ABSTRACTS

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BONE MARROW


The development of extramedullary hematopoiesis in a classical case of idiopathic aplastic anemia is extremely rare. In classical aplastic anemia there is universal aplasia of hematopoietic tissues all over the body and enlargement of spleen, liver and lymph nodes is characteristically absent. Evolution, progress and termination of myeloid metaplasia supervening in a young adult male who originally presented as an aplastic anemia without any splenomegaly but later showed marked splenic enlargement, are described in detail. Implications of the pathogenetic process are discussed.—J.B.C.


A study of seventeen cases of myelosclerosis is presented, ten of which followed what is regarded as the usual course of the disease, while seven were regarded as "atypical." The pathogenesis of myelosclerosis is discussed and it is suggested that there is some basis for the belief that the disease is a proliferative disorder akin to leukemia and polycythemia vera. Although no new information is recorded, the clinical features and pathogenesis are discussed clearly and concisely.—G.C.deG.


Although there is considerable agreement in the literature on peripheral counts of rat blood, there is a lack of uniformity in the counts related to hematopoietic tissues (spleen, lymph node, thymus and bone marrow). The use of sectioned material and a camera lucida has been helpful in establishing a normal picture of hemopoiesis in the rat. In the present article, cell counts of hematopoietic tissue are 2 to 3 times greater than that found in the literature. The myeloid-erythroid ratio, 0.739, falls toward the lower limit of the range in the literature.—O.P.S.
ON THE PATHOLOGICAL CHANGES OF BONE MARROW IN APLASTIC ANEMIA INCLUDING ATOMIC BOMB DISEASE. S. Amano. From the Department of Pathology, School of Medicine, Kyoto University, Kyoto, Japan. Reports of Hematological Symposium 7: 332-371, 1954.

To clarify the pathogenesis of aplastic anemia, the author studied the vertebral bone marrow of autopsy cases: 10 cases of anemia caused by atomic bomb explosion (subacute form 8, and chronic form 2) and 9 cases of other aplastic anemia (1 case caused by chronic X-ray irradiation, 3 cases caused by some drugs and the rest were cryptogenetic), comparing the hemograms and myelograms.

In the cases of subacute atomic bomb disease the myelogram was classified into the following four types: aplastic, hypoplastic, maturation arrest and almost normal. But when histological sections of bone marrow were examined in each case, they were all characterized by multiple nodular hyperplasia of cells in various degree, which might have grown from single surviving cells. The areas of hyperplasia and aplasia made a mosaic with each other. Hyperplasia of the fetal variety was not seen. In some cases, these hyperplastic nodules consisted of immature granulocytes, some with polyploid nuclei; capillary formation was meager. The author thought that these findings suggested the precancerous state and that the frequent occurrence of leukemia among atomic bomb survivors in Hiroshima and Nagasaki was understandable. In general, no infiltration of lymphocytes and meager formation of fat cells were seen in the cases exposed to atomic bomb.

In addition, the author presented a case of chronic X-ray irradiation where severe anemia developed with slight myeloid reaction. The marrow and spleen showed hyperplasia of granulocytes and megakaryocytes; the patient was thought to represent a preleukemic state.

In other cases of aplastic anemia, the bone marrow of the acute form was characterized by a lack of cells especially in areas near the sinusoids and by infiltration of lymphocytes or plasma cells. These findings, the author says, suggest that such condition might be caused by an allergic mechanism and he presents some results concerning this problem. The chronic form to the contrary does not show the above-mentioned findings in general. In this form some obscure factors might be participating in its development.—K.M.

VARIous TYPES OF APLASTIC ANEMIA. H. Morita. From the Clinic of Internal Medicine, School of Medicine, Tokyo University, Tokyo, Japan. Reports of Hematological Symposium 7: 224-247, 1954.

