ABSTRACTS

THEODORE H. SPAET, M.D., Editor

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ABSTRACTS

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ABSTRACTS OF SPECIAL INTEREST


In a group of 64 infants, 7 to 17 months of age, with iron deficiency anemia, the guaiac test for occult blood in the stool was positive in 58 per cent. Among 67 non-anemic peers, stools were guaiac positive in 8 per cent. 13 of the anemic infants were given tracer amounts of Fe⁵⁹ intravenously and serial measurements of erythrocyte and fecal radioactivity were obtained. Two healthy infants were studied as controls. Among the anemic infants the percentage of administered radioiron recovered in the stool varied from 1 per cent to 16 per cent, with a mean 6 per cent. In the control infants fecal radioactivity was less than 2 per cent of the administered dose. Over a four-week period, the mean blood loss in the anemic patients was calculated to be 41 ml. The authors concluded that occult blood loss may be a significant factor in the etiology of iron deficiency anemia in early childhood.—J. B. S.


Ten patients (6 boys, 4 girls) from 6 families with a chronic relapsing megaloblastic anemia are described in detail. The onset of symptoms was from 5–6 months to 4 years of age. The findings include normochromic to slightly hyperchromic anemia, moderate leukopenia, increased serum iron concentration and low plasma vitamin B₁₂ values. The bone marrow findings are indistinguishable from pernicious anemia, but the syndrome differs from pernicious anemia in the following ways: achlorhydria is lacking; no response is obtained with intrinsic factor + vitamin B₁₂, and the microbiologically determined vitamin B₁₂ binding factor in the gastric juice is normal. The anemia has responded well to folic acid and liver extract and vitamin B₁₂ parenterally. Other known causes of megaloblastic anemia were excluded. Mental and physical development is normal. Eight of the 10 patients have permanent proteinuria without impairment of renal function. Five of the patients presented different stages of duplication of the urinary pelvis and ureter. The observations suggest intestinal malabsorption and/or a metabolic defect in vitamin B₁₂ metabolism as the cause of the disease. The underlying defect is probably congenital and is inherited by a recessive trait linked with tendency to proteinuria and possibly also urinary tract anomalies. No case of pernicious anemia was found among the patients’ adult relatives. (Abstractor’s note: detailed studies on two similar
cases have been reported by Grisbeck et al., Acta med. scandinav. 167:289, 1960).—S. A. K.


The nature of the specific groups of the DNA molecule which react with the anti-DNA antibodies of lupus sera were investigated by studying precipitin reactions, complement fixation and neutralization of these antibodies, with degraded and denatured DNA. It was concluded from these studies that: (1) Considerably modified DNA still reacts with the lupus antibodies; (2) The double helix structure of DNA does not take part in the reaction; (3) The reactive site (or sites) on the DNA is composed of at least 2 nucleotides. The minimum length of the polynucleotidic chain which takes part in the reaction cannot be precisely determined from the present results.—H, H. F.

HEMOSTASIS


A new test, the hemolysate prothrombin consumption time, is described. It consists in adding a standardized extract of erythrocytes (hemolysate) to platelet-poor native plasma that has been in contact only with silicone-coated surfaces, clotting the mixture at 37 C. in a silicone-coated tube, and determining the amount of residual prothrombin activity in the resulting serum by the usual one-stage prothrombin time method. Good consumption of prothrombin occurs in plasma from normal subjects and patients with thrombocytopenia and pseudohemophilia A. Poor prothrombin consumption occurred in plasma from patients with AHG (VIII), PTC (IX), PTA and Hageman deficiency as well as in plasma from patients with pseudohemophilia B. It was abnormal in mild deficiencies in which the usual prothrombin consumption test is normal. The addition of aged serum with hemolysate normalized the test in all the deficiencies except that of VIII deficiency. The author also concludes from his findings that the Hageman defect is not involved in the initial stage of coagulation and that, therefore, the contact factor and the Hageman factor are separate entities. It was found that no utilization of prothrombin results with platelet extracts replacing the hemolysate unless a small amount of thrombin is added or the plasma is exposed to glass. It is postulated that the first step in coagulation is the activation of a plasma constituent (contact factor) probably by thrombin; this reacts with platelets to form erythrocyt, which reacts with other plasma factors to form intrinsic thromboplastin. Erythrocyt (red cell hemolysate) is effective in promoting coagulation in the absence of glass contact.—R. G.


