BOOK REVIEWS


The main part of this monograph is devoted to a detailed report of two severe cases of Cooley's anemia. Though the clinical and laboratory features of the disease are carefully studied, the authors were apparently primarily interested in the anatomo-pathologic findings that are reported in great detail. The literature was searched particularly for cases with special reference to the general anatomo-pathologic findings (31 cases), gross and microscopic findings of surgically removed spleens (15 cases) and anatomo-histo-pathologic findings of the heart (3 cases).

The pathogenetic views currently held in this country are by and large accepted and confirmed by the authors. Excessive hemolysis is regarded as a constant factor; the concept, previously accepted in Italy, of the disease as a 'chronic erythremic myelosