ERYTHROCYTES


The life span of red cells labeled with chromium was determined in a series of patients with chronic renal failure. There was a significant correlation between blood urea levels and red cell survival. Red cell survival was normal in patients with impaired renal function and serum creatinine levels above 10 mg./100 ml., if urea levels had been reduced below 200 mg./100 ml. by a low-protein diet. Reduced red cell survival in chronic renal failure may be related to the blood urea level, rather than to renal function. The author did not suggest that hemolysis was due to urea per se, but to dialyzable molecules which accumulated in plasma in concentrations related to the blood urea level.—L. D.


In patients with chronic renal insufficiency where prolonged dialysis was performed successfully, red cell formation improved, as suggested by morphology of bone marrow, ferrokinetic examinations with Fe and the increased number of circulating reticulocytes. The diminution in retained breakdown products of nitrogen metabolism by dialysis improved erythropoiesis, but the hemolytic defect was not eliminated. Regeneration of marrow was not sufficiently intense to improve the anemia. In these patients, erythropoetic activity of plasma was not raised, for it was possible that sufficiently intense humoral stimulation was lacking because of the defective kidney. If dialysis was uncomplicated it was sufficient to administer a transfusion to maintain the hemoglobin above 9 Gm. per cent.—L. D.


Two typical cases of PNH were reported in 47 and 69 year old men. Both were detected because of hemoglobinuria. Ham's and Hegglin's tests were positive. Serologic tests for syphilis, Donath-Landt-
erythroblastosis, required exchange transfusion. Increase in red cell stroma palmitic acid and decrease in linoleic acid were observed. Electron microscopy revealed round flecks, about 0.5 μ in diameter, in a few red cells, but the significance was not clear. Acetylcholinesterase activity of red cells and alkaline phosphatase activity of white cells were decreased.

—K. F.


Seven infants with hereditary spherocytosis were described, each of whom developed jaundice during the first four days of life. Splenomegaly was present in only one. Anemia was usually present during the first week with hemoglobin levels ranging between 10.6 and 17.3 G./100 ml. Four of the infants, including two who also had ABO erythroblastosis, required exchange transfusion.

—J. B. S.


The author suggested that the best criterion for early exchange transfusion (within 9 hours of delivery) was the combination of a cord blood hemoglobin below 13.5 G./100 ml. and a cord serum bilirubin level above 3.5 mg./100 ml. Clinical evidence of disease, manifested by hepatosplenomegaly and early jaundice, was another indication for prompt treatment. The maternal antibody titer, past history of affected siblings, birth weight, strength of the antiglobulin test, or the cord hemoglobin alone were not used as sole criteria for early exchange transfusion. A group of 166 liveborn erythroblastic infants was described. Two infants died immediately after birth; of the remaining 164, 69 received early exchange transfusion on the basis of the criteria favored by the author and 11 additional infants were exchanged later because of serum bilirubin levels approaching 20 mg./100 ml. Thus, fewer than half the infants required exchange transfusion, in contrast to the usual reported figure of around 65 per cent.—J. B. S.


After a brief review of the indications and a comparison of the current suggested routines, two infants were described who had repeated intravascular transfusions. Both were born with mild anemia and negative direct, but strongly positive indirect, antiglobulin tests. Cord blood reticulocyte and bilirubin levels were low and neither required exchange transfusion. The use of a chicken wire grid, applied to the mother’s abdomen, to help in locating the fetal peritoneal cavity was described.

—J. B. S.


No correlation between neonatal hyperbilirubinemia and G-6-PD deficiency, maternal medication or Apgar score was found in a large group of newborns. Among Negro babies, 7.2 percent of the boys and 2.9 percent of the females had G-6-PD deficiency; among Puerto Rican infants, the figures were 1.4 and 0, respectively. Among the 18 infants discovered to have G-6-PD deficiency, only one became clinically icteric. Serum bilirubin levels among healthy Negro boy infants were assessed. Peak bilirubin levels were most frequently seen on the 4th day and the mean maximum bilirubin level during the first week was 6.3 mg./100 ml. The authors stressed the difficulty in diagnosing clinical jaundice in colored babies. At levels below 10 mg./100 ml., jaundice was rarely noted and in only four of seven infants with serum bilirubin levels exceeding 10 mg. was the clinical diagnosis of jaundice made.—J. B. S.