Factor VII activity was studied during coagulation of normal and factor deficient blood, in the presence and in the absence of tissue thromboplastin. In normal blood, factor VII increased its activity two- to threefold during spontaneous coagulation without tissue thromboplastin. This activity was not due to nonspecific reactions; it was not caused by direct glass activation. It did not develop in the absence of factors VII, VIII or IX, Hageman factor, PTA or calcium. Platelets and factors V and X did not appear to be necessary for the reaction. Tissue thromboplastin caused an increase in factor VII activity even in the absence of factors VIII, IX, Hageman and PTA. It thus appears that factor VII activation, in the absence of tissue thromboplastin, appears to depend upon an interaction of Hageman factor, PTA, factors VIII and IX and calcium.—R. G.


A two-stage method for determining prothrombin is described. The differences from the previously described two stage procedure of Ware and Seege are: (1) the test is carried out at 37 C., (2) the elimination of colloid augmenters such as acacia and dextran, (3) a final molarity of 0.025 for calcium, and (4) the use of barium sulfate adsorbed normal human plasma as a source of fibrinogen. The use of the adsorbed human plasma eliminated the variations en-
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countered in the two stage procedure when different batches of purified fibrinogen are used. The prothrombin concentration by this method in normal individuals was close to 350 units per ml. of plasma (mean 345 ± 15). —R. G.

THROMBOTEST VERSUS ONE-STAGE PROTHROMBIN-

A comparative study of the thrombotest and the Quick one-stage prothrombin time for the control of anticoagulant therapy is presented. Comparison of the level of anticoagulation obtained with the two tests revealed that cases within the therapeutic range by the prothrombin time frequently fell beyond that recommended for the thrombotest. The question which remains unanswered is whether the therapeutic range, as determined by the thrombotest, is effective in the prevention of further thrombo-embolic episodes. If it is, there would undoubtedly be less hemorrhagic complication, since the majority of patients would be carried on small doses of anti-coagulant.—R. G.

DICUMAROL THERAPY AND PLATELET TURNOVER.

Platelet survival and turnover were studied by means of radioactive diisopropyl fluorophosphate (DFP) in 2 groups of atherosclerotic males. One group received dicumarol therapy, the other did not. The authors report that platelet survival was significantly longer and the platelet turnover less in the dicumarol group. The mean half-life in the treated group was 3.84 days and that in the untreated group was 2.86, when the fall-off was considered to be exponential. Computation on a linear model gave a mean survival value of 11.70 ± 0.28 for the treated group and 10.04 ± 0.27 for the untreated group. Unfortunately, only these values are given and not the data from which they were derived. Of the coagulation tests done which included prothrombin times, clotting times, platelet clumping times, platelet adhesive index and plasma thromboplastin time, the platelet adhesive index showed the best correlation with platelet turnover. These findings are interpreted as evidence that the survival of platelets in atherosclerotic subjects is determined, in part, by factors external to the platelet, among which the activity of the coagulation mechanism is important. —R. G.


In about two-thirds of the patients treated with reserpine for hypertension, the blood fibrinogen level dropped considerably; in others it remained the same or increased a little.—J. J. B.


The author points out that bleeding following dental extraction in patients who are on prolonged anticoagulant therapy may be troublesome. Temporary cessation of anticoagulant therapy may be ineffective and administration of large doses of the oil-soluble vitamin K preparation may result in difficulty in subsequent regulation of anticoagulant therapy. The author claims that the prevention and control of bleeding were facilitated by means of giving estrogens. It should be pointed out that anticoagulant therapy was discontinued for several days before and for one day after extraction. Little or no information is given concerning the coagulation profile of the patients during this period. The effect of the estrogen used (Premarin) is certainly difficult to evaluate in such a small series.—R. G.