The author gives the name “panmyelopathia” to those cases which belong to the category of Ehrlich’s aplastic anemia and were reported by various names afterwards in the literature. He classifies “panmyelopathia” and its related disorder “pure red cell aplastic anemia”, presenting his own cases as follows. Under panmyelopathia he includes: (a) Aplastic Anemia or Panmyelophthisis. (b) Hypoplastic Anemia. (c) Panmyelopathia due to pure Maturation Arrest. (d) Chronic Panmyelopathia (type Morita). Pure red cell aplastic anemia is divided into the acute form and the chronic form.

Discussing five cases of chronic panmyelopathia, type Morita, the author says that they are characterized by longstanding (more than 10 years) anemia (rather macrocytic), spontaneous remissions without fatal episode, cellular marrow with polychromatic erythroblasts and increased reticulocytes in the blood. They were all refractory to any treatment. This special type of panmyelopathia has been recognized for the first time distinctly by the author.

A case of chronic pure red cell aplastic anemia described in this paper is also the first reported case in Japan.

The author says that hemolysis due to autoantibodies participated in the development of anemia in some cases of panmyelopathia.—K.M.

APLASTIC ANEMIA OF PURE TYPE. REPORT OF A CASE AND REVIEW OF THE LITERATURE. N. Senda, T. Onisi, M. Ishii, K. Nishio and N. Yamaoka. From the 2nd Clinic of Internal Medicine, School of Medicine, Osaka University, Osaka, Japan. Suishin-Igaku (Newest Medicine) 9: 354-358, 1954.

A 22 year old man was treated for syphilis with two salvarsan injections. Immediately after the second injection he developed fever, later jaundice and aplastic anemia, and died...
after 70 days. Swelling of liver was observed during the illness, but the lymph nodes and spleen were not enlarged. Hemorrhagic symptoms were absent. The peripheral blood showed severe anemia (R.B.C. 620,000) but with normal leukocytes and increased platelets. In the bone marrow also, a fall in percentage of red cell precursors (3.4 per cent) was confirmed, but changes suggesting disturbances of leukocytes and megakaryocytes were not observed. After a discussion of some similar cases in the literature, the authors say that not many cases of this type of aplastic anemia have been reported so far, and that this kind of aplasia concerning exclusively the erythropoiesis should be interesting from the viewpoint of its pathogenesis.—K.M.

THE SIGNIFICANCE OF “DRY TAP” BONE MARROW ASPIRATIONS. A. S. Weisberger. From the Department of Medicine, University Hospitals and the School of Medicine, Western Reserve University, Cleveland, Ohio. Am. J. M. Sc. 229: 63-68, 1955.

Surgical trephine specimens of the bone marrow were obtained from 24 consecutive patients in whom repeated attempts at aspiration resulted in “dry taps.” Marrow sections revealed an abnormal bone marrow in each instance. Metastatic carcinoma was found in 6 patients, lymphosarcoma in 4, Hodgkin’s granuloma in 5, sarcoi in 2, histoplasmosis in 1, and miliary tuberculosis in 1. In 5 patients, there was non-specific fibrosis without other diagnostic features. One of these subsequently was shown to have metastatic carcinoma, 2 acute monocytic leukemia, and 1 Hodgkin’s disease. The finding of a “dry tap” when bone marrow aspiration is attempted may be highly significant and should not be dismissed as being due to faulty technique or aplasia of the marrow.—H.R.


The authors investigated by means of microradiography the alterations of the leukemic bone in ten cases. Typical osteoporotic, osteolytic and osteosclerotic lesions were observed in the various bones. A correlation between the radiographic and the anatomic and histologic alterations is suggested. The systemic diffusion of such findings is supporting the concept of the pluricentric genesis of the leukemic process.—P.d.N.


