Statement Concerning a System of Nomenclature for the Varieties of Human Hemoglobin

Recent studies have established the existence of three inherited variations of human hemoglobin. The occurrence of significant amounts of the fetal type of hemoglobin in a number of different anemias has also been demonstrated. Several different systems of nomenclature have been employed for the designation of the various hemoglobins thus far recognized.

On January 6, 1953, the Hematology Study Section of the Division of Research Grants of the National Institutes of Health sponsored a symposium on the general subject of hemoglobin abnormalities. One feature of that symposium was a consideration of the problem of nomenclature in this rapidly evolving field of investigation. There was general agreement on the need for a uniform and elastic system of designating the different kinds of hemoglobin. After considerable discussion of the various alternatives, it was agreed that the five varieties of hemoglobin thus far recognized be designated as follows:

1. Normal adult hemoglobin, or hemoglobin A, previously referred to as hemoglobin N or hemoglobin a. As subvarieties of normal adult hemoglobin are recognized, they can be designated hemoglobin A1, hemoglobin A2, etc.

2. Normal fetal hemoglobin, or hemoglobin F, previously referred to as hemoglobin f or fetal hemoglobin. Again, with the discovery of normal subvarieties they can be designated hemoglobin F1, hemoglobin F2, etc.

3. Sickle cell hemoglobin, or hemoglobin S, previously also referred to as hemoglobin b.

4. Hemoglobin C, previously referred to as hemoglobin c, hemoglobin III, or hemoglobin N.

5. Hemoglobin D, previously referred to as hemoglobin d.

It is suggested that as new varieties of hemoglobin are described, they be assigned letters of the alphabet in the order of their discovery, beginning with E, unless, as in the case of sickle cell hemoglobin, there is some outstanding associated hematologic or clinical effect which will serve as the basis for a convenient mental association.

It is felt that adherence to this system, with the introduction of modifications only as necessitated by further discoveries, will tend to minimize confusion based solely on terminologic differences.

Drs. Amos I. Chernoff, Ben Fisher, John W. Harris, Harvey A. Itano, Eugene Kaplan, Karl Singer, and James V. Neel participated in the symposium. Dr. Neel served as chairman.

REFERENCES


New Journal: Leukemia Abstracts

A new journal, aimed at furthering research on leukemia, is announced by Herman H. Henkle, librarian of The John Crerar Library, Chicago, Illinois. It is published monthly under the sponsorship of the Lenore Schwartz Memorial Foundation through funds given by the parents and friends of Lenore Schwartz, a victim of leukemia. The publication consists of abstracts of the world's literature on the subject and is sent free to medical men working in the field of blood diseases, to research workers in this field, and to medical libraries all over the world. Dr. Raphael Isaacs of Chicago is consulting editor, assisted by a group of medical men widely known for their work in the field as an Advisory Committee. The Committee consists of Drs. Howard L. Alt, George J. Anday, Israel Davidsohn, Andrew C. Ivy, Leon O. Jacobson, Louis M. Limarzi, and Karl Singer of Chicago; Dr. Charles A. Doan of Columbus, Ohio; Dr. John S. Lawrence of Los Angeles, California; Dr. Bernhard Steinberg of Toledo, Ohio; and Dr. Maxwell M. Wintrobe of Salt Lake City, Utah. Don E. Nist, of the staff of Research Information Service of the Crerar Library, is editor and responsible for the preparation of the periodical which is compiled, printed, and distributed by the Library.

Blood Club Meeting

Sunday, May 3, 1953, 8 P.M.
Vernon Room, Haddon Hall, Atlantic City, New Jersey

Panel Discussion
1. Hereditary Abnormalities of Hemoglobin
2. Ferrokinetics
There will be four speakers on each subject, followed by general discussion.
Self service for beer and pretzels available.

Dr. William B. Castle, Chairman

Foreign News Letter—Philippine Islands

To the Editor:

The progress of hematology in the Philippine Islands is probably best shown by the fact that three hematologic papers were the only ones selected for the Scientific Session of the Manila Medical Society celebrating its golden jubilee. This distinction is the best indication that hematology is beginning to come into its own and to be recognized as an important branch of medicine among physicians. The three speakers were Dr. V. de la Fuente on “Management of Hemorrhagic Disorders”; Dr. E. Stransky on “The Management of Anemias”; and Captain C. de Leon on “The Treatment of Diseases of the White Cells”.