The prothrombin times, recalcification times, whole blood clotting times, factor V levels, prothrombin levels and proconvertin levels (combined factors VII and X activities) were determined in 20 normal individuals before and one and two hours after receiving 20 mg. of Premarin intravenously. Two control groups were also studied, one in which only venipunctures were done and one in which saline was given intravenously instead of Premarin. No significant changes were found in the coagulation parameters after the administration of Premarin.—R. G.

THE FAILURE OF INTRAVENOUS ESTROGEN (PRE-
Ten patients were studied for the effects of L. V. Premarin (20 mg.) on plasma coagulation factors. The following tests were done before and one and three hours after the administration of Premarin: P-P test, proaccelerin determination, prothrombin determination, partial thromboplastin times, AHF assay, and anti-thrombin determination. None of the 10 patients exhibited a significant increase in the clotting factors studied after Premarin administration.—R. G.


Among 16 cases of thrombocytopenic purpura, 3 were idiopathic; 6 followed infection and 7 developed during treatment with various drugs. Five of the six patients with infection were children with chronic tonsillitis who recovered after tonsillectomy. The drugs that probably induced platelet reduction in the six cases were: Liver extract; chloroquine; prednisone combined with aspirin and ascorbic acid; phenobarbital associated with caffeine, phenazone and phenylbutazone. The authors did not mention the use of either in vivo or in vitro tests to prove involvement of the drugs.—M. L.

ERYTHROCYTES


3500 unscented cord bloods were screened with the Rosenfield modification of the antiglobulin test and with the Munk-Andersen conjugation test. Sensitization was confirmed by elution experiments. In 71 infants (2 per cent), red cells sensitized by ABO antibody were found. The sole use of any of the two screening procedures would have underestimated the frequency of sensitization. Sixty of the 71 sensitized patients were A infants of O mothers and 11 were B infants of O mothers. In eleven infants, the serum bilirubin concentration exceeded 20 mg. per 100 ml. A correlation was found between the maximum bilirubin concentration in the infants and the mean maternal antibody titer of incomplete homologous antibody. Only two infants had exchange transfusion. At a six months follow-up, one case of kernicterus occurred in this series. A more active treatment by exchange transfusions is recommended.—S. A. K.


This paper gives an account of the serologic investigation of a woman (Mrs. W.) in her fourth pregnancy, the previous three having resulted in the birth of one living and two premature stillborn children. Her serum apparently contained anti-C (rh') plus anti-D (RhO) antibodies. Her husband and her son were of type rh/rh (Cde/cde), and neither possessed an RhO (D') variant. There was no history of previous immunization with the RhO (D) antigen. After absorption with her husband's or son's red cells, Mrs. W.'s serum no longer acted on red cells containing the C and/or D antigens. Eluates obtained from Mrs. W.'s red cells after contact with Mrs. W.'s serum reacted on all types of Rh cells with the exception of rh (cde/cde) and rh" (cDE/cDE) cells. Absorption with RhO (cDe) or RhO (cDE) cells removed all anti-D (RhO) specificity, but left some anti-C (rh') antibody behind. As a serologic result of pregnancies, Mrs. W.'s serum contains anti-C (rh') plus anti-G (Rh0) antibodies. The antigenic stimulus was most likely provided by fetal rh' (Cde) cells, with strongly antigenic C (rh') and G (Rh0) factors inherited from the father.—G. C. de G.


Analysis (Segran, I. B. M. 650 computer) of the segregation data from 38 European and American studies of Caucasians (2836 families) plus 2578 father-child-child trios, revealed that maternal-fetal incompatibility significantly reduces fertility by 6.3 ± 3.2 per cent and causes elimination of 9.4 ± 4.6 per cent of incompatible zygozomes. On the other hand, compatible matings revealed a significant excess of heterozygotes, increasing with parity. The principal mechanisms of selection to maintain ABO polymorphism were proposed to act during fetal and early postnatal stages.—R. E. R.


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A large Vel-negative-containing pedigree revealed no history of consanguinity in two matings with Vel-negative offspring, and independent segregation of Vel-negative and Vel-positive genes was considered, according to the strength of observed serologic reactions, was considered, and the literature on Vel was reviewed.—R. E. R.