A series of 9364 patients treated from 1940 to 1954 has been analyzed and the expected number of deaths from leukemia in the series calculated on the basis of the male age-specific death rates from leukemia in England and Wales for 1953. The observed deaths from leukemia was found to be at least five times, and possibly as many as ten times, the expected number of such deaths. Where patients were given more than one course of radiotherapy the observed deaths were probably at least nine times those expected to occur. Although patients with ankylosing spondylitis may be unusually susceptible to the development of leukemia, it is likely that the incidence of leukemia is appreciably raised amongst those patients given more than one course of radiotherapy. It is concluded that some, if not the majority, of the observed cases of leukemia may be attributable to x-irradiation. —R.H.G.


Records are given of 7 patients who were treated by radiotherapy for ankylosing spondylitis and who developed blood dyscrasias. In 5 instances the disorder was myeloid leukemia, and in 2, aplastic anemia. In addition one of the patients with myeloid leukemia was said to have aplastic anemia before the leukemia developed. The latent intervals varied from 2½ months to 6 years. —R.H.G.
ABSTRACTS


MAST CELLS


Earlier studies on the release of histamine from tissue mast cells have been based on the action of drugs that have pharmacologic actions unconnected with histamine directly. Recently a more specific and less toxic histamine-liberator, compound 48/80, has been used. When 48/80 is injected intraperitoneally there is a prompt release of histamine in the mesentery and omentum. On the other hand, when 48/80 is injected intra-arterially leading to an area like the ear, the loss of histamine is almost entirely confined to that tissue. The action of the drug is apparently in the tissues and not in the blood.

Albino rats injected either intraperitoneally or intra-arterially were sacrificed 3 hours to 32 days following the injection. Samples of mesentery, omentum and subcutaneous tissue were analyzed for their histamine content and distribution of mast cells. Concomitant with the decrease and disruption of mast cells, there was a decrease in histamine. The animals displayed signs of acute shock. Histamine values increased with the recovery of damaged mast cells and regeneration of new cells from the adventitia of small blood vessels.—O.P.J.


The "in vitro" action of cortisone acetate on connective tissue biopsies of albino rat has been studied. It was demonstrated that cortisone altered the mast cell granules, ending up with lysis and dispersion of the granules.—M.A.J.
ABSTRACTS


A case of pernicious anemia with hemorrhagic diathesis, thrombocytopenia and prolonged clotting time was discussed on the basis of the finding of an increased number of mast cells in the bone marrow and the “increased heparin activity,” as measured by means of toluidine blue. According to the author, the mast cells should play a predominant part in the pathogenesis of the hemorrhagic tendency and of the coagulation defect. Other examples of the literature and of personal observations are reported in support to this point of view. The administration of vitamin B₁₂ completely corrected the anemia, the coagulation defect, the hemorrhagic tendency and the bone marrow.—P.d.N.


Tissue mast cells have always been of interest because of their peculiar staining reaction, morphology and species differences in their connective tissue distribution. Today they are even more interesting as research objects because of the several imputed functions, namely, the elaboration of heparin, histamine and hyaluronic acid. In the present paper, two experimental procedures were found useful in producing destruction or degranulation which permitted a study of their regeneration in rats of the Hisacit strain. Mast cells of the mesentery and mesometrium were destroyed by osmotic disruption following the intraperitoneal injection of 20 ml of distilled water. Extensive degranulation was accomplished by injecting intraperitoneally a histamine liberator, compound 48/80, in tyrode solution. The destroyed cells were gradually replaced over a period of six weeks by mast cells arising from undifferentiated mesenchymal cells in the coats of the small blood vessels. In the case of degranulation by 48/80, mast cells 10 days after injection were as numerous as before and approached normal size; but they were still more vacuolated than usual, and there was a greater than normal variation in granule size. Cell division rather than cell differentiation is probably the usual mechanism of maintaining normal numbers of mast cells in the adult.—O.P.J.


