ERYTHROCYTES

ABSTRACTS
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ucts of bilirubin to be toxic, and the un-
proved advantage of phototherapy in de-
creasing infant morbidity and mortality
contributed to an apparent consensus that
routine prophylactic phototherapy at present
is contraindicated. There was agreement
that phototherapy is indicated when an
abnormal rise in serum bilirubin suggests
that an exchange transfusion may become
necessary if the rate of rise is not checked.
A serum bilirubin level of 10mg. per cent
was suggested as the minimum below which
phototherapy should not be undertaken.
There didn’t seem to be agreement about
the optimal light source, although daylight
fluorescent bulbs have been most often
advocated. When a response to photother-
apy occurs, treatment should be discontin-
ued after 24 hours for at least 6-12 hours.
The closing comment was that phototherapy
should be considered in the same manner
as any new and incompletely tested drug.
—J. B. S.

SERUM INSULIN IN NEWBORN INFANTS WITH
ERYTHROBLASTOSIS FETALIS.
From, S. G. Driscoll and J. Steinke. From
the Harvard Medical School, Boston,
Massachusetts. Pediatrics 44:549-553,
1969.

Significant elevation of serum immuno-
reactive insulin was present at birth, and
prior to exchange transfusion, in a group
of erythroblastotic infants. The degree of
elevation was not related to hemoglobin or
serum bilirubin levels. Blood glucose levels
were lower than in the control group, the
mean for the erythroblastotic infants being
46.8 mg. per cent and for the control 71.6
mg. per cent.—J. B. S.

RED CELL METABOLISM IN THE NEWBORN
INFANT. V. GLYCOLYTIC INTERMEDIATES
AND GLYCOLYTIC ENZYMES. F. A. Oski.
From the Hospital of the University of

Term and premature infants had signifi-
cantly greater levels of erythrocyte G6P,
F6P, and dihydroxyacetone phosphate and
somewhat lower levels of 2,3-DPG than
normal adults. Adults with reticulocytosis
showed a pattern of glycolytic intermediates
similar to that seen in the infants, except
that levels of phosphoenolpyruvate and 2,3-
DPG were somewhat higher than normal.
The infants also demonstrated significantly
elevated values for hexokinase, phospho-
glucose isomerase, aldolase, phosphoglyc-
erate kinase and mutase, enolase, G6PD, PK
and LD, normal levels of TPI and glyceral-
dehyde-3-phosphate dehydrogenase, and
subnormal levels of red cell phosphofruct-
tokinase. The adults with reticulocytosis
were similar to the infants except that the
levels of phosphofructokinase were sig-
nificantly higher than normal while levels
of phosphoglycerate kinase were normal
and levels of enolase in the infants’ red
cells could not be ascribed to the presence
of a young erythrocyte population.—J. B. S.

SICKLE CELL DISEASE AND ACUTE GLOMER-
ULONEPHRITIS. S. Susmano and J. E.
Lewy. From the Michael Reese Hospital
and Medical Center, Chicago, Illinois.

The tendency, when faced with a young-
ster with a positive sickle cell preparation
and hematuria, is to infer a causal relation-
ship. Two youngsters are described, one
with SA and one with SS hemoglobin, in
whom hematuria was the presenting com-
plaint of what clearly was poststreptococcal
acute glomerulonephritis. Edema, hyperten-
sion, fever, abdominal pain and oliguria
were accompanying signs and symptoms, so
that differentiation from the usual sicklemic
hematuria was not difficult.—J. B. S.

HEREDITARY ELLIPTOCYTOSIS: AN UNUSUAL
PRESENTATION OF HEMOLYSIS IN THE
NEWBORN ASSOCIATED WITH TRANSIENT
MORPHOLOGIC ABNORMALITIES. R. F.
Austin and J. F. Desforges. From the
Boston City Hospital, Boston, Massachu-

Three siblings, each of whom developed
neonatal jaundice requiring therapy by ex-
change transfusion, demonstrated evidence
of a hemolytic form of congenital elliptocy-
tosis. During early infancy, peripheral blood
smears contained moderate numbers of py-
knocytes and other bizarre erythrocytes, as
well as many elliptocytes. As they grew
older, the siblings, as well as their mother,
had persistent mild to moderate anemia,
moderate elliptocytosis and reticulocytosis.
No evidence of G6PD deficiency or hemog-
lobinopathy was found.—J. B. S.