A heat-labile abnormal hemoglobin fraction amounted to 25 per cent of the blood pigment. Migrating electrophoretically between Hb F and Hb A₂, the abnormal hemoglobin displayed a
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rapid rate of autoxidation to methemoglobin. Hb F was increased to 46 per cent, Hb A\textsubscript{2} was normal. The 4\textsuperscript{th} year old boy had undergone splenectomy at age 3 because of suspected hereditary spherocytosis without clearcut benefit.—K. B.


Four members of a family were found to have a slow moving variant involving the alpha chain. No other hematologic abnormalities were demonstrable. The abnormal hemoglobin was present in hemolysates at a concentration of about 30 per cent. Hb F was normal and Hb A\textsubscript{2} was reduced. Splitting of the Hb A\textsubscript{2} fraction into two components was not noted on cellulose acetate electrophoresis (discontinuous buffer system, pH 9.1-8.6). "Fingerprinting" showed abnormalities in the tryptic peptide, alpha Tp-VI.—P. d. N.


In a series of 220 Bhils from Naswadi Taluka of Baroda district, the sickling test with sodium metabisulfite was positive in 17.3 per cent.—J. B. C.


Studies on ATP levels and stability indicated that cells of some patients with HB E-thalassemia were unable to maintain the ATP level on incubation in vitro.—J. B. C.


Approximately half of Hb.E-thalassemia patients showed an unstable pattern for erythrocyte GSH and a defect in coagulation. In 30 percent, a defect in coagulation was accompanied by a normal pattern of GSH stability, while 20 percent had neither defect.—J. B. C.


A retrospective study of 132 patients with polycythemia vera seen between 1948 and 1963 who were treated with radioactive phosphorus was conducted. Sixty-five had died at the time of writing and 6 of these had received additional treatment with busulfan. Patients treated with P\textsuperscript{32}O did not live as long as normal persons, but they lived longer than a control group of Danish patients collected before the isotope era. Twenty-two of the fatal cases died of 'marrow failure.' This group was characterized by the development of anemia, but gross disturbances of granulocyte and platelet production were common. The exact hematologic diagnoses of these cases was not clear, but the group included patients developing aplasia, myelosclerosis and 10 with leukemia. In comparison with the Danish series, it was concluded that treatment with P\textsuperscript{32}O greatly increased the tendency to develop these complications. There was no evidence, however, that such patients died sooner than those dying from other causes. In comparison with another British series treated with cytotoxic drugs, but no ionizing radiations, it was concluded that the 10 year survival was slightly better for patients treated with P\textsuperscript{32}O.—A. L. B.


Cyanosis and plethora during the first few days of life were associated with high hematocrit level's and abnormal EKGs in 10 newborn infants. Convulsions occurred in three and cardiomegaly was seen in 6 who also demonstrated early disappearance of the thymic shadow. Several babies had elevated nucleated red cell counts and two had quite low fetal hemoglobin concentrations. From the hematologic data accumulated, the etiology of the polycythemia could not be determined. Some infants with neonatal polycythemia can present with transient cardiovascular abnormalities,
occasionally associated with CNS signs which may signify not so transient brain damage.—J. B. S.

**Quantitative Analysis of Erythroid Reaction.**

In reactive erythroid hyperplasia, proerythroblasts and basophilic erythroblasts possessing nuclei with high metabolic activity accumulated in the bone marrow and "reticulocyte crises" occurred when these immature erythroblasts, not following the normal heteroplastic process, disappeared from the bone marrow, either by rapid maturation or through the extrusion of their nuclei. In this paper, the erythroid reaction was studied quantitatively. Each erythroblast compartment was first determined by the method of Weickr. From observations on the interrelation between the mode of reaction in erythroblast compartments and the reticulocyte crisis, it was concluded that reticulocytes originated directly from intermediate erythroblasts (K1, K2, K3). The large-sized reticulocytes which were thought to be formed by the abortion of more immature erythroblasts (mainly K1) were fragile and short-lived. It was also suggested that O-E1 or K2 produced non-reticulated normocytes not through reticuloocyte formation.—K. F.