It has been observed that tumor mast cells growing in vitro develop vacuoles which subsequently pass out of the cell. The present paper reports an extension of these studies. Living rat mast cells were observed in specially mounted mesenteries and drops of peritoneal fluid. The effects were noted of prolonged exposure of mast cells to water as well as to protamine sulfate. Mast cell granules remain insoluble in water for as long as one month. Vacuoles are normally more numerous in living mast cells than hitherto recognized. Intraperitoneal injection of protamine sulfate causes mesenteric mast cells to rupture within 15 to 30 minutes. Although the passage of vacuoles from mast cells was not observed, it is still a possibility.—O.P.J.

LEUKOCYTES AND LEUKOCYTIC DISEASE


The biologic and therapeutic action of dimethanesulfonoxybutane was investigated in animals and in leukemic patients. The oral administration (30, 75, 150 mg/Kg.) to rabbits
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induced a selective inhibition of the myeloid cells and particularly of the granulocytes, without evident impairment of the lymphocytes or the lymphatic organs. In the clinic 14 patients with chronic leukemia were treated with 10 to 20 mg. daily for 16 to 32 days up to a total dose of 220 to 328 mg. Five patients had not been treated with other drugs previously. Definite improvement of the general condition, almost complete correction of the hematologic findings and considerable reduction of splenomegaly were the most significant results. The drug was fairly well tolerated. Six additional patients were observed subsequently and exhibited a similar response.—P.d.N.


Seventeen cases of hemoblastosis and malignancy were treated with intravenous TEM. In Hodgkin's disease (six cases) total dose ranged between 0.19 mg/Kg. and 0.90 mg/Kg., and period of administration between 14 and 38 days. Clinical improvement was observed 6 to 7 days after beginning of the treatment. Fairly good results were obtained in four cases. In sarcomata (five cases) similar dosages were employed but only in one case (tonsillar reticulosarcoma) good results were obtained (0.33 mg/Kg. in eight days). In four cases of carcinoma, indifferent results were achieved. In one of two cases of lymphatic leukemia, reduction of white cell count and of spleen and lymph nodes was observed in 3-4 days, and the improvement lasted for one year. Unexpected relapse of the clinical and hematologic patterns was observed in the other case. Significant correlation between the degree of leukopenia and the log of the dose was found, thus suggesting particular caution in this respect during the treatment.—P.d.V.


Twenty-two cases of blood disease and neoplastic disease were treated with desacetyl-methylcolchicine, including six cases of Hodgkin's disease, seven cases of epithelial heteroplasia, two cases of sarcoma, one case of lupus erythematous disseminatus, two cases of polycthemia, one case of chronic lymphatic leukemia, one case of acute leukemia, two cases of chronic myeloid leukemia. The total dosage varied between a minimum of 28 mg. and a maximum of 1032 mg. No effect was observed in polycthemia, in chronic lymphatic leukemia and in acute leukemia. Moderate and transitory improvements were observed in sarcomas and in the other neoplastic diseases. Good results were achieved in Hodgkin's disease and in myeloid leukemia. A long term therapy is possible by using this drug which seems to be less toxic than other antiblastic substances.—P.d.N.


Myleran (1:4-dimethanesulphonyloxybutane) has been used over a 4 year trial period in 31 patients with chronic myeloid leukemia. The standard dose for adults was finally decided to be 0.06 mg. per Kg. of body weight per day. Both interrupted therapy and maintenance therapy were tried. With the latter method the initial dose of 0.06 mg. per Kg. was later halved and adjustments of 0.5 mg. daily were made at intervals according to the leukocyte count. The highest dose was 6 mg. daily. There was rapid symptomatic relief and hematological improvement; thrombocytopenia developed only once. One patient remained well for three years after only one course of treatment, but relapse usually occurred soon after a year. Remissions following second and third courses did not exceed a year. Resistance to myleran developed whether interrupted or maintenance therapy was employed. Patients on maintenance therapy were kept well for up to two years. The chief efficacy of myleran appears to be when radiotherapy has been of limited value and has ceased to be effective.—R.H.G.
ABSTRACTS

THE PROGNOSIS FOR SURVIVAL IN CHRONIC GRANULOCYTIC AND LYMPHOCYTIC LEUKEMIA.
H. Tivey, with the technical assistance of Charlotte A. Moffat. From the Division of Experimental Medicine, Department of Medicine, University of Oregon Medical School, Portland, Oregon. Am. J. Roentgenol. 72: 68, 1954.