Dermal erythropoiesis is a fairly common finding in congenital rubella. The infant described here presented with a papular eruption, anemia and thrombocytopenia. She subsequently developed petechiae and eruption, anemia and thrombocytopenia. Hemorrhage. At autopsy sections from the papular lesions showed focal areas of erythropoiesis. Rubella virus was recovered from brain and lungs. The authors suggest that the rubella virus may stimulate the dermal mesenchyme into becoming a site for red cell production.—J. B. S.


After incubation of washed red cells for 20 hours at 37°C with labeled orthophosphate or sodium phosphate, two-dimensional thin layer chromatography was performed on extracts of phospholipids using 1,2-dichloroethane, methanol, isobutanol, acetic acid, and water (45+30+15+5+5) and 1,2-dichloroethane methanol, isobutanol, and 30 per cent ammonium hydroxide (45+30+15+10) as solvents. Incorporation of phosphate into phosphatidyl-ethanolamine was up to 10 times higher in spherocytes than in normal erythrocytes. This was shown in red cells of two splenectomized and of two nonsplenectomized patients. In addition, in the nonsplenectomized patients, phosphate incorporation into lecithin and phosphatidylserine of their red cells was significantly enhanced. Abstractor's comment: These are surprising results, at variance with findings by others.—K. B.


In a 71-year-old female patient with cirrhotic changes in the liver similar to those in hemochromatosis, serum iron was found to be 560 µg. per cent. Total iron binding capacity was 703 µg. per cent. In immunoelectrophoresis an enhanced and deformed transferrin band was seen. The sedimentation diagram showed an additional component with a sedimentation coefficient S20W=9.38. Separation on Sephadex G-200 resulted in the demonstration of an atypical transferrin eluted between macroglobulins and 75-globulins. No normal transferrin could be detected.—K. B.


Retention of absorbed 59Fe was measured in a whole body radioactivity detector. From a 10 µmole 59Fe-dose, 21(5-35) per cent was absorbed by 39 full term infants, and 21(8-37) per cent by 28 premature infants, aged 2-80 days. There was significant iron absorption even in the first three weeks of life. Three full term infants aged 35, 61 and 70 days absorbed 40, 45 and 57 per cent of the test dose. Serum iron was diminished in these cases as well as in seven premature infants aged 35-75 days with an absorption of 45-81 per cent.—K. B.


As an attempt to establish the most effective conditions to develop the Prussian blue reaction on tissue sections, the influence of some variations concerning the acid used and its concentration, the ferrocyanide solution concentration, as well as the reaction exposure time on the intensity of this reaction was analytically studied. Such influence was estimated on the basis of intensity of the Prussian blue reaction of spleen and liver sections, histophotometrically measured. Taking into account that the
most effective conditions are those which afford a maximal intensity of the Prussian blue reaction, it was shown that among the acids used (HCl, sulfuric acid and acetic acid) the HCl provided the best results. The most suitable acid solution concentration was 0.5 M and the most appropriate ferrocyanide solution concentration was 0.72 M; the best exposure time was 30 minutes. A procedure for the Prussian blue reaction on histological sections, based on the best conditions for its development, was proposed. Such procedure afforded results 20–25 per cent higher than others that have been considered as suitable for histochemical purposes.—M. J.


A 10 per cent formalin solution buffered at pH 7.0 has been considered as the best fixative for histochemical detection of non-haem iron in tissues. However, there is some disagreement on this subject. Taking as basis the histophotometric estimation of the intensity of the Prussian blue reaction in histological sections, the correlation between the effect of some fixatives and the preservation of histochemically detectable ferric iron was traced in rat, dog and human spleens. Two groups of fixatives (ethanolic and formalin containing fixatives) were used. Those of the latter group provided a better iron preservation. Variations concerning the formalin concentration showed that 15 per cent formalin was more effective than less concentrated solutions. The pH of the formalin solution also had great importance in iron preservation, pH 4.0 being the most effective. On the other hand, the addition of divalent cations, mainly the CaCl₂, to the formalin solution increased its iron preservation property.—M. J.


Distribution of erythrocyte G-6-PD activity and electrophoretic variants was investigated among 109 Caucasians, 57 Negroids, 84 Japanese and 74 Indians in Brazil. G-6-PD activity of hemolysates was studied by means of spectrophotometric assay and electrophoresis in horizontal starch gel. The incidence of deficient subjects was significantly higher among Negroids (8.2%) as compared to that of whites, (1.4%). Japanese (nil) or Indians (nil). Average normal enzyme levels were significantly different among the three racial groups but not between the two sexes. Mean values among Indians (12.59 ± 0.35) and Japanese (10.00 ± 0.12) were higher than among whites (9.511 ± 0.14) and Negroids (8.79 ± 0.26). Variant A of G-6-PD was present only in 12 per cent of Negroids in the population, a situation which fits well with the dihybrid origin of Brazilian Negroes. Family data were based on 10 propositi and their relatives. Genetic analysis of the families supports the view that erythrocyte G-6-PD activity is controlled by genes in the X chromosome. Average enzyme activity of the heterozygous women was about half of that found in normal males and females. The female values varied from normal to deficient levels, as expected by assuming inactivation of an X chromosome. Population dynamics of G-6-PD mutants was also discussed.—M. J.


During a period of seven years, 12 children aged 10 days to 6 years were seen with sudden normocytic normochromic anaemia, reticulocytopenia and fewer than 2 per cent erythroblasts in otherwise normal marrows. Complete and permanent recovery occurred in all either spontaneously or after brief administration of steroids. This is an apparently new syndrome the cause of which is not certain. Since most children had had respiratory infections some weeks before diagnosis, the cause may be viral. It is important to recognize that no exces-
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Sive hemolysis is present in these cases and to differentiate them from the much more serious Blackfan-Diamond syndrome.—F. W. G.


This new method of measuring B12 absorption uses 51Cr (chromic chloride) as a nonabsorbable marker together with 58Co B12, the ratios of the two isotopes being determined in single specimens of feces. Results compare favorably with those of the Schilling test. The technique is simple, does not require quantitative collection of excreta, is not vitiated by abnormal renal function and provides results within 48 hours. Abstractor’s comment: The new method, if the authors’ findings are confirmed, has distinct advantages, both in reliability and in ease and rapidity of getting results, over others in current use.—F. W. G.

LEUKOCYTES


Although phagocytosis of staphylococci proceeded normally, and was followed by normal degranulation and vacuolization, the bactericidal activity of the leukocytes of nine of 25 term infants less than 12 hours old was decreased. An associated finding was failure of normal stimulation of the leukocyte hexose monophosphate shunt during phagocytosis. After 24 hours of age, the defect in intracellular killing was no longer present, indicating a very transient phenomenon.—J. B. S.


Opsonization and PMN phagocytosis of Candida albicans was normal in patients with CGD; however, the candidacidal capacity of the polymorphonuclear leukocytes was negligible.—J. B. S.


Job’s syndrome is apparently a variant of CGD which has a predilection for fair-skinned, red-haired females. Cold staph abscesses and gram negative sepsis characterized the course of the girl described herein, who died at age 5 while ill with a subphrenic abscess. Levels of IgA and IgM were normal; IgG rose to twice normal levels. Polymorphonuclear leukocytosis occurred with each significant infection. The patient’s leukocytes destroyed streptococci normally but failed to kill staphylococci or Gram-negative bacteria. The NBT dye test was abnormal. Neither granuloma formation nor pigmented lipid-filled histiocytes were seen in tonsillar tissue or skin biopsy. There were two other fair-skinned, red-haired daughters born to these parents who were second carriers. One had a similar course and died at 2 years, the other was healthy but her leukocytes showed a significantly reduced ability to kill bacteria and reduce NBT.—J. B. S.


Ninety-four injections of etiocholanolone were given to 81 patients with various diseases. Most patients with granulocytopenia gave abnormal results, as did many with normal granulocyte count, especially those with severe renal failure, both acute and chronic. Some patients with acute granulocytic leukemia gave a positive response
of leukemic cells as well as neutrophils. A normal response appeared to show normal granulocyte reserves, as indicated by the subsequent response to myelodepressant therapy. A number of unexpected responses showed the need for further investigations of the mechanism of this reaction.—F. W. G.


