ERYTHROCYTES


An 8-year-old boy of Austrian-Irish and Finnish-Swedish ancestry developed an acute hemolytic episode at age 8 yr, associated with a flu-like illness. He was subsequently found to have a mild nonspherocytic hemolytic anemia with a red cell 51Cr T 1/2 of 6.4 days. Erythrocyte G-6-PD assays revealed 10% to 25% normal activity. The enzyme had a normal Michaelis constant for G-6-PD and borderline-low Kₘ for TPN. The pH activity curve of the enzyme was normal as was its utilization of substrate analogs. The G-6-PD demonstrated slowed electrophoretic mobility, moderate thermal instability, and an increased rate of in vivo degradation. This variant has been named G-6-PD Alhambra.—J.B.S.


The authors reported on three unrelated pyruvate kinase deficient patients in whom the enzyme was partially purified and characterized. The Kₘ values for PEP and ADP were normal in all three cases. However, the enzymes of two patients showed straight lines in the 1/v versus [PEP] plots. From these data it is concluded that these enzymes had lost their allosteric properties. In agreement with this conclusion it was found that in the v versus [PEP] plot the Hill coefficients (n) were not influenced by...
the presence or absence of Fru-1,6-P\textsubscript{2} and had a value of 1, meaning no cooperation. For the enzyme of the third patient the n value in the absence of Fru-1,6-P\textsubscript{2} was 1.6, which is normal. With starch gel electrophoresis the normal enzyme and the enzyme of the third patient showed two bands. But for the two enzymes that had lost their allosteric properties, one band was almost absent. In all three cases a decreased heat stability was found.—M.C.V.

**Studies on the Agglomeration of Erythrocytes by High Molecular Weight Polymers. III. Isolation and Identification of the Phospholipid Agglomeration Factor from Human Erythrocyte Membrane.** J. Kwiatkowska, W. Wnuk and Morawiecki, Department of Physiological Chemistry and Department of Biophysics, Medical School of Wroclaw and Department of Biophysics, Institute of Immunology and Experimental Therapy, Polish Academy of Sciences, Wroclaw, Poland. Arch. Immun. Ther. Exp. 18:386–390, 1970.

Erythrocyte phospholipids were extracted and were separated by means of chromatography on silica gel, and their effect on agglomeration of erythrocytes by polyvinyl alcohol and other polymers was examined. The active fractions inhibiting red cell agglomeration were identified as phosphatidyserine and phosphoinositids. These phospholipids obtained from ox and hog brain were also active. In the direct reaction of the active phospholipids with polyvinyl alcohol precipitate formation was observed. It was found that one molecule of phospholipid is bound per two to three monomers in the polymer molecule. On the basis of the results of viscosity measurements it was concluded that active phospholipids caused shrinking of the polymer coil. —M.K.


The activity of delta-aminolevulinic acid dehydrase (ALAD) of erythrocytes was determined four times during 6 months in 25 workers exposed to lead in a fire-processing plant of zinc and lead ores. The concentration of lead in the air during investigations ranged from 0.117 to 0.854 mg/cm\textsuperscript{3}. Pronounced and abrupt inhibition of ALAD activity was found to be on the average about 8% of the control values. No correlation with excretion of delta-aminolevulinic acid was observed. The abnormalities in ALAD activity occurred in all cases examined. In the authors’ opinion, determination of ALAD in erythrocytes of peripheral blood may be useful for detection of short-term or even single exposures to lead.—M.K.


A family was studied in which a son, a daughter, and a paternal aunt showed clinical and laboratory evidence of autoimmune hemolytic disease. The father has longstanding rheumatoid arthritis, another son has proven pernicious anemia while one daughter, though clinically well, exhibits mild serological abnormality. Antiparietal cell antibodies were demonstrated in one case of autoimmune hemolytic disease in addition to being noted in the serum of the member with pernicious anemia. The direct antiglobulin reaction was strongly positive in those affected by hemolytic disease, but in addition a weak positive reaction was demonstrated in the case of pernicious anemia. The pattern of cold autoantibodies, warm auto- and isoantibodies and other abnormal serology found in the blood of different members of this family would appear to suggest a common hereditary basis for the diseases present.—J.E.U.

The therapy of pure red cell aplasia is discussed. In the case of a 14-yr-old boy without signs of a thymic tumor, prednisone was effective only in high doses (2 mg/kg body weight). A good remission was obtained, continuing now after 6 yr. In spite of the anemia the hemosiderosis was treated with blood lettings instead of administration of an iron chelating agent.—M.C.V.