The discussion includes criticisms of the generally used statistical methods for the analysis of survival data in leukemia. It is pointed out that the logarithms of survival times approximate a normal distribution, and a statistical method is presented whereby the logarithmic mean, standard error of the mean and standard duration of the series may be calculated. From such information, the results of various investigators may be more easily and accurately compared. These techniques were used to analyze the survival from the time of onset of symptoms to death of 32 reported series from the literature, which included 1,978 patients with chronic lymphocytic or granulocytic leukemia. From these analyses, which were made, there was no difference demonstrable between the survival of patients with lymphocytic and those with granulocytic leukemia. Approximately one half of them died in 2.65 years, ten per cent in seven years and about 1 per cent lived over 15 years after the onset of clinical symptoms. Application of these statistical methods to a series of 58 patients with lymphocytic and granulocytic leukemia, who were treated by titrated, regularly spaced P32 or total body irradiation indicates that one half of these patients will have died by 4.8 years after the onset of symptoms. The conclusion is reached that titrated radiation significantly improved the prognosis for survival in the patients with these diseases.—W.N.J.


A total of 163 patients with chronic leukemia were treated with either regularly spaced, titrated, total body irradiation or radiophosphorus. Twenty-three of these subjects received spray irradiation. The objectives of therapy were to bring the patients' disease under control with small doses of radiation (10 to 20 r, or equivalent P32) at intervals of one to two weeks and to maintain control by minimal doses (10 to 20 r) at given appropriate regular intervals. The factors which decided the dosage of irradiation to be administered are individualized and are not reported in detail, since these data are the subject of a separate report. The survival times of the patients, both living and dead, were estimated by a statistical method previously reported by the authors. On the basis of these studies, there was no difference in the prognosis for survival whether the patient received total body radiation by the spray technique or internally by radioactive phosphorus. The prognosis for survival of patients treated by titrated, spaced irradiation was found to be considerably better than that of a series collected from the literature from 1925 to 1951.

—W.N.J.


The biological action of "myleran" is reviewed, and results of treatment of 13 cases of chronic myeloid leukemia are given. The results confirm those of Galton, in that the drug was found to be effective in producing remission in most cases and was relatively free of side effects. It is concluded that myleran is the chemotherapeutic agent of choice in chronic myeloid leukemia, but that it is too early to assess its value relative to that of X-ray therapy to the spleen.—G.C.deG.


Desacetylmyelocolchicine has been isolated in a pure form from the mixed alkaloid extract of colchicum autumnale. It was given in an initial dose of 3 mg. daily and after...
three or four days increased to 7-10 mg. daily according to the white cell count. The dose was reduced when the count fell to about 25,000 and was then maintained at 3-5 mg. daily. Of eight cases of chronic myeloid leukemia there was distinct clinical and hematological improvement in six. There seemed to be some improvement in two cases of myelofibrosis, but one patient with chronic lymphatic leukemia was made worse. Of six cases of acute myeloid leukemia there was no clinical improvement, but the white cell count fell in four. This substance appears to be a more selective granulocyte depressant than most other chemotherapeutic agents.—R.H.G.