In a study of 28 healthy subjects and 117 patients with various forms of leukemia, determinations of lysozyme activity in the serum by titration of bactenolytic effect were made. Increased values were noted in acute leukemia and chronic myeloid leukemia and the highest value was observed in a case of chronic monocytic leukemia, the only one in the series.—J. V.


Serum alkaline phosphatase activity was studied in 37 patients with acute leukemia. In remission, alkaline phosphatase activity was seen to fall and rise again in relapse, these changes being unaffected by intercurrent inflammatory disease or steroid therapy. The author attributes these fluctuations to changes in osteoblastic activity.—J. V.


An infant without stigmata of Down's syndrome and who subsequently was shown to have a normal karyotype, was born with infiltrative skin lesions. At 2 weeks of age, hepatomegaly, generalized adenopathy, and blood and bone marrow pictures of acute myeloblastic leukemia were present. Without therapy, both the clinical and peripheral blood abnormalities remitted, while the bone marrow became almost normal. The remission lasted 8 months, whereupon the infant relapsed and quickly died.—J. B. S.


An 11½ year old boy presented with pallor, gingival infection, submandibular swelling and painful penile swelling. Laboratory examination revealed moderate anemia, marked thrombocytopenia and a leukocyte count of 96,000. Peripheral blood and bone marrow smears were diagnostic of AGL. Treatment with prednisone and vincristine plus diethylstilbestrol and radiotherapy to the penis did not affect the priapism. A week after admission, when symptoms suggesting urethral obstruction appeared, irrigation of the corpora cavernosum was undertaken. Significant regression was noted immediately. However, complete disappearance of the priapism was not noted until two weeks later. Priapism as an initial complaint in childhood acute leukemia is a very rare event.—J. B. S.


In a comprehensive analysis of 88 patients with acute leukemia, cytologic, cytochemical, clinical and therapeutic features were studied. Cytologic criteria included the study of blasts in the bone marrow for cell size, nuclear cytoplasmic ratio, and the presence of granularity and Auer's bodies; cytochemical studies included reactions for lipids, peroxidase, nonspecific esterase, acid and alkaline phosphatase, and the PAS reaction. From this correlative study there emerges three clearly defined types of acute leukemia—lymphoblastic, myeloblastic (with subgroups—promyelocytic leukemia and erythromyelosis), and histomonoblastic. The authors feel that there is little to justify classification of other forms of acute leukemia, such as hemocytoctlastic and myelomonocytic, as distinct types.—J. V.

In this valuable review of 80 cases of reticulum-cell sarcoma it is stressed that this disease is often associated with or follows other diseases of the lymphopoietic and hematopoietic systems. Among these are examples of follicular lymphoblastoma, Hodgkin’s disease, lymphosarcoma, chronic lymphocytic leukemia, macroglobulinemia, solitary plasmacytoma, myelofibrosis and possibly chronic granulocytic leukemia. Four patients presented with acute hemolytic anemia, two of the cold and two of the warm antibody type. In the cold hemolytic anemias the intervals to overt onset of the terminal reticulum-cell sarcoma were 6 months and 17 years.—F. W. G.


Forty-two adult patients with lymphoreticular tumors (lymphosarcoma, lymphogranulomatosis, multiple myeloma) and other tumors were treated with very high single doses (3–5 Gm. = 40–100 mg./Kg.) of cyclophosphamide, once to four times. Thirty of the patients were already pre-treated with radiation or with cytostatic drugs. The success rate was not significantly different from the rate in similar cases treated with lower doses of cyclophosphamide. However, side-effects, especially bone marrow damage, were significantly more pronounced.—K. B.