**Control of Nutritional Anaemias.** J. B. Chatterjea. From the School of Tropical Medicine, Calcutta, India. Indian Med. Ass. 48:77–78, 1967.

Improvement of socio-economic conditions and dietary standards is no doubt the ideal step for effective control of nutritional anemias. As this is not immediately possible, it is suggested that the diet be fortified with or supplemented by hemoipoetic nutrients. Cooking in iron vessels is a useful practice and discarding water employed for boiling is a sure way of losing considerable amounts of folic acid.—J. B. C.


Serum iron levels and total iron-binding capacity were elevated in a group of women taking oral contraceptive tablets for at least six months when compared to levels observed in a control group using occlusive pessaries. The packed cell volume was also significantly higher in the test group, but the hemoglobin and MCHC were not different from the control group. The effect on iron binding capacity may be due to increased production of beta-globulin under the influence of circulating estrogens or progesterone and should be borne in mind when establishing criteria for the diagnosis of iron deficiency in women taking oral contraceptive tablets.—A. L. B.


Human bone marrow aspirates from 17 normal subjects and 254 patients with a variety of disorders were examined. In normal subjects, sideroblast counts ranged from 13 to 70 per cent (34.1 ± 17.6). Sideroblasts were increased in hypoplastic anemia, acute leukemia, hemochromatosis, hemolytic anemia and azotemia with anemia. Moderate or absolute decreases were detected in chronic hypochromic anemia, blood loss, infection, Banti's syndrome, myxedema, malignancy (except liver carcinoma), chronic leukemia, chronic erythremia and idiopathic thrombocytopenic purpura. From the comparative study of anemia refractaria sideroblastica and erythropoietic protoporphyria, a new concept of abnormal sideroblasts was established. In addition to the ringed sideroblast (R-type), thought to be the sole abnormal sideroblast, L- and D-types were classified. In the L-type, an aggregation of coarse siderotic granules in a definite area of cytoplasm was noted. In the D-type, there was an abnormal increase of coarse siderotic granules, although their arrangement was not peculiar. The essential difference between normal and abnormal sideroblasts was demonstrated under the electron microscope. In abnormal sideroblasts, iron deposition was confirmed in mitochondria. Abnormal sideroblasts, 1 to 4 per cent, were present in most cases examined. In anemia refractoria sideroblastica, they were greatly increased and a moderate or marked increase was detected in 3 cases of acute erythremia. Only a few abnormal sideroblasts were demonstrated in a case of non-anemic erythropoietic protoporphyria, while in an
anemic case of the same disorder, a moderate increase was observed. Electron microscopic observations revealed erythrophagocytic reticulum cells, micropinocytosis (rhoeocytoxis), ferritin aggregates and mitochondrial iron, as Bessis had already described. Micropinocytosis, however, might not always be interpreted as an appropriate mechanism of taking up material for heme synthesis in the same cell. The siderotic granules were those taken up nonselectively from transferrin iron in the plasma. The siderotic granules in these cells might constitute a part of available bone marrow iron.—K. F.

**ABSTRACTS**

**STUDIES ON DYNAMICS OF IRON ABSORPTION, S. So.**


The absorption of two kinds of radioiron, Fe\(^6\) and Fe\(^8\), into venous blood through the intestinal canal was pursued. Radioactivity began to be observed in portal blood within a few minutes after administration and followed a saturation curve with intermittent rash jumps. There was general agreement between the absorption curves in portal and hepatic or peripheral plasma, but some differences were observed. Upon portal infusion of radioiron, little retention of radioactivity in the liver was observed with either FeCl\(_3\) or Fe-globulin. There were differences between the ferrokinetics of intestine-absorbed Fe\(^6\) in portal plasma and of intravenously injected Fe\(^8\).—K. F.