Cellulose column chromatography was employed with various human erythrocytic isoagglutinins to study the serologic activity of three fractions: (1) γ-globulin, (2) β2A plus γ-globulins along with other serum proteins, and (3) β2A plus β2A plus γ-globulins along with other serum proteins. A possible association between observed clinical erythroblastosis and the isoagglutinin activity of Fraction 1 was commented upon.—R. E. R.


This paper reports the presence of an autoagglutinin to papainized cells most active at 37 C, which was demonstrated in the serum of a woman whose blood was group O, Rh-positive. This autoagglutinin was shown to behave in some respects similarly to the normal T agglutinin present in her serum. At the same time, absorption studies revealed the presence of a hidden high-titer anti-A isoagglutinin. Later, the presence of an Rh-agglutinating antibody of anti-E (“rh”) specificity was also demonstrated.—G. C. de G.


Formation of vitamin B12 and coproporphyrin by Propionibacterium shermani after addition of δ-aminolevulinic acid (ALA) was studied under varying conditions, following observations of similarities in the biosynthesis of the two compounds. Simple addition of ALA produced a three- to sixfold increase in porphyrin production but had no effect on the vitamin. Addition of Fe and Co depressed porphyrin synthesis but B12 formation was not increased correspondingly. When bacteria were grown on corn steep liquor instead of an ordinary peptone medium, addition of ALA caused little porphyrin and marked vitamin synthesis. This effect was found to be due to the iron content of the medium. It appeared that iron had a regulatory effect upon B12 formation, though in large amounts it was inhibitory. It appeared also that the form the iron was in was of importance, since some iron salts (i.e., sulfate) had no influence on B12 production. It was further concluded at this stage that ALA can be used directly for synthesis of porphyrin but it must be transformed into a derivative before incorporation into the vitamin. The similarities in biosynthesis were also studied in relation to methylating abilities of folic acid and p-aminobenzoic acid (PABA). Addition of PABA inhibitor (sulfathiazole) prevented synthesis of both B12 and porphyrin. This effect was reversed completely for the vitamin but not porphyrin by subsequent addition of PABA or methionine (but not folic acid). Addition of folic acid inhibitor (aminopterin) decreased the yield of B12 but not porphyrin. This effect was reversed by folic acid, folic acid and methionine but not PABA. Exposure of culture to radiation depressed B12 production but had no effect on porphyrin synthesis. This depression was, however, largely corrected by methionine. The authors conclude that B12 and porphyrins part company early in the synthesis, possibly at the ALA formation stage. It also appears that methylation of the two compounds is regulated differently.—J. J. B.


Several past observations have indicated that there may exist a close relationship between methemoglobin formation and the state of SH groups in the globin molecule or indeed in the whole erythrocyte. Hemoglobin was oxidized to methemoglobin by addition of sodium nitrite to red cells. Determination of the amount of methemoglobin formed and of blocked SH groups showed parallel results. Subsequent addition
of sodium sulfite decreased the amount of methemoglobin and increased the SH content. After preliminary inactivation of SH groups by thiol poisons, methemoglobin formed much more rapidly. All the experiments indicate that oxidation of hemoglobin runs parallel to that of sulfhydryl groups. The authors conclude that SH groups in the erythrocyte protect hemoglobin from conversion into methemoglobin.—J. J. B.


This paper describes a previously unreported association between thalassemia major and the excretion of $\beta$-amino-isobutyric acid (BAIB). Three cases of thalassemia major in whom splenectomy had not been performed were found to be excreting large amounts of BAIB. Two cases of thalassemia major in whom splenectomy had been performed were found to be excreting much smaller amounts of this aminoacid.—G. C. de G.


The authors analyze statistically the erythrocyte counts of hospitalized and out-patients in the period 1956-59. The mean erythrocyte counts were found to be 4.3-5.5 for males and 4.0 to 5.0 for females. These values are higher than those reported from Hungary earlier. The authors attribute this change to an improvement in nutrition.—S. R. H.