Trophosphamide: 3-(2-chlorethyl)-2-[bis-(2-chlorethyl)-amino]tetrahydro-2 H-1,3,2-oxazaphosphorin-2-oxide, and iophosphamide: 3-(2-chlorethyl)-2-(2-chlorethylamino)tetrahydro-2 H-1,3,2-oxazaphosphorin-2-oxide were administered as cytostatic drugs in 293 patients with various types of malignant neoplasms. Full information was available on 220 patients having received trophosphamide and on 39 patients having received iophosphamide. The drugs were administered either in daily doses of 200–400 mg., or in single high doses (more than 500 mg.) with free intervals or in a mixed form, starting with a single high dose and continuing with small daily doses. Twenty of the patients treated with trophosphamide had full remissions (Hodgkin’s disease, lymphosarcoma, reticulosarcoma) 84 had partial remissions. With iophosphamide, one full remission and five partial remissions were obtained. Side effects were similar to those with cyclophosphamide therapy. Trophosphamide was particularly well tolerated when given in daily doses by mouth. Cyclophosphamide was found to be more effective clinically, but trophosphamide was able to induce improvements in patients who had become resistant to cyclophosphamide therapy.—K. B.

Hemostasis


The authors describe a seventh family with dysfibrinogenemia. The propositus, a 17-year-old girl, lacked clottable protein in her plasma, but the presence of fibrinogen was detected by a turbidometric method and immunochemically. Her plasma fibrinogen migrated normally on paper and cellulose acetate electrophoresis, but on immunoelectrophoresis displayed a faster mobility than normal fibrinogen. On immunodiffusion, the antigenic determinants were similar to those of normal fibrinogen. The patients’ plasma prolonged the thrombin time of normal plasma. Family studies suggested an autosomal dominant pattern of inheritance, apparently with a variable degree of expressivity. Some immunologic differences between fibrinogen in this family
and fibrinogen "Cleveland" and fibrinogen "Baltimore" were detected. A specific molecular defect was found in the N-terminal disulfide knot of the alpha (A) chain in which the arginine at the 19th position was replaced by serine.—H. J. W.


From tissues removed at surgery and autopsy, and from amniotic fluid, extracts were made and examined for fibrinolytic activity (euglobulin lysis) and for plasminogen activators and inhibitors. Greatest fibrinolytic activity was found in nonpregnant endometrium followed by, in order, lungs, kidney, brain, myocardium, normal peritoneum and visceral pleura; inflamed peritoneum contained no fibrinolytic activity. All tissues contained activators and inhibitors, the latter predominating in skeletal muscle, liver, skin and amniotic fluid; normal and adenomatous prostate contained about the same amounts of activator. The anti-fibrinolytic action of the tissue extracts appears to be related to the presence of an enzyme similar to plasma fibrinase (factor XIII). The author considers that there is no single syndrome of primary hyperfibrinolysis but that hemostatic disturbances following the introduction into the blood stream of various tissue fluids, develop according to the principles of coagulation and the underlying pathologic event.—J. V.


Contact with human skin accelerated the clotting time of human plasma and whole blood. This clot-promoting activity was greatest in those areas rich in sebaceous secretion, was reduced by prior cleansing of the skin with alcohol, and was diminished if the plasma tested was deficient in Hageman factor. These experiments are compatible with the suggestion that the clot-promoting activity of skin requires the presence of Hageman factor and may be related to a component of the surface film, perhaps the fatty acid in sebaceous secretion. Abstractor's comment: This finding confirms and extends previous observations by Nossal; Proc. Soc. Exp. Biol. Med. 127: 16, 1966).—H. J. W.


The authors describe severe postoperative hematuria and other hemorrhagic symptoms in six patients following transurethral resection of the prostate for benign adenoma. Thrombocytopenia and decreased concentrations of fibrinogen and factors II, V, VII, VIII, IX and X were found. Fibrinogen degradation products (FDP) were present, but the normal values obtained for the euglobulin clot lysis time suggested that systemic fibrinolysis was not a factor. The authors concluded that disseminated intravascular coagulation was responsible for the syndrome in all patients. They distinguish this syndrome from the milder postprostatectomy bleeding which may be due to urokinase and which may be reduced by administration of epsilon-aminocaproic acid. The latter drug is contraindicated in the syndrome they describe. The authors treated their patients, instead, with heparin and fibrinogen.—H. J. W.


Evidence for antecedent Group A streptococcal infection was sought in 33 patients with anaphylactoid purpura. Elevated titers for the ASO, anti-DNase B, or anti-NADase were present in about one-third of the patient population. The incidence of elevated titers as well as the geometric means of the antibody titers for either the whole group of patients with anaphylactoid purpura or the group of patients with anaphylactoid
nephritis were not significantly different from the matched normal control population. \( \beta_1 \)-globulin levels were in the normal range. Renal biopsies obtained from 13 patients with anaphylactoid nephritis showed histologic changes and immunofluorescent reactions to \( \gamma \)-globulin, \( \beta_1 \), and fibrin of varying degrees of severity and intensity. The data obtained do not support a causal relationship between Group A streptococcal infection and anaphylactoid purpura.—H. J. W.