Experience with 110 IUTs in 57 fetuses is described. The statistics reported are difficult to evaluate because of a number of changes in technique, et cetera, during the 4 years of the study. Clearly however, IUT to a fetus who is already hydropic is without value. Unfortunately, spectrophotometric analysis of the amniotic fluid was not helpful in predicting hydrops. Among the 45 nonhydropic fetuses, 16 survived the neonatal period. Late in the study, after the volume of IUT was decreased to around 85 ml/kg and the rate of transfusion slowed to 7 to 10 ml/hr, survival was 50%. Nine of the 45 infants were born alive, but died of hyaline membrane disease. There is some suggestion from the data presented that “hypertransfusion” might depress the fetal bone marrow and at the same time permit delivery at a later date thereby decreasing the 20% mortality from respiratory distress (RDS).—J.B.S.

LEUKOCYTES

STUDIES ON THE ACTIVITY OF RIBONUCLEASE IN THE SERUM AND URINE IN SUBJECTS GENETICALLY RELATED TO PATIENTS WITH CHRONIC GRANULOCYTIC LEUKEMIA. J. Aleksandrowicz, J. Sznajd and J. Okulski. Laboratory of Clinical Biochemistry of the Third Department of Internal Medicine, School of Medicine, Krakow, Poland. Pol. Tyg. Lek. 25:873–875, 1970.

The activity of ribonuclease in blood serum and in urine was examined in 28 patients with chronic granulocytic leukemia and in their 96 relatives. The activity of ribonuclease was found to be significantly higher in patients than in their fathers, sisters, sons, and daughters. Statistically valid difference was observed between patients and their mothers and brothers. However, the results obtained in these last groups of patient relatives did not differ significantly from the control groups of healthy subjects.—M.K.


By use of a modified Balaklowskis’ method, leukocyte proteolytic activity was measured in healthy individuals and in patients with myelogenous and lymphatic leukemias. No difference was found between patients with chronic granulocytic leukemia and controls. In myeloblastic leukemias the proteolytic activity of white cells isolated from peripheral blood was markedly diminished and in patients with lymphatic leukemias, practically absent. In the authors’ opinion, measurement of leukocyte proteolytic activity may be helpful in differentiation of leukemias.—M.K.

GROWTH OF L-1210 LEUKEMIA CELLS IN SUSPENSION CULTURE. P. Kiesielew. Laboratory of Tumor Biology, Institute of Immunology and Experimental Therapy, Polish Academy of Sciences, Wroclaw and Department of Tumor Biology, Institute of Oncology, Gliwice, Poland. Arch. Immun. Ther. Exp. 18:492–499, 1970.

A new subline of leukemia L-1210 adapted to grow in suspension culture was obtained by alternate cell passaging from mice to in vitro cultures and vice versa. The new subline was compared with paternal cells in respect to cariogram, strain specificity, and growth in vivo in syngeneic recipients. Stabilized ability to grow in an in vitro culture as well as a prolonged survival of
mice inoculated with the cells of the new subline were found. This allowed this new subline to be distinguished from the parental one. —M.K.

The Influence of Some Protease Inhibitors on Phagocytes. K. Grzybek-Hyn-
cowicz, J. Ładoz and S. Slopek. Faculty of Microbiology, School of Medicine, Wroclaw, Poland. Arch. Immun. Ther. Exp. 18:442–450, 1970.

The influence of heparin, EACA, and Trasylol on phagocytosis of Staphylococcus aureus, S. sonnei, and S. typhimurium by guinea pig leukocytes was examined in several in vitro experiments. It was found that large doses of heparin (25 and 12.5 mg/ml) inhibited phagocytosis by eliminating the activity of complement which in guinea pig is a component of the opsonizing factor for the examined bacteria. Smaller doses of heparin and EACA enhanced phagocytosis increasing the opsonizing properties of serum. Trasylol was found to enhance phagocytosis, increasing the phago
cytic capability of granulocytes. —M.K.

Alkaline Phosphatase Activity of Granulocytes in Liver Cirrhosis. F. Kash, Department B of Internal Medicine, Dist-

The activity of alkaline phosphatase (AP) of granulocytes was examined according to Kaplow (BLOOD 10:1023, 1955) in 30 pa-
tients with liver cirrhosis and in 30 control healthy subjects. Significant increase in the AP activity in granulocytes was found in all examined patients. This increase was particularly high in decompensated liver cirrhosis but disappeared after hemorrhages from esophageal varices. The AP activity did not correlate with bilirubinemia, changes in serum proteins, serum AP activ-
tivity and blood cell counts. —M.K.