Instability of GSH in erythrocytes was found in 7 of 11 patients with nutritional macrocytic anemia. Values for G-6-PD activity were normal. Activity of glutathione reductase was low in 3 of 4 showing instability of GSH.—J. B. C.


The water and solute composition of the erythrocytes of infants and children with water and electrolyte disturbances was compared to the composition in presumed normals. In the absence of increased blood glucose, lipid or protein levels, there was close correlation between plasma sodium concentration and effective plasma osmolality and the amount of solid matter within the cell. Since 90 per cent of the erythrocyte solids was hemoglobin, reduced hemoglobin content was associated with increased cell water and electrolyte. During hyponatremia and hypernatremia, as well as isotonic dehydration, erythrocyte solute concentration paralleled effective plasma osmolality.—J. B. S.


During incubation at 37 C, 2,3-diphosphoglycerate (DPG) in newborns’ red cells decreases much more rapidly than in red cells from adults. The authors showed that the activities of the enzymes forming and hydrolyzing DPG, 2,3-DPG mutase and 2,3-DPG phosphatase, do not differ in red cells of adults and newborn infants. Under conditions of substrate excess, the formation of DPG was not found to be diminished in erythrocytes of newborns. It was suggested that the greater decrease in DPG in red cells of newborn was caused by competition between phosphoglycerate kinase and 2,3-DPG mutase. The first reaction was favored by the higher glycolytic rate in erythrocytes of newborns, thus diminishing the formation of DPG.—K. B.


The enzyme was adsorbed on DEAE cellulose and was eluted, after removing hemoglobin and stromal protein from the lysate. The hemoglobin-free concentrated enzyme preparation in 70 per cent saturated ammonium sulfate retained its activity for a month when stored in a refrigerator.—J. B. C.

A cytologic method for demonstration of carboxyhemoglobin in human erythrocytes is based on the fact that, whereas oxyhemoglobin is oxidized by nitrite to methemoglobin, carboxyhemoglobin is not. Blood is treated with nitrite and cyanide and the presence or absence of cyanmethemoglobin is determined by the previously described elution technic. Red cells which contain oxyhemoglobin before incubation with nitrite are eluted and appear as ghosts. Cells which contain carboxyhemoglobin are not eluted and appear stained.—A. L. B.

LEUKOCYTES


In addition to trisomy-21 in each of 8 infants and young children with mongolism who developed acute leukemia, one patient demonstrated a "leukemic" cell line with 59 chromosomes in direct marrow aspirates and in peripheral blood cultures. In another patient, some of the cells contained a submetacentric No. 1 chromosome and a prominent secondary constriction on the short arms of a presumed No. 2 chromosome. Among this group, as among mongoloid children reported elsewhere, myelogenous leukemia was much more frequent than the 10 per cent incidence generally seen among children with acute leukemia.—J. B. S.


In 24 chloromas and chloroleukemias, a diffuse green coloration of the bone marrow predominated over nodular tumorous infiltrations. Subperiosteal and epidural tumors were found in only 8. Microscopically, there was always striking erythrophagocytosis, the remains of which were seen as oxyphilic granular inclusions in the cytoplasm of tumor cells.—L. D.


The influence of Perathiepine (10-(4-methylpiperazine)-10,11-di-hydrobenz(b,f)thiepine) on LA VUFB leukemia was studied in C57 black mice. After some total doses, e.g., 9 and 18 mg/Kg s.c., survival was significantly prolonged and other symptoms of leukemia improved. Combination of these doses of Perathiepine with a slightly antileukemic dose of 60 mg/Kg of 4-hydroxy-5-fluoropyrimidine had a significant effect in prolonging survival, decreasing liver and spleen weight and decreasing leukemic leukocytosis in the peripheral blood.—L. D.


From 510 cases of myelosis in 20 years, 314 from two different five-year periods were selected for comparison. A study was made of variants and unusual pictures, developing after introduction of cytostatic drug and hormone therapy. Extensive bone marrow atrophy did not permit recognition of the myelosis. Long duration of neoplastic infiltration in bone marrow in myelosis was an important stimulus for development of a reactive myeloproliferative syndrome. This picture usually was striking, especially in spontaneous or therapeutic remissions of myelosis when the tumor infiltration receded.—L. D.