**SEPTICEMIA AND DISSEMINATED INTRAVASCULAR COAGULATION. OCCURRENCE IN FOUR ASPLENIC CHILDREN.** G. H. McCracken and J. D. Dickerman. From the University of Texas Southwestern Medical School, Dallas, Texas. Amer. J. Dis. Child.; 118:431-434, 1969.

This paper reaffirms the propensity for asplenic children, regardless of age or the cause of asplenia, to respond poorly to infection, particularly pneumococcal. In addition, this series demonstrates that pneumococcal sepsis in asplenic youngsters may be associated with laboratory and postmortem evidence of D.I.C. The heparin therapy given these patients could not be adequately evaluated since three of the four died within 9 hours of admission.—J. B. S.


The acid phosphatase content of platelets decreases from the moment of their formation. The author has devised a method of estimating platelet production by observing the rate at which acid phosphatase positive platelets decrease in numbers during incubation at 37\(^\circ\)C, this being compared with a standard preparation. From this it can be calculated the intensity of thrombopoiesis and the average life span of the platelet. The method is simple, avoids the use of radioisotopes, and has been particularly convenient in pediatric hematology.—J. V.


Surgical operations, particularly splenectomy, are contraindicated in hemorrhagic thrombocythemia unless the platelet count has been controlled either by \( ^{32}P \) or busulfan administration. Among the dangers, examples of which are given, are widespread venous thromboses, pulmonary emboli, cardiac infarction, extensive bleeding and confusional states. The postoperative hypercoagulable state is extremely difficult to control. Since a high incidence of peptic ulcers is associated with hemorrhagic thrombocythemia, there is a frequent temptation to operate which must be resisted.—F. W. C.

**IMMUNOHEMATOLOGY**


The incidence of the X linked blood group antigen \( Xg(a) \) was determined in 1189 unrelated probands by means of a Coombs reactive anti \( Xg(a) \) serum. Antigen \( Xg(a) \) was present in 69 per cent of males \((n = 642)\) and in 87 per cent \((n = 544)\) of females tested. From these results a gene frequency of 66.77 per cent was calculated. Cord samples obtained in 69 boys and in 54 girls revealed comparable frequencies. This finding indicates that for the antigen \( Ag(a) \) there is no postnatal development, as it is required for A subgroups or for factor P. The findings obtained in 300 mother-child combinations were consistent with a X linked dominant mode of inheritance of this antigen. Forensically, this system allows for the exclusion of the father only in girls and for the exclusion of the mother only in boys. Taking into account the gene frequency, the chance of clearing a man falsely accused of being the father was calculated as 9.82 per cent.
Clinically, this system might be useful in studies of nondisjunction of the sex chromosomes in some cases of Klinefelter's or Turner's syndrome.—H.-J. H.

**IMMUNOGLOBULIN AND SPECIFIC ANTIBODY SYNTHESIS DURING THE FIRST WEEKS OF LIFE OF PREMATURE INFANTS. R. M. Rothberg.** From the Department of Pediatrics, University of Chicago School of Medicine, Chicago, Illinois. J. Pediat. 75:391-399, 1969.

The appearance of IgA synthesis, and the changes in IgA, IgG and IgM levels were similar in premature infants (1500 to 2250 Gm.) and in full-term neonates, during the first 21 days of life. The majority of the infants fed BSA developed specific antibodies in both IgM and IgG fractions. The authors conclude that beyond 7 months gestation the capacity for immunoglobulin synthesis is present, and following birth it is stimulated by viral, bacterial or food protein antigens.—J. B. S.


The effect of sterilizing doses of gamma ray irradiation on some specific (antibody activity) and nonspecific functions of human IgG was studied. The influence of gamma ray irradiation on some structural characteristics was also investigated. The irradiation did not destroy the antibody-active sites in freeze-dried IgG preparations; there was evidence, however, for the occurrence of structural changes in the Fc part of the molecules resulting in altered antigenicity.—S. R. H.