The Effect of Podophyllin Alkaloids on the Blood Protein Pattern in Multi-

Serum protein patterns were examined in two groups of patients (eight cases in each) with multiple myeloma before and after treatment. The first group was treated with a semisynthetic derivative of Podophyllum emodi (Proresid, Sandoz), and the second with various cytostatic drugs, such as cyclophosphamide, melphalan, and nitrogen mustard. Initial changes in serum proteins were similar in both groups. A favor-
able effect of Proresid was shown and consisted of diminishing bone pains and a significant decrease in the total proteins content and in the M paraprotein fraction. The results were better than in the group treated with other cytostatic preparations. No significant side effects were observed after administration of Proresid. —M.K.

Treatment of Disseminated or Generalized Hodgkin’s Disease (Stages III and IV) by Combined Chemotherapy, Oc-
casional Splenectomy and Supple-

The treatment of 40 patients with Hodgkin's disease stage III-B and 16 patients presenting stage IV-B is discussed. Chemother-
apy was first prescribed to induce re-
mission. Afterwards, high-voltage radio-
therapy was used to try to eradicate the disease. First, all lymphnodes above the dia-
phragm were treated; after an interval of 3 to 6 wk, total nodal irradiation under the dia-
phragm was administered. In some cases splenectomy was performed and in some cases chemotherapy with vinblastine as maintenance therapy was given. Eighty-
two per cent complete remissions were ob-
tained. The median duration of remissions was 30 months for stage III and 18 months for stage IV. —M.C.V.

Combination Chemotherapy in the Treatment of Advanced Hodgkin’s Dis-

Forty-three patients with advanced, pri-
marily untreated Hodgkin's disease were treated with a combination of vincristine
sulfate, nitrogen mustard (or cyclophosphamide), procarbazine hydrochloride, and prednisone, given in cyclical fashion for 6 months. The limiting toxicity was primarily bone marrow suppression, which, though occasionally severe, was generally tolerable. Other toxicity such as alopecia and neurotoxicity were troublesome but reversible. The response rate was superior to that previously reported with the use of single drugs with 35 of 43, or 81% of the patients achieving a complete remission, defined as the complete disappearance of all tumor and return to normal performance status. The duration of these responses after all therapy was discontinued was gratifyingly long, with a median of not less than 29 and not more than 42 months. Seventeen of 35 patients continue free of their disease, and 28 of these 35 are still alive. The median survival of the responding group is greater than 42 months, and life-table analysis of the results indicates that of those complete responders at risk 4 yr, 77% remain alive and 47% are continuously free of their disease. The surviving fraction of the entire group at risk 4 yr is 63%. It appears that combinations of effective drugs that act by different mechanisms and manifest different toxicities can be used effectively to increase the response rate and probably the survival of patients with sensitive tumors such as Hodgkin's disease. Abstractor's comment: An impressive study.—J.E.U.

Evolution of an Atypical Case of Burkitt Lymphoma. M. Jamra, R. P. S. Carvalho and G. Dalldorf. School of Medicine, University of São Paulo, São Paulo, Brasil. Lancet 1:672, 1970.

A 12-yr-old girl was admitted to the hospital on February 5, 1970, with swelling of the left side of the face, and fever and pallor. On examination the gums were swollen; there was no hepatosplenomegaly. A mass was found in both iliac fossae, and on gynecological examination an elastic tumor was felt, believed to be ovarian in origin. Laboratory findings were as follows: RBC 2.9 million/cu mm; WBC 900/cu mm (stab neutrophils 2%, segmented neutrophils 8%, mature lymphocytes 78%, monocytes 12% with a few immature monoblasts); platelet count 116,000/cu mm. Sternal bone marrow showed myeloblasts 10%, paramyeloblasts 2.2%, "monocytic immature cells" 17%, granulocytic cells 14%, erythroblasts 26.8%, and mature lymphocytes 24.4%, plasma cells, reticulum cells, hemophils, and hemocytes 5.6%; no megakaryocytes were seen. Laparotomy on February 26, 1970, revealed ovarian tumors, the size of oranges, on both sides. Histological examination of biopsy specimen showed a starry-sky pattern with lymphoblastic and reticulum cell proliferation typical of Burkitt lymphoma. The ovarian tumors were not removed. Without specific treatment and only with a small dose of oral penicillin, there was a spontaneous clinical and hematological remission in March: the face lesions disappeared and the RBC rose to 5 million per cu mm, the Hb to 13.9 g/100 ml, the platelets to 275,000/cu mm, and the WBC to 8700/cu mm (11.5% lymphocytes). At a second operation on March 5, the tumors were found to be so much smaller that the ovaries appeared almost normal and were therefore not removed. The remission lasted until May, when the anemia, leukopenia, and thrombocytopenia reappeared, and laboratory findings suggested lymphatic leukemia. The bone marrow was infiltrated with 66% "reticulum-histiocytic-monocytoid immature cells." At this point, cyclophosphamide treatment was started, and there was a prompt response: the blood and bone marrow pictures became nearly normal. On June 10, the bone marrow showed only 7% reticulum cells, and the blood contained 4.2 million RBC, 5300 WBC, and 114,000 platelets/cu mm. This was the picture at the time of writing (Aug. 12). During the illness, serum samples were tested serially for precipitating (PP) and immunofluorescent (IF) antibodies against Jijoye antigen and fixed Jijoye cells, and for heterophilic antibodies (H). The results were as follows (N.D. = not done):