Findings in 144 autopsies and 334 biopsies with a diagnosis of lymphadenosis were reviewed, both in relation to structure and course. Uniformity of lymph nodes and other tissues was far from absolute. Foci of actively growing lymphoblasts resembled foci of lymphoid reticulosis, but the change was not reflected in the biopsy characteristics. Lymphoid infiltration of lymph nodes with numerous macrophages was usually like lymphoid reticulosis in having a poor prognosis. On the other hand, an admixture of giant basophilic cells with lymphoblasts appeared to be a prognostically favorable sign.—L. D.


In the last 11 years, 2043 cases of infectious mononucleosis were treated, an increase over pre-
ceeding years. The peak incidence was in young children, age 2–3, and during puberty. A higher incidence among students as compared with other occupations was confirmed. In the capital of Prague, there were some districts with a higher incidence. About 10 per cent of persons from the patient’s environment probably were contacted. —L. D.


Oxidative enzymes in the specific granules of horse neutrophils were examined and compared. The highest activity of Dopa oxidase was detected in the specific (neutrophilic) granule fraction, while the succinic oxidase system was localized in the mitochondrial fraction. Oxidation of NADPH and NADH was demonstrated in all particulate fractions tested, the activity with NADPH being higher than that with NADH. Spectrophotometric studies in the presence or absence of carbon monoxide revealed the existence of a cytochrome of the b type in the neutrophilic granule fraction. The oxidases and cytochrome b in the specific granules may play a role in the metabolic changes associated with phagocytosis and in the characteristic oxidase staining reactions of granulocytes.—K. F.


Two second cousins, a woman aged 68 and a man aged 30, were reported. In the woman, a paraprotein IgA was present; in the male, IgG + IgA paraproteins were detected. The presence in the same subject of two paraproteins was interpreted as due to a biclonal gammapathy.—P. d. N.

**HEMOSTASIS**


A heterogeneous group of 13 patients with mild bleeding tendencies, but normal platelet counts and coagulation mechanisms, were all found to have a similar and hitherto undescribed abnormality of platelet behavior. The platelets aggregated as rapidly as did those of controls after addition of ADP to platelet-rich plasma (PRP), but at 37°C the patients’ platelets disaggregated with abnormal rapidity. Platelet aggregation by collagen was diminished or absent in all 13. In all three patients tested, only first phase platelet aggregation was produced by noradrenaline. In these 3, addition of thrombin to PRP produced normal initial platelet aggregation. When cloting occurred, normal platelets were enmeshed in fibrin, but the patients’ platelets tended to remain free in the supernatant serum. Mixing experiments with normal and patients’ platelets and plasma suggested that the defect resided in the patients’ platelets and the authors suggested that it was a failure of release of intrinsic ADP.—A. L. B.


In 21 cases of acute and chronic leukemia, platelet adhesiveness in vitro and in vivo was studied by means of Brochgevink’s and Hellem’s methods, respectively. Frequently, reduction of the adhesive properties was found.—P. d. N.


Infusions of dextran caused a reduction of platelet adhesiveness, maximal after 4 hours. Five subjects, aged 4 to 12, were given 130 ml. dextran-40 or -70 in 30 minutes and Hellem’s method was used.—P. d. N.


A sulphonic polysaccharide with structure similar to that of heparin, but with marked fibrinolytic activity and little anticoagulant activity, war...
demonstrated to inhibit platelet aggregation in heparinized platelet-rich citrated plasma on the addition of calcium chloride. The inhibition was dose dependent. This compound may be useful in the prophylaxis and treatment of thrombotic disease.—A. L. B.