The reaction of normal human IgG and papain-sensitive or papain-resistant IgG myeloma proteins with rheumatoid factor and Coombs-serum was investigated. Mild heat-treatment of normal polyclonal IgG and the papain-resistant molecule population obtained from it resulted in enhanced reactivity against rheumatoid factors. Three of four papain-resistant IgG myeloma proteins could be observed after heat-treatment of two papain-sensitive IgG myeloma protein samples. Heat-treatment of IgG preparations did not influence their reaction with Coombs serum. The reduction by cysteine of normal and myeloma IgG globulins resulted in no significant change in reactivity either against rheumatoid factor or Coombs serum.—S. R. H.

**CHRONOLOGY OF MITOTIC CYCLE IN HUMAN PLASMACYTE PRECURSORS IN VITRO. E. G. Rondanelli, E. Magliulo, G. C. Fossati, S. Petrocini, and S. Gorini.** From the Department of Internal Medicine, University of Pavia, Pavia, Italy. Haematologia 3:283-287, 1969.

The duration of mitosis and of its phases was measured in vitro under visual control of phase-contrast microscopy in living plasmocyte precursors from lymph nodes of human healthy subjects. According to cell diameter, dividing cells were subdivided into "large" and "medium" classes. Mitosis lasted in the average 31 minutes and 22.6 seconds in "large" plasmocyte precursors and 41 minutes and 19.6 seconds in "medium" sized cells. These data, which could be employed for comparison with pathological or antigenically stimulated cells, fit well with a weighted average generation time of approximately 7 hours.—S. R. H.

**MISCELLANEOUS**


Professor Mark Solomonovitch Dultsin, Doctor of Medical Science, corresponding member of the Academy of Medical Sciences of the USSR and a foremost figure in Soviet hematology, died on October 3, 1969 at the age of 65. Dr. Dultsin was director of the Department of Clinical Hematology at the Central Institute of Hematology and Blood Transfusion, Moscow, where he had worked for nearly 40 years.
years. In the Institute he had built up his department and trained numerous physicians in his specialty, presenting many for postgraduate candidate and doctorate degrees; he conducted clinical and scientific research into a wide variety of problems in almost every field of hematology and was the author of over 100 scientific works, including three monographs. In the course of his career as scientist, teacher, and physician, Dr. Dultsin received many honors and awards for his contributions to medicine and will be remembered as an outstanding, talented scientist, creator of a school of clinical hematology, and as a man of great spirit and inexhaustible energy.—J. V.


This is an analysis of the treatment of 172 patients (47 males and 125 females) with acute renal failure following the transfusion of incompatible blood, ABO group incompatibility accounting for 59 patients and Rh incompatibility for the remainder; the mortality rate was 20.3 per cent. Success in treatment was largely dependent upon early diagnosis and early initiation of measures to restore the renal circulatory disturbances, eliminate the products of hemolysis from bloodstream and preserve acid-base balance. Exchange blood transfusion during the first 18 hours combined with corticosteroids and cardiovascular therapy helped to overcome shock and avoid severe renal involvement, though the timely administration of mannitol, dextran, and solutions of alkali may forestall the necessity of exchange transfusion. The author considers that acute renal insufficiency should be treated in special centers.—J. V.


Administration of intravenous Deferoxamine to dogs 2 hours after massive iron ingestion was virtually ineffective in inducing significant urinary excretion of iron. Exchange transfusion 3 hours after iron ingestion resulted in the excretion of 30 times more iron that was excreted in the urine of the first group. Mortality was 100 per cent in the Deferoxamine-treated dogs, and 86 per cent in the exchange transfused animals. At this dosage of ingested iron (200 mg./Kg.) anuria or severe oliguria was present before therapy was undertaken. It seems clear that when urinary flow is negligible Deferoxamine is unlikely to be of any therapeutic value. It is less clear whether, if treatment began before the kidneys were affected or if urinary flow were maintained by supportive therapy, the drug might not have been more effective. It certainly seems reasonable to suggest that children with acute iron intoxication be considered candidates for exchange transfusion when shock or evidence of renal shutdown are present when they are first seen.—J. B. S.