LEUKOCYTES


The mesentery of a single male Holtzman rat 152 days of age was studied. One spread preparation, colored by the Feulgen reaction and methyl green, contained 100-150 mitotically dividing cells, probably fibroblasts and mesothelial cells. Mast cells containing mitotic figures were also found in this preparation. Relative quantitative values for DNA were determined by photometric analysis of Feulgen intensity. The results indicate that duplication of DNA was occurring in 5 per cent of the interphasic mast cells. In view of the fact that three different types of cells were dividing and no evidence of neoplasia was found, it seems reasonable to suppose that the mesentery may have been injured and that the division of mast cells may have been part of the process of repair.—O. P. J.


The need for a specific stain for mast cells has long been apparent, and it was felt that an investigation of the factors influencing metachromatic staining of mast cell granules might lead to the production of such a stain. The results indicate that at a level of pH 4, metachromatic granules stain rapidly, and orthochromatic staining is retarded. The presence of metallic cations delays granule staining, the duration of the delay being proportional to the cationic valency and to the position of the cation in its valency group.—O. P. J.


Evidence has been presented in support of the view that mast cell degranulation is due to the activation of an enzymatic process localized in the mast. However, the technic did not allow a definite localization of the enzymatic process in the cells, since the observations were made on rat mesentery cells in situ. Peritoneal mast cells isolated by differential centrifugation in a polysaccharide solution are fairly responsive to histamine liberators. The influence of such factors as pH, temperature and enzyme inhibitors upon histamine release suggest that compound 48/80 acts by activating an enzymatic process. The hypothetical lytic enzyme was assumed to be localized in lipid-containing cellular membranes. The slow-reacting substance (SRS) known to occur with histamine release on anaphylactic reaction, stems from the mast cells. It is formed and destroyed rapidly and may be an acid lipid.—O. P. J.

SOME HISTOCHEMICAL OBSERVATIONS ON THE BURSA OF FABRICIUS AND THYMIC OF THE CHICKEN.
Lymphatic tissues of the chicken consist of aggregates of lymphocytes of variable size frequently adjacent to blood vessels of the liver, digestive tube, etc., lymphatic vessels and the bursa and thymus. The latter two are specialized structures of incompletely understood functions which grow and differentiate at a rapid rate prior to regression. Little if any attention has been paid to identification and localization of the oxidative and hydrolytic enzymes during the growth phase of either gland. Diaphorase reactions were identified in lymph follicles of both bursa and thymus. In the former the stronger reactions were found in the epithelium lining the bursa, while in the latter they were confined to the "eosinophilic" cells of the follicular medulla. Acid phosphatase activity, which was more intense than alkaline phosphatase activity, was highest in these same regions. Lipids were uniformly distributed in the thymus. Strong reactions were obtained for inorganic phosphate in the "eosinophilic" cells of the thymus. Enzyme systems are available to the thymus for synthesis of polynucleotides, RNA and the replication of DNA to form nuclei by de novo processes other than mitotic division of nuclei.—O. P. J.


This paper is a commentary based on the study of six cases of lymphosarcoma of the thymus. Emphasis is laid on the frequency with which malignant lymphoma of the thymus and acute lymphatic leukemia have been observed to be associated. It is shown from the records of the Royal Children's Hospital, Melbourne, that in a period of 45 years acute leukemia arose during the course of 11 out of 15 examples of lymphosarcoma of the thymus, in contrast with one out of 30 such tumors of which the sites of origin were in lymphoid tissues other than the thymus. It is pointed out that studies in cancer research have established the dominating role of the thymus in experimental leukemogenesis, and have shown an impressive degree of parallelism between the leukemia associated with malignant thymic lymphoma in children and that which occurs under experimental conditions in suitably conditioned leukemia-susceptible mice. The thesis that thymic overactivity plays an important part in the genesis of leukemia is based on clinical records and experimental evidence. In general it appears that an increase in thymic weight, determined by hyperplasia in response to stimuli and irritants, or by hormonal influences such as loss or reduction of thymolytic hormones ensuing on adrenal hypofunction, favors the experimental induction of lymphoid tumors and concomitant leukemia, whereas thymectomy and thymolytic hormones prevent their occurrence or promote their regression.—G. C. de G.