Of 121 patients with acute leukemia there were 27 males and 35 females with the megakaryoblastic form, 25 males and 10 females lymphoblastic, 11 males and 8 females monocytic, while 4 males and 1 female had acute erythremia (di Guglielmo’s disease). The cases are further subdivided to show that some were of the purely medullary form, presenting without enlargement of lymph nodes, liver or spleen, usually aleukemic. Of the lymphoblastic cases, 7 were of the Sternberg type, with local tumor formation, commonly mediastinal, preceding by a few weeks the appearance of leukemic blood changes. These last have a poor chance of remission. The results of treatment with blood transfusion, folic acid antagonists, 6-mercaptopurine, cortisone and corticotrophin are discussed. These followed the usual pattern. The mean length of survival of 81 patients treated with blood transfusion and antibiotics from the first symptoms was 20.2 weeks, and in 34 who also received specific treatment, 20 weeks. In 17 children under 12 years without specific treatment the mean survival was 19.9 weeks and of 9 with specific treatment 26.8 weeks.—R.H.G.


The substance 6-mercaptopurine was given to 26 patients. Thirteen had acute leukemia, 7 chronic myeloid leukemia, 2 chronic lymphatic leukemia, 2 multiple myeloma, 1 mycosis fungoides, and 1 erythroderma secondary to an underlying reticulosis. The initial dose was 2.5 mg. per kg. In acute leukemia, 7 patients responded to treatment, but resistance to therapy usually followed relapse. In chronic myeloid leukemia there was a varying degree of improvement in 6 instances. The only other patient who showed any response was the one with mycosis fungoides. One patient with chronic myeloid leukemia in the acute terminal stage had a remission of four and a half months on a daily maintenance dose of 50 mg. In one case of acute leukemia the remission lasted for seven months. One of the main advantages of 6-mercaptopurine is its low toxicity. Hemorrhage due to overdosage has, however, been described.—R.H.G.

HEMOSTASIS


The authors performed thirteen experiments in nine dogs. After I.V. sodium pentobarbital, the animals were given from 50 to 300 ml. of outdated human blood or sheep blood. One group of animals was given 100 mg. of cortisone a day for three days prior to transfusion, the other group had either no preparation or were dehydrated for three days. The following observations were made: coagulation time, platelet count, prothrombin time (one stage), fibrinogen in plasma, fibrinolysins, total leukocyte count, antithrombin titer, and whole blood anticoagulant.

Clinical hemorrhage occurred in all but two of the experiments, but was variable in degree and type. Platelets dropped to half the initial count in the first hour, remained at this
level for three hours, and slowly rose during the next seven hours. There was a concomitant drop in leukocytes, lasting only about two hours. Fibrinogen fell an average of 40 mg. per 100 ml. in the first hour and continued to fall during the next seven hours to about half the initial level (viz., to 130 mg. per 100 ml.). Coagulation time was shortened in some animals but in the majority was greatly prolonged. There was slight prolongation of the prothrombin time and a transient slight increase in whole blood anticoagulant. The antithrombin titer increased markedly, but there was variation in the time at which and during which this occurred. Toluidine blue, in vitro, was tried in two cases, with considerable correction of the coagulation time toward normal. In none of the cases was there definite evidence of lysis of clotted whole blood.

The authors suggest that the best explanation for the observed changes is that proposed by Crosby in his explanation of plasma transfusion reactions (PTR), namely, a tendency toward intravascular coagulation, with subsequent "hemoelastic reaction." The chief difference between human and dog appears to be the presence of fibrinolysis in the human cases.

It is suggested that purified fibrinogen or antiheparin agents might be life saving in certain human cases of this type.

Several discrepancies between observed facts and postulated explanations occur to the reviewer: one is that none of the decreases seen in any of the factors was severe enough to be a logical explanation, per se, of hemorrhage. Even in combination, the quantitative decreases in these factors does not seem to offer a sufficient explanation. It is also of interest to recall that the "hemoelastic crisis," manifested by hemorrhage, is not usually seen as a consequence of incompatible transfusions, and seems to occur in a minority of hemolytic transfusion reactions.

Further studies of this type would be valuable, and the authors urge that every patient who has evidence of a hemorrhagic tendency after transfusion of incompatible blood, should be studied from the point of view of all recognized coagulation factors.—T.R.T.