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ABSTRACTS

This case raises the following question: in view of the clinical change from lymphoma to leukemia, should we change the diagnosis of Burkitt’s lymphoma? Also, during the evolution of the illness, we noted the appearance of antithrombin-like virus antibodies which decreased after the remission was induced by cyclophosphamide. How much significance should be attached to the serological tests as against the clinical and hematological findings?—M.J.


The authors present the data obtained in the treatment of patients with acute leukemia by the use of cytarabine, l-asparaginase and daunomycin, comparing them with other data in the literature. The evaluation of results according to the clinical and hematological criteria of Bisei, shows that of 11 cases treated with daunomycin, complete remission was obtained in one case, partial remission in three cases and no response in seven cases. Of eight patients treated with l-asparaginase, one showed complete remission, three partial remission, and no response was obtained in four. Eight patients treated with cytarabine obtained partial remission. Data are presented and comments made about the side effects and laboratory findings observed during the use of these new antileukemic agents. These drugs are indicated as a second-line therapy, mainly in those cases in which the classic treatment failed or developed drug resistance.—M.J.


Three females (age 64, 67, and 70) had chronic lymphocytic as well as acute granulocytic leukemia. In one the onset of acute leukemia followed that of CLL after 3 yr; in the other two both forms were discovered simultaneously. In the first case the chronic leukemia had failed to respond to therapy when the acute form supervened. No history of exposure to radiation or other leukemogenic agents was obtained. “Mixed” leukemia is extremely rare; the literature contains only three or four adequately documented cases similar to those described.—F.W.G.


A 47-yr-old man had severe marrow depression following phenyl butazone therapy. He made an apparent full recovery, but 32 months later developed acute myelomonocytic leukemia. His father had died 19 yr previously from acute leukemia. The interaction of genetic predisposition and potentially leukemogenic agents is discussed.—F.W.G.

HEMOSTASIS


In healthy full-term infants, platelet phosphofructokinase activity was decreased and platelet phosphoglycerate kinase and G.O.T. activity were similar to those obtained. “Mixed” leukemia was illuced by cyclophosphamide. How much significance should be attached to the serological tests as against the clinical and hematological findings?—M.J.


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HEMOSTASIS


In healthy full-term infants, platelet phosphofructokinase activity was decreased and platelet phosphoglycerate kinase and G.O.T. activity were elevated, paralleling changes previously described in newborn erythrocytes. Platelet hexokinase, enolase, PK, LDH, and G6PD activity were similar to the adult controls.—J.B.S.


A method for quantitative determination of the aggregation of platelets in human platelet-rich plasma is described. It is a development of the turbidometric method introduced by Born, but the authors use a
double beam spectrophotometer, a special stirring device and continuous recording of the changes in optical density. The ADP-induced platelet aggregation is a reversible process when small doses of ADP are used. In kinetic studies one must consider both phases. The authors claim that their method could be used to follow—and mathematically express—the reaction velocities for the two phases. The method was used to test the inhibitory effect of three pyrimidopyrimidine derivatives (dipyridamole, RA 233 and RA 433) on ADP and noradrenaline induced platelet aggregation in vitro. The inhibitory effect was also studied with regard to ADP induced platelet adhesiveness (according to Hele. The. Platelet aggregation and adhesiveness were markedly inhibited by RA 233 and 433 (5-50 µg/ml) while dipyridamole (50-100 µg/ml) only had weak and irregular effects. None of the compounds influenced the rate of aggregation.—P.G.R.


