injections of the extract were the same; that administration of large amounts of saline did not effect the blood sugar and that similar quantities of extracts of other tissue did not cause the reduction of blood sugar. The authors are convinced that the extract contains the internal secretion of the pancreas, which is the factor operative in controlling carbohydrate metabolism; but they feel that the results of their "experimental work," which certainly appear to mark an epoch in our understanding of diabetes mellitus, "as reported in this paper, do not at present justify the therapeutic administration of degenerated gland extracts to cases in the clinic."

**The Diagnosis of Syphilis in Malarial Subjects by the Wassermann Reaction.**—JOHNSON (*Jour. Path. and Bacteriol.*; 1921, 24, 145) reported the results of 738 complement-fixation tests for syphilis on 74 cases of