The histologic diagnosis of lymph node tumors causes serious difficulties due to lack of clinical or pathoanatomical elaboration, but most frequently due to the fact that fundamental problems are not cleared up as yet. Primary tumors of the lymph glands are: lympho- and reticular sarcoma, and lymphogranulomatosis. Enlargement of lymph nodes is also concurrent with leukemia. More exact classification could be made on the basis of the principle of progression. Our knowledge about the preblastomatosis of these pathologic pictures is very incomplete. Recurrent inflammations, reticuloses, focal lymph hyperplasias and Hashimoto's struma may have some significance in this respect. The pregranulomatous change of Hodgkin's disease represents the earliest form of this disease. Brill-Symmers disease, paragranuloma and mycosis fungoides are obligate precanceroses. Some of the tumors of the lymph nodes start as a circumscribed tumor of the inner organs (gastrointestinal tract, thyroid gland, spleen). In reticular sarcomas, the histologic picture changes according to cell differentiation (synplasmatic, dictyotary, littoral, collagenous, histiocytary and polymorphic cells). In Hodgkin's disease we cannot predict the course of the disease from the cytoplastic picture. Clinical data are necessary to differentiate leukemic enlargement of lymph nodes from tumors of the lymph nodes. It is a characteristic feature of hemoblastoses that in the course of their progress one pathologic picture turns into the other and that various diseases are frequently combined. Tumors of lymph nodes always turn to dedifferentiated reticular sarcoma with polymorphous cells.—S. R. H.

The tumor was found for the first time in the abdominal cavity of a 100-day-old rat fed 3,3'-dichlorobenzidine since birth. It was a soft tissue neoplasm attached to the mesentery, invading the kidneys, with a histologic appearance of a lymphosarcoma. Microscopic metastases were found in the lungs, liver and spleen. Subcutaneous injections of the tumor homogenate reproduced the tumor in 75-100 per cent of cases after two weeks. The earlier generations of the tumor assumed a form of a widespread subcutaneous neoplasm attached to the mesentery, invading but after 45 passages the growth reduced the tumor in 75-100 per cent of cases after two weeks. The earlier generations of the tumor assumed a form of a widespread subcutaneous neoplasm but after 45 passages the growth remained well localized. The histologic picture remained identical throughout. No hematologic changes were ever observed in blood. Marrow did not show any myeloid metaplasia.—J. J. B.


According to the authors' investigations, the paragranuloma is a histologically well determinable entity with a variable course. It may be present without special complaints (one case), may be even healed according to data in the literature. In other cases it may develop into Hodgkin's disease (three cases) or reticulum-cell sarcoma (one case). The paragranuloma is not considered to be one of the stages or variants of Hodgkin's disease. In their opinion the paragranuloma should be regarded as a facultative preblastomatosis.—S. R. H.


The authors discuss four cases of solitary plasmocytoma. They emphasize that in minor lesions laboratory findings are negative and x-ray may be misleading too. Two cases were diagnosed in early stage by surgery. Radical surgery is preferable in solitary plasmocytoma of the vertebrae, which must be followed by irradiation and chemotherapy.—S. R. H.


Five cases of chronic granulocytic leukemia in childhood are reported. Three cases occurred during the first year of life. Results of therapy (x-rays, Myleran) in the infants were unsatisfactory, whereas this treatment induced remissions in the two older children. The serum concentration of vitamin B12 was determined in four children. As in adults it was high, ranging from 4000 to 9500 μg/ml. (normal values in children and adolescents 300-1300 μg/ml.)—S. A. K.


This paper gives an account of the follow-up of 135 children after splenectomy. The majority of patients were aged between four and thirteen years at the time of splenectomy. A satisfactory follow-up investigation required a minimum period of two years since splenectomy and a reliable history, particularly relating to serious infections. There were 17 serious infections in 135 children; 10 of these occurred within two years of splenectomy. The author states that there are still not sufficient fully documented cases for it to be stated categorically that the underlying disease and removal of the spleen do affect the incidence of serious infections. However, the fact that four serious infections in infants aged under six months were encountered in 17 cases at all ages strengthens the case for deferring splenectomy, when it is not actually life-saving, beyond the period of infancy.—G. C. de G.