Thromboelastographic evaluation of streptokinase activated fibrinolysis was made in postoperative conditions. A prolongation of the lysis time was observed 2 to 4 days after operation and return to normal values after 7 to 9 days. A simple technic for these determinations is suggested.—P.d.N.

**Leukemia, Spleenectomy and Fibrinolysis.** J. Gormsen. From the Copenhagen County Hospital, Medical Department F, Gentofte, Denmark. Ugesk. laeger 117: 426-428, 1955.

Two patients suffering from chronic leukemia with reduced erythrocyte survival died of copious abdominal hemorrhage following splenectomy. At least in one of these cases, and probably in both of them, the fatal hemorrhage was due to marked fibrinolysis occurring after operation. The author states that this complication to splenectomy for leukemia has not been reported previously.—M.S.


Two cases of hemorrhagic hyperfibrinolytic syndrome with prostatic cancer are described in two men, aged 70 and 80 years respectively. In the first case the bleeding tendency was characterized by gingival, cutaneous and meningeal hemorrhages, which caused the patient’s death. A moderate increase of the fibrinolytic activity was detected in the blood. In the second case the patient presented hemorrhages in the skin and hematuria. An increase of the profibrinolysin was observed. Death occurred in this patient when the bleeding tendency had already disappeared. Prothrombin time was slightly prolonged in both patients. Transfusions of fresh blood and estrogens are the only treatment suggested. Soya bean trypsin inhibitors are still in the experimental stage.—P.d.N.
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The subject of this brief case report was a 49 year old man who died within 24 hours of admission to a hospital with a diagnosis of acute leukemia. The prominent symptoms were those of hemorrhage: oozing from the gums, petechiae and ecchymoses, intracranial hemorrhage. The blood findings included slight anemia, leukopenia with myelocytes and metamyelocytes (but no blasts), and slight to marked thrombocytopenia. Bleeding and coagulation times were normal, but the plasma fibrinogen was 78 mg./100 ml., and the clot showed lysis in 4 to 24 hours. The authors suggest that the hemorrhagic tendency in this patient was limited to a fibrinolytic agent, which caused fibrinogenopenia; and suggest that other cases of “acute” leukemia might, on study, show similar fibrinolytic findings. Such studies seem warranted, although the course in the present case was so rapid that details are lacking, and the interpretations given are speculative.—S.E.


A girl, 8 years old, bled abnormally since birth from accidental cuts. A traumatic lesion of the hand at the age of 7 was followed by a prolonged and severe hemorrhage for a week in spite of blood transfusions. No hemorrhagic history in parents, brothers and relatives. Father and mother were cousins. The blood coagulation time (Lee-White) was 75 minutes. Blood cell counts were normal, differential leukocyte formula with eosinophilia, platelets normal, bleeding time normal and prothrombin determination, according to the method of Tanturi & Banfi, 82 per cent of normal, prothrombin consumption 67 per cent in one hour.

The fibrinogen determination was 27 mg. per 100 ml. by the method of Morenzi.

Should not this low fibrinogen concentration affect the prothrombin estimation?—M.A.J.


Intravenous injections of a thromboplastin suspension used in the Quick test were applied to white laboratory rats. Mortality of the animals was 80 per cent; the death is supposed to occur by fibrin thromboembolism. Prolongation of the clotting time was caused most probably by the drop of the fibrinogen level in the blood. Application of heparin prior to the intravenous injection of thromboplastin prevented death in all cases. The mortality was not influenced by diazepam nor had the application of procaine prior to the thromboplastin injection any effect on the mortality. Application of a thromboplastin suspension prepared by direct dilution of the dry substance with 1 per cent procaine decreased the mortality from 80 per cent to 30 per cent.—M.N.


