ABSTRACTS

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ABSTRACTERS

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RETICULOENDOTHELIAL SYSTEM


In albino rats, following splenectomy, total leukocyte counts increase, reaching a maximum level in about 10 days and persisting for 59 days. On the basis of partial splenectomy and other control operative procedures it is concluded that normal spleen, possibly through a humoral mechanism, controls the peripheral leukocyte level.—J.B.C.

ROLE OF SPLEEN IN THE MAINTENANCE OF CIRCULATING LEUKOCYTES Part II. Effect of Splen Transplantation on Peripheral Leukocyte Number. Sahrad Kumar, V. S. Mangalik and N. N. Sen. From the Division of Hematology, Department of Pathology and Bacteriology, Lucknow University, India. Indian J. Med. Research 44: 711-717, 1956.

Auto or homotransplantation of spleen, before or during splenectomy, prevents post-splenectomy rise of leukocytes in rats. The findings suggest that a "humoral factor" in spleen is responsible for such action.—J.B.C.


After an initial sternal bone-marrow aspiration, 1.0 mg. adrenalin is injected subcutaneously, and 30 and 60 minutes later the sternal bone-marrow is successively punctured. Cytological enumerations are made including total cells, differential and megakaryocyte counts. The author obtained dissimilar curves with the total cells in normal spleenectomized persons, these curves differing also from that obtained in "splenic dysfunctions" labeled hypersplenie, asplenie, and hyposplenie.—M.A.J.


If the lymphatic tissue found in abundance in animals were assembled into one organ, this gland would be one of the larger ones of the body. Despite both the ubiquity and quantity of this tissue in the animal body relatively little is known about either its composition or its function. A general fractionation procedure, which was originally designed for bovine palatine tonsils, is applicable to sheep palatine tonsils and bovine thymi, as well. Four components, namely mucoprotein, albumin, simple protein, and the pentose-type nucleoprote-
tein, have been isolated, which, together, account for 65 per cent by weight of the material in the extracts. The presence in bovine palatine tonsils of a mucoprotein absent in bovine thymus and present in only small amounts in sheep palatine tonsils, was probably due to the presence of fairly large amounts of epithelial tissue in bovine tonsils, and lesser amounts in sheep tonsils. Four other components were identified and partially defined by means of electrophoretic mobility, solubility, or some other chemical or physical property.—O.P.J.

Histochemical Studies of Lymph Nodes in Disseminated Lupus Erythematosus.

R. D. Moore, A. S. Weisberger and E. S. Boverend. From the Departments of Pathology and Medicine, Western Reserve School of Medicine, Cleveland, Ohio. Arch. Path. 62: 472-478, 1956.

Most observers favor the hypothesis that the initial alteration of disseminated lupus erythematosus occurs in the deoxyribonucleic acid metabolism of mesenchymal cells. The results of histochemical studies made on biopsy and autopsy material obtained from 24 cases of disseminated lupus erythematosus indicate that a new concept of the pathogenesis of this disease should be considered. Early in its course, plasma cells develop increased amounts of ribonucleic acid, protein, and carbohydrate within their cytoplasm. Since extranuclear deoxyribonucleic acid is present only late in the course of the disease, it may be the result of nuclear breakdown from compression and distortion by the intracytoplasmic inclusions. The appearance of deoxyribonucleic acid in association with protein-carbohydrate complex to form the hematoxylin body occurs terminally. It could be that the factor in γ-globulin of serum is released from plasma cells, and, under proper conditions, causes a destruction of mesenchymal cells with subsequent release and physical or chemical incorporation of nuclear products to form the hematoxylin body. The L. E. phenomenon suggests a much speeded-up process of cell destruction with phagocytosis of cytoplasmic and nuclear debris by the polymorphonuclear leukocytes.—O.P.J.


The authors observed 346 patients with Hodgkin's disease and by applying rigid morphologic criteria demonstrated that in 16 of them the disease progressed into sarcoma. On the basis of the morphologic picture these sarcomas were identified as reticulosarcoma. The interpretation that these tumors are sarcomatous variants of Hodgkin's disease or Hodgkin's sarcoma in the sense of a separate neoplastic entity is rejected. These cases were compared with 38 reticulum cell sarcomas, and no clinical differences with regard to response to therapy, age distribution, and clinical course were found between so-called Hodgkin's sarcoma and reticulum cell sarcoma.—H.R.