Previous reports concerning the effect of splenectomy on resistance to infection are difficult to evaluate because of the inhomogeneity of conditions which led to the splenectomy. The present material comprises 42 children. The reason for splenectomy was hereditary microspherocytosis (11), idiopathic thrombocytopenia (11), and traumatic rupture of the spleen (20). The observation time ranged from about six months to seven years. Severe infections (purulent meningitis, otitis with mastoiditis) occurred only in two patients who both had thrombocytopenia which had not been alleviated by the operation. Because of the persistence of the underlying disorder it is felt that these infections may not be solely attributed to the splenectomy. From the literature it appears that splenectomy done before the age of one
year may be particularly likely to increase infections. It is pointed out that in this series the age at splenectomy ranged from 2–14 years. Thirty sera were investigated for their bactericidal activity against staphylococci albus. No difference was found between these sera and seven normal control sera. Twenty-eight sera were studied with immune electrophoresis. Nine sera showed a decreased transferrin content. In 12 sera the β₂-globulin seemed diminished or absent. The γ-globulin precipitate appeared normal in all sera. Likewise, paper electrophoresis was normal in all patients studied.—S. A. K.

MISCELLANEOUS


In four cases of metastatic malignant melanoma, tumor cells were found in the bone marrow. In three of these cases this established the diagnosis. In one case melanoma cells were found not only in the bone marrow, but in peripheral blood and in the lymph nodes.—S. R. H.


This is the second case reported in which the typical ultracentrifugal, electrophoretic, and immunologic findings of Waldenstrom’s macroglobulinemia were noted in a patient with typical peripheral neuritis without other clinical symptoms. The patient, a 67 year old male, complained of paresthesias and weakness of the arms and legs for four years. Physical examination revealed absent or depressed reflexes in all motor groups of the arms and legs, muscle weakness, and decreased tactile and thermal sensitivity in a distribution corresponding to peripheral nerves, C₅, T₁, and L₄₅.—H. F.

The Vascular Bed of Red Bone Marrow. L. Zamboni and D. C. Pease. From the School of Medicine, University of California, Los Angeles, Calif. J. Ultrastructure Research 5:65–85, 1961.

The existence of Donn’s intersinusoidal capillaries was disproved by light microscopists years ago (Jordan and Johnson, and Ringoen). Now the electron microscopists, by using antimitotic agents to deplete marrow and metallic colloids to perfuse it, have been forced to conclude that an “open” circulation exists. Guinea pigs and rats were used for these investigations. Contrary to the belief of Bessis and DeHarven and Friend, anatomists have known for many years that megakaryocytes may phagocytise other cells and debris. The interesting thing about the present work is that megakaryocytes show evidence of phagocytosis of thorotrast particles 10 minutes after the original injection. Early neutrophilic myelocytes also readily picked up these particles. Reticular cells were almost entirely confined to the walls of vascular channels. Erythroblasts, normoblasts, and juvenile red cells were present simply as free clusters of cells in parenchymal tissue. Inferentially, the authors believe that marrow is an extremely dynamic tissue, perhaps the most unstable in the entire body.—O. P. J.


The authors injected newborn mice intravenously with cells obtained from fetal liver or from adult bone marrow of mice of a strain with hemoglobin of a different electrophoretic mobility. Three of 50 mice receiving the adult cells devel-
oped runt disease, as did 8 of 58 receiving hematopoietic cells from fetal liver tissue. In addition 18/99 other mice receiving homologous cells developed lasting and functional grafts, as demonstrated by starch gel electrophoresis showing the specific hemoglobin of the donors.—H. F.


The hamster is an extremely valuable animal in research and a method for obtaining large and frequent blood aliquots is indicated. Because of the relatively small size of superficial veins and the inability to use the tail for the purpose of obtaining blood samples, as well as the technical difficulties associated with cardiac puncture, a method based upon utilizing the rich vascularity and easy accessibility of the orbital region was developed. This method can be used in either anesthetized or unanesthetized animals.—O. P. J.

ERRATA


On page 625, the footnote to figure 3 should begin "I indicates . . ."

On page 628, the first sentence which begins in the text under table 1 should read: "Furthermore, recent evidence obtained from the study of the formation from homocysteine of its methylated derivative, methionine, suggests that vitamin B₁₂ may be involved in the formation or utilization of a derivative of tetrahydrofolic acid."