Platelet adhesiveness to glass beads was reduced in two patients with scurvy and was rapidly corrected by administration of ascorbic acid. Both patients also had reduced serum folate levels, but platelet adhesiveness was normal in two other patients with folate deficiency without scurvy. Ascorbic acid levels were measured in one; it was absent from platelets and reduced in leukocytes. After treatment with ascorbic acid, the platelet levels rose markedly before falling to an equilibrium level about four times higher per cell than in leukocytes. Normal platelets also were found to contain substantially greater quantities of ascorbic acid than normal leukocytes. The reduced platelet adhesiveness in scurvy may be related to the patients' bleeding tendency.—A. L. B.


Platelet adhesiveness, measured by a rotating bulb method, was reduced in the blood of scorbutic guinea pigs when compared to normal control animals. The reduced adhesiveness was not due to any measured difference in erythrocyte population.—A. L. B.


Thromboplastin generation was carried out with platelets at different concentrations, with or without lysis and repeated washings. A certain delay in thromboplastin formation was observed when using a concentration of $20 \times 10^9$/mm$^3$. Complete lysis of platelets caused inhibition of thromboplastin generation proportional to the number of platelets. The inhibition was attributed to a discrepancy between the concentrations of plasma and platelet factors.—P. d. N.

**ADHESIVENESS PLATELET**


Paper chromatography revealed 7 amino acids in all cases: lysine, taurine, glutamic acid, alanine, tyrosine, valine and leucine-isoleucine. Small amounts of glycine, proline and phenylalanine also were found.—P. d. N.


With special consideration for application to bone marrow smears, the direct and indirect fluorescent antibody methods were applied to visualize the affinity between fluorescein labeled anti-human globulin and platelets or megakaryocytes. Fluorescence in megakaryocytes in the marrow of a patient with chronic ITP was recognized by the indirect method, but not in acute ITP nor in any controls. It was suggested that the transfer of some component in the serum of the patient with chronic ITP to the megakaryocyte of normal bone marrow was proved and visualized by fluorescence. The presence of IgG in cytoplasm of megakaryocytes, proved by the direct method, indicated the possibility of adherence of this immune globulin (antibody) and might have etiologic significance for the clinical picture of chronic ITP.—K. F.


Using a technic of leukocyte concentration, observations were made on the occurrence of megakaryocyte nuclei in antecubital vein blood. The data, in part, appeared to indicate that the rate of appearance in cancer patients significantly increased as the secondary anemia progressed. The frequency of circulating megakaryocyte nuclei in primary iron deficiency anemias, however, was
not significantly higher than that in healthy individuals, and the frequency significantly increased in association with an inflammatory process or generation of a lymphoma, regardless of presence or absence of secondary anemia. Anemia per se may have little influence on the appearance of circulating megakaryocyte nuclei. Some unknown factors that may cause and intensify the secondary anemia in patients, whether cancerous or non-cancerous, may be responsible for the appearance of nuclei in peripheral blood.—K. F.


In 10 healthy persons, the smoking of two cigarettes in the morning did not change the recalciﬁcation time, prothrombin time, euglobulin ﬁbrinolysis, the thromboelastogram or platelet adhesiveness to glass. All tests were performed before, 20 and 60 minutes after the second cigarette.—L. D.


Among 141 cases of hemophilia A, 33 per cent had a negative family history at birth. Among these de novo cases, 94 per cent could be classiﬁed as severe. The same incidence of severe hemophilia B was found among the sporadic cases in which there was a single case per kinship. In a smaller group of boys with hemophilia B, approximately one ﬁfth were sporadic and all were severely affected. Since the mean Factor VIII levels among the maternal grandmothers of sporadic cases of hemophilia A were close to normal and signiﬁcantly higher than the mean Factor VIII levels of conﬁrmed “carrier” grandmothers, it would appear that sporadic cases represent the result of a recent mutation—in the patient’s mother or in either of the maternal grandparents. The mutation rates for hemophilia A and B were estimated as slightly less than 4.2 × 10⁻⁶ and 0.46 × 10⁻⁶, respectively. From the data described, it would appear that cases of hemophilia A or B arising by mutation contribute primarily to the pool of severely affected patients.—J. B. S.