Leupeptin is a new substance isolated from various species of actinomycetes by Umezawa in 1968. The report describes in vitro effects of this substance on the blood clotting and fibrinolytic systems. It was found that Leupeptin exerted a strong inhibitory effect on the action of thrombin and on the thromboplastin generation. The substance also was markedly inhibitory of the function of activated contact factor although it did not affect the process of its activation. On platelet adhesiveness Leupeptin showed a significant and a complete suppression at concentrations of 10 µg/ml and 1000 µg/ml, respectively. The substance was also found to be antiplasmic as measured by fibrinolysis and caseinolysis.—K.F.


During blood clotting a proteolytic activity appears which lyses the synthetic arginine amide substrate. Generation of this activity is closely related to thrombomogene-

sia. However, while thrombin disappears from the serum quickly, proteolytic activity toward synthetic substrate remains stable. It is connected with the alpha-macroglu-

bulin fraction of the serum. This proteolytic activity is markedly diminished in sera of patients with decompensated liver cirrhosis or with liver cancer. Decreased serum activity in these patients was accompanied by a prolonged prothrombin time. A positive correlation between the proteolytic activity of serum and prothrombin time was also observed in patients treated with anti-

coagulants. Low proteolytic activity of serum bound to alpha-macroglubulins in these patients is due to decreased generation of this activity during impaired blood clotting.—M.K.


The content of NANA and of hexoses was found to be significantly higher in extensively washed fibrin formed in plasma of patients with rheumatoid arthritis than in controls. Occultation of carbohydrate rich macroglubulin in the fibrin network is the most probable mechanism of the observed differences.—M.K.


Four infants between 5 and 8 wk of age presented with evidence of untoward bleeding. In each there was marked prolongation of the PT and PTT, and when assayed, marked depression of factors II, VII, IX and X. The administration of vitamin K caused a prompt cessation of hemorrhage, and a return to normal of the prothrombin complex. All the infants were full term, none
had received postnatal vitamin K, three had been breast-fed, and the fourth had intermittent gastrointestinal upset. Two of the infants had received antibiotics. In none was there evidence of hepatic disorder, and the precise reason for these episodes was unclear.—J.B.S.


Scattered hemostatic defects occur in children with cyanotic congenital heart disease and appear to be most related to the degree of polycythemia and hypoxia. This was particularly true with regard to the platelet count which was below 150,000/cu mm in half the patients, most of whom had a PCV exceeding 60%. Prolongation of the bleeding time, frequently in the absence of thrombocytopenia, occurred in 28% of the patients; prolonged PT and PTT were each seen in 14%, the latter abnormality usually associated with depressed factor VIII activity. Mild depression of plasma fibrinogen levels was also seen, but other evidence of DIC was usually lacking. Among the patients undergoing cardiac surgery, the severity of postoperative hemorrhage appeared to correlate with the preoperative presence of multiple hemostatic defects.—J.B.S.


In seven cases of Von Willebrand’s disease 37 prophylactic and therapeutic transfusions of cryoprecipitate were performed. Long-term rise of the level of factor VIII in plasma was observed while normalization of the bleeding time was short-lasting. The clinical results of transfusions were very good in all cases, confirming the suggestion that cryoprecipitate stimulates the synthesis of AHG in Von Willebrand’s disease.—M.K.


Hemostatic defects suggesting chronic low-grade DIC were seen in a group of youngsters with polycythemia secondary to cyanotic congenital heart disease. These defects worsened after the age of 3 yr. Among young cyanotic children in whom polycythemia had not yet developed, platelets, and factor I, V, and VII were frequently elevated. Alterations in the prothrombin complex were found primarily in infants below 3 months of age who were receiving broad-spectrum antibiotics. Parenteral Vitamin K corrected these defects in each case. Finally in a small group of cyanotic patients with pulmonary vascular obstruction the pattern of coagulation abnormalities was similar to that seen in the older patients with cyanotic CHD.—J.B.S.

IMMUNOHEMATOLOGY


Formalin-treated A1 and A2 red cells incubated with the enzyme from Clostridium tertium A destroyed their A activities and consistently increased H activities. These enzyme-treated A1 and A2 red cells did not react with antiserum from rabbit immunized with N-deacetylase-treated A substance. The enzyme from Cl. tertium A released galactosamine, galactose and N-acetylglucosamine from both A1 and A2 red cells, but did not release galactosamine from O red cells. The number of A antigenic sites was estimated to be about 1.60 X 10^6 per red cell of A1 and about 0.40 X 10^6 per red cell of A2.—K.F.