A number of interesting papers have appeared in the Philippine literature during 1952. Burch, Salcedo, Carasco, and Intengan (J. of Nutrit. 48: 239, 1952) have completed a study on the hematologic picture of two hundred individuals from the Province of Bataan where polished rice has been lately supplemented by thiamine chloride and iron. They noticed that, as a consequence of the dietary supplement, there was a marked increase in the hemoglobin level in all individuals examined. Concepcion, Intengan, and Concepcion (Acta Med. Philippina 8: 209, 1952) studied the food intake of Filipino women during pregnancy. They concluded that iron deficiency is still the most important problem and that the administration of iron sulfate should be considered routinely to avoid the iron deficiency anemia so commonly found in the Philippines. Stransky and Conchu (Philippine J. Pediat., 1952) have reported on sixty-five cases of “refractory” anemia observed in the past few years at the Philippines General Hospital. Stransky concludes that a long standing
iron deficiency is probably responsible for the high incidence of “refractory” anemia very rare in western countries. Hook-worm infestation was found in seven cases only, indicating that perhaps this factor has no significant etiologic importance. Studies on aplastic anemia have revealed that in some cases the bone marrow may be hyperplastic and definite evidence of hyperhemolysis can be found. Stransky and Dais-Lawas (Ann. Paediat. 179: 348, 1952) have treated severe hookworm anemia and dietary iron deficiency with intravenous injection of colloidal iron. In every single case there has been complete recovery in two weeks, a speed of effect which is amazing and not comparable with results reported by others. Stransky and Vicente (Ann. Paediat., in press) studied plasma iron levels in different blood diseases. High levels were found in hemolytic anemia, acute leukemia, and aplastic anemia. Insignificant changes were detected in various hemorrhagic diseases, while in iron deficiency anemia, the value was extremely low, as opposed to anemia of infection.

Three cases of di Guglielmo’s disease were observed by Stransky and Tangeo (Philippine J. Pediat., 1952) and represent the first instances of the disease described in the Philippines. Final y Fores, Teotico-Berriz, and Tioseco (J. Philippine M. A. 88: 435, 1952) presented a paper on the indications for splenectomy in different blood diseases at the 1952 Convention of the Philippine Medical Association and commented on the increased frequency with which the operation is performed in a variety of hematologic conditions.

Philippine hematology is handicapped today by a number of conditions. As all medical libraries were destroyed in the Battle of Manila in 1945, older literature is nonexistent although modern journals are available. In Manila, with its four medical schools, hematology is well accepted as a specialty. In all other provincial centers, however, the lack of laboratory facilities and technical help is a great handicap to the development of hematologic practice and diffusion of hematologic concepts. For this reason, many cases are very likely lost to diagnosis and study; a real loss since the Islands have a unique abundance of clinical material.

EUGENE STRANSKY, M.D.

Letter to the Editor

Dear Sir:

We wish to propose a terminology for the various forms of eosinophilic leukocyte destruction as observed by us in the rat\textsuperscript{1} and by others during the eosinopenic state induced by such agents as cortisone, epinephrine, lowered barometric pressures, and bacterial polysaccharides\textsuperscript{2}. The degenerative stages in the eosinophil have been described as nuclear pyknosis, karyorrhexis, and eventual fragmentation of the cell. The following terms are suggested to cover the various forms and conditions associated with the destructive process:

\textbf{Eosinomere(s)}, n. (Eosin + Gr. meros = fragment, part). Eosinophilic leukocyte fragment consisting only of eosinophilic granules and no visible nuclear material. adj., Eosinomorphic.

\textbf{Eosinomeria}, n. A state associated with increased numbers of eosinomeres in body fluids, tissues, or both.

\textbf{Eosinorrhexis}, n. (Eosin + Gr. rrhexis = destruction). Breakdown of the eosinophilic leukocyte.


\textbf{Eosinorrhexicycle}, n. (Eosin + Gr. rrhexis + kutos = cell) Intermediate stage of degenerating eosinophilic leukocyte from which eosinomeres appear to bud off. These elements contain one or more nuclear fragments. adj., Eosinorrhexicytic.

\textbf{Eosinorrhexicytosis}, n. A state associated with increased numbers of eosinorrhexicytes in body fluids, tissues, or both.

When studied in the hemacytometer employing the Randolph phloxine-methylene blue diluent,\textsuperscript{4} it is not possible to differentiate between eosinomeres and eosinorrhexicytes. Under these conditions, these two types have been combined in previous papers\textsuperscript{1,2} under the
heading of "small eosinophils" because both appear as conspicuously smaller elements than normal eosinophilic leukocytes. We prefer now to refer to these elements as "degenerating eosinophils". The figures illustrate representative forms in the process of eosinorrhexis.

Jacques Padawer
Albert S. Gordon

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Fig. 1.—Normal eosinophils
Fig. 2.—Eosinorrhexicytes
Fig. 3.—Eosinomerines

The authors of this proposed nomenclature have evidently given the subject considerable thought. One wonders how many readers will use the suggested term of "Eosinorrhexicytosis" when speaking of "degenerating eosinophils" in the tissues and elsewhere. The authors themselves appear to revert to the latter term in their next to last sentence.

The Editor

REFERENCES
4 Muehrcke, R. S.: Personal communication, 1952.