The authors describe six cases of acquired fibrinopenia in pregnancy, which were selected in order to demonstrate the various conditions accompanied by a coagulation defect, such as amniotic embolism associated with fatal post-partum hemorrhage, retention of macerated fetus in an Rh-immunized mother, missed abortion in an Rh-positive patient, etc. The correction of the coagulation defect can be achieved by the transfusion of whole blood only in the mild cases. In severe cases, the administration of pure fibrinogen may be not always feasible. It is therefore suggested to employ triple- or quadruple-strength reconstituted plasma, which is expected to yield 4.4 Gm. of fibrinogen for each bottle. Even if there is no manifest hemorrhage, bleeding may be provoked by active intervention. For detecting such conditions the Schneider Test and the recently described Shea test are indicated. Both tests are described.—P.d.N.
ABSTRACTS


Hypofibrinogenemia is apt to develop in accidental ante partum hemorrhage or where there is a dead fetus retained in utero, or where there is a hydatidiform mole. Dextran can react with and inactivate fibrinogen and should not be administered in these conditions, plasma transfusion being preferable. For recognizing the condition, measurement of the blood fibrinogen content is too time consuming and the less accurate methods, such as Schneider's serial dilution clotting, Weiner's clot observation, Barnett and Cussen's micro-electrophoresis or Sha's colorimetric methods are not sufficiently rapid and cannot easily be performed at the bedside. A simple thrombin coagulation test is described and said to be satisfactory. For treatment, fibrinogen or reconstituted plasma should be used. —R.H.G.


A useful review of the current literature in this field. There is little change during pregnancy in clotting time and platelet factors but a rise in fibrinogen and prothrombin occurs. Post-partum, there is a rise in platelets and in tests related to it (prothrombin consumption, etc.). Coagulation defects are associated with obstetric disorders in order of decreasing occurrence in abruption of the placenta in late pregnancy, eclampsia, retention of dead fetus in utero, amniotic embolism, and septic abortion. The observed defects involved abnormalities of both plasma and platelet factors. The degree to which each of these factors may be affected varies considerably. In eclampsia the principal defect concerns platelet factors, in the remaining disorders the outstanding abnormalities involve plasma factors. While a hemorrhagic diathesis is mainly latent in some disorders, it manifests itself most frequently and seriously in placental abruption. The clinical outcome of the hemorrhagic diathesis is closely related to the state of the pregnancy. —L.B.J.

The Fibrinogen Polymerization Test in Active Rheumatic Disease. S. Losner and B. W. Volk. Departments of Laboratories and Medicine, Jewish Chronic Disease Hospital, Brooklyn, N. Y. Am. J. M. Sc. 229: no. 4, 371-378, April, 1955.

Considerable amounts of fibrinogen remain preserved in serum when either 50 mg. heparin intravenously or 8 mg. per 3 cc. in vitro have been added to blood. This is attributed to interference with fibrinogen polymerization by heparin and is used as a fibrinogen polymerization test, with absence of fibrinogen after 2 hours abnormal and indicated as a positive fibrinogen polymerization test. In 42 patients with active rheumatic disease the Fibrinogen polymerization test was positive. In 12 normal and 21 control patients with a variety of clinical conditions, it was negative. The test was not affected by cortisone and in patients with active rheumatic fever it remained positive after other laboratory criteria of activity had returned to normal. —L.B.J.


Fifty dogs were subjected to (a) sham-operation, (b) high coronary artery ligation, (c) low coronary artery ligation. Significant differences in the mean fibrinogen levels, as judged by the clot density method (J. Lab. & Clin. Med. 38: 28, 1951) were found in the three groups corresponding to the various degrees of myocardial necrosis. These results seem to bear out the authors' clinical impression that the maximum fibrinogen concentration parallels the extent of the myocardial infarct. —L.B.J.
The Other Journals of Hematology


ERRATUM

The notice regarding the Sixth Congress of the International Society of Hematology, which appeared on the front cover of the January and February issues of Blood, carried an incorrect date. It should have read "August 26-September 1, 1956" (instead of August 29). The notice on this issue's cover is correct.