SYNTHESIS OF MODELS OF GLYCOLIPID HAPTOGENS OF GROUP B SPECIFICITY. B. Czartoryska and J. Kościelak. Department of Biochemistry, Institute of Hematology,

A number of 2,3-di-alkylglycerol 1,0 glycosides was synthetized to be used as models of glycolipid antigens. The obtained preparations showed no hemolytic properties and only slightly inhibited nonspecific erythrocyte agglutination. The compounds containing alpha-galactopyronosyl 1,3-galactopyranoside inhibited the agglutination of erythrocytes of B group by the anti-B antiserum more strongly than analogous compounds containing maltoside and lactoside radicals.—M.K.


Human lymphocytes were cultured in vitro in the presence of various stimulatory agents (PHA, PPD, Concanavalin, allogenic unpurified lymphocytes) for various periods of time, then subjected to the membrane indirect immunofluorescence test. Both light chains kappa and lambda determinants were found on transformed lymphocytes. Apart from light chains, C6 complement determinants were demonstrated in PHA-stimulated cultures. There was strong relationship between the number of positively reacting cells and the number of blastic cells.—M.K.


The complement dependent agglutination of platelets and leukocytes by specific antibodies was investigated. Agglutination was inhibited if Ca++ ions were removed or if C3 and C4 fractions of complement were neutralized by anti-C antibodies. Similarly, treatment of antplatelet and antileukocyte sera with 2-mercaptoethanol caused inhibition of agglutination without influencing the activity of antibodies. The results obtained permit to establish the importance of complement as a factor which reacts with specific antibodies causing the passive agglutination of sensitized platelets and leukocytes.—M.K.


Previous work of one of the authors demonstrated that replicative RNA of Sindbis virus is a potent inducer of interferon in mice. In the present study it was shown that a single dose of rabbit antimouse lymphocyte serum (ALS) introduced intraperitoneally into mice 24 hr prior to stimulation with Sindbis virus RNA induced a 40–10-fold reduction in the titer of serum interferon as compared with the controls. Repeated treatment with ALS for 2 or 3 days gave similar effects. In contrast, treatment with ALS had no significant effect on interferon production induced by the complete extra or intracellular Sindbis virus. Rabbit anti-Sindbis virus serum did not affect the induction of interferon by replicative virus RNA but slightly depressed the response to the whole virus. It is suggested that different population of cells ALS-sensitive and ALS-resistant may take part in the response to various inducers of interferon production.—M.K.


Clinical and experimental evidence for the association of malignant lymphomas with aberrations in the immunologic system of the host becomes ever more convincing. Genetic and environmental factors as well as specific carcinogens are considered to be operative in the complex mechanisms that are reflected in the oncogenic response at
the cellular and subcellular level. Burkitt's tumor has been an important human model for the study of some of these factors. An hypothesis that relates the effect of persistent immunologic stimulation to the induction of this tumor is presented in this excellent review.—J.E.U.


Chemical and immunological findings in a case of cold agglutinin disease are presented. The clinical course was benign in spite of a titer of 1:25,000 of serum anti-I agglutinins. These agglutinins were identified as monoclonal IgM globulins of type K. Some experiments suggesting inhibition of cold agglutinins by antigens present in body fluids as a probable cause for the benign course of the disease are included.—M.K.

MISCELLANEOUS


Characteristic patterns of skeletal deformities in sickle cell anemia are described on the basis of radiological examination of 120 cases of black children 6 months to 14 years old. Three selected cases displaying particular diagnostic difficulties are described in detail. The plasticity of the bone tissue due to hypertrophy of the hemopoietic system and collateral atrophy of bone trabeculae may lead to bone deformities, primary as well as secondary to infarctions. The following deformities were observed: coxa plana and magna, osteochondrosis dissecans, conical deformities of phalangeal epiphyses. In one case, the changes imitated Blount's disease—that is, osteochondrosis deformans tibiae. Infarctions localized in long bones may present patterns similar to neoplastic growth. One case showing this last diagnostic difficulty is presented.—M.K.


Twenty patients with lymphosarcoma and reticulosarcoma were examined. Clinical symptoms of mycosis were observed in six. Cultures of sputum, blood, or urine gave positive results in 16 cases, Candida Albicans being more often detected than Candida Tropicalis. In the majority of the examined patients, X-ray therapy and cytostatic drugs were applied. Abstractor's comment: The percentage of positive cultures in controls is not given.—M.K.