Vitamin B₁₂


A comparison of clinical features is made between 250 cases of pernicious anemia seen in Edinburgh between 1944 and 1956, 1,200 cases reported by Cabot in 1908, and 117 cases reported from the London Hospital by Panton et al. in 1923. Of the Edinburgh patients, more than 50 per cent developed the disease when over 60 years of age; this age group formed only 10 per cent in Cabot's series. The duration of symptoms before diagnosis in Edinburgh was less than 12 months in 75 per cent of the cases, a marked difference from the other series. In 600 cases seen in Edinburgh between 1938 and 1956, females were affected twice as often as males. The most common symptoms are weakness, tiredness, and dyspnea. Paraesthesia is the next most common symptom, but less so than 50 years ago. Diarrhea occurred in only 9 per cent of Edinburgh cases as compared with Cabot's 51 per cent. The tongue was pale and smooth in 64 per cent, whereas acute glossitis occurred in only 5 per cent, compared with 42 per cent of the Boston series. Fever was the second most common sign (22 per cent compared with Cabot's 79 per cent). Icterus was seldom seen, and the
Spleen was palpable in only 8 per cent. Evidence of cord involvement (difficult to diagnose with certainty) was found in 7 per cent as compared with Cabot's 11 per cent. Whereas the Boston series showed a red cell count of less than 2 million in 86 per cent and less than 1 million in 21 per cent, the Edinburgh figures were 58 per cent and 1 per cent respectively.

R.H.G.


Serum vitamin B12 was estimated with Euglena gracilis var. bacillaris as test organism in two groups of 115 normal Indian subjects. In the first group from Poona Military Establishment, the mean value was 392 μg. per ml. (range 72 to 2160) and in the second group of normal subjects from Bombay, the mean value was 250 μg. per ml.—J.B.C.

DEFICIENCY ANEMIA


We investigated 70 patients at various intervals after the resectioning of the stomach. Within several years after the total or subtotal resection, the majority of the patients developed a gastric anemia. This anemia was most often hypochromic or normochromic, but in several of the patients it had a hyperchromic character. Sometimes it was identical with Addison-Biermer's disease, being characterized by macrocytosis, Hunter's glossitis and neurological disturbances. Such a gastric pernicious anemia developed a long time after the operation (from 8 to 14 years).

In patients who underwent resectioning of the stomach, we often discovered macrocytosis of the erythrocytes not only with hyperchromic anemia but also with normochromic and normochromic anemia. The tendency to macrocytosis increases in direct proportion to the length of time elapsing after the operation.

The bone marrow in a gastric anemia is usually characterized by normoblastic or macro-normoblastic types of hematopoiesis with a high erythropoietic reaction and a delay in the maturing of the erythroblastic elements (a relative increase in the number of basophilic forms). In patients with a gastric pernicious anemia we discovered magaloblastic hematopoiesis. In those with relapses of cancer or the development of metastasis we may find changes in the megakaryocyte apparatus, characteristic of neoplastic diseases: multiple fragmentation of the megakaryocytes with an abundant separation of blood platelets; the presence of megakaryocytes with naked nuclei; in the blood there is an increase in the number of platelets.

As our investigations show, the content of vitamin B12 in the blood of patients with resected stomach is considerably reduced. This indicates a deficiency of vitamin B12, developing very soon after the operation. Due to the reserves of vitamin B12 in the organism, the shortage bears a latent or incomplete character. In case of a long period after resectioning of the stomach, the reserves of vitamin B12 are exhausted, a condition which may lead to the development of pernicious-like or pernicious (megaloblastic) anemia.

Developing in an earlier period after resectioning of the stomach, hypochromic anemia is connected with a deficiency of iron as a result of a disturbance in its resorption and assimilation.

In patients who have undergone resectioning of the stomach, one should employ combined therapy, including antianemic remedies: repeated transfusions of blood or packed red cells, preparations of iron and vitamin B12. Vitamin B12 for patients with a resected stomach should be employed not only for medical purposes but also for prophylactic purpose, for preventing the development of a deficiency of iron. In a gastric pernicious anemia the employment of vitamin B12 produces the same effect as in Addison-Biermer's disease. —A. A. B.