**Treatment of Haemophilia (Factor VIII Deﬁciency) with Human Antihaemophilic Factor Prepared by the Cryoprecipitate Process. C. R. M. Prentice, R. T. Breckenridge, W. B. Forman and O. D. Ratnoff. From Western Reserve University School of Medicine, Cleveland, Ohio. Lancet 1:457–460, 1967.**

The authors’ experience with the successful use of Pool’s cryoprecipitate antihemophilic factor in the treatment of 11 bleeding episodes in 8 hemophilic patients was reported. A total of 393 packs were used and assay in vitro of 21 of these showed an average content of 113 units of antihemophilic factor per pack, equivalent to 113 ml. of average normal plasma. Recovery in vivo after infusion averaged 81 percent. Although there was considerable variation in potency from pack to pack, the authors estimated that the contents of 12 packs were necessary to raise the Factor VIII level of an average sized severely affected adult patient to over 30 percent.—A. L. B.


A group of adults and children suffering from severe classical hemophilia took part in a double-blind trial to determine the effects of continuous low-dosage prednisolone therapy in preventing bleeding episodes. The number of bleeding episodes in children, but not in adults, was signiﬁcantly reduced, but the mean duration increased slightly and the disability from the disease was not reduced. Because of the marginal improvement, this method of treatment was not recommended.—A. L. B.


A modification of Pool’s original method was used. Blood was taken into 500 ml. single packs and plasma was transferred to 600 ml. transfer packs. These packs were ﬂattened, frozen rapidly at −70°C, thawed relatively quickly at 6–8°C and the precipitate then collected and processed as in the original method. Mean overall recovery of Factor VIII in patients’ circulation was 43 per cent for concentrates prepared by the original method and 61 per cent for those prepared by the
new method. Excellent clinical results were observed in all children, except two who had circulating Factor VIII inhibitors, one of which developed during treatment with cryoprecipitate. In two other young children, major surgery was successfully performed. A disadvantage of the new method was that the supernatant plasma could not be safely returned to the packed red cells.—A. L. B.


The authors’ methods for the preparation of cryoprecipitate antihemophilic factor and fresh frozen plasma were described. The supernatant plasma left after preparation of cryoprecipitate contained 86 per cent Factor IX and 90 per cent Factor XI and was useful for the treatment of patients with deficiencies of these clotting factors. Fresh frozen plasma prepared in plastic bags had higher Factor VIII activity than that prepared in glass bottles. When prepared in plastic bags, plasma from group A donors was more active than that from group O donors.—A. L. B.


A woman and her two children, one boy and one girl, were described. Bleeding occurred only in the woman, particularly after surgery or par- turi- tion. Her karyotype showed the presence of a large submetacentric autosome, similar in morphology to the 6-12 pairs, but in size to the 4-5 pairs.

In the children, karyotypes were normal.—P. l. N.


The authors studied the relationship between fibrinolytic activity and the function of megakaryocytes. In bone marrows with high fibrinolytic activity, the function of megakaryocytes, such as motility and platelet formation, was markedly decreased. Elevation of fibrinolytic activity, caused by direct addition of plasmin to the bone marrow tissue culture, hindered the function of megakaryocytes. The stimulating effect of ACTH on megakaryocyte function was diminished by plasmin.—K. F.

MISCELLANEOUS


A brief discussion of the classification of the congenital immunoglobulin deficiencies and 7 case descriptions were presented. One patient had IgG levels of 12 mg./100 ml., the others had levels of 120 to 375 mg. The concentration of IgG, IgA and IgM varied widely from patient to patient, including a pair of identical twin girls. None of the patients developed an antibody response to either influenza or polio immunization. Antibody response to intravenous bacteriophage was, in general, markedly depressed, but two of three patients so studied had normal antigen clearance. Four patients had detectable isohemagglutinins. Lymph node morphology following antigenic stimulation varied. Only in one infant who probably had prolonged neonatal hypogamaglobulinemia were any plasma cells seen. Skin transplantation studies also were variable. There was no correlation between immunoglobulin levels, the various studies and the severity of symptoms; thus, the title of the paper.—J. B. S.


Prolonged intra-peritoneal injection of iron dextran was found to have an anti-atherosclerotic effect.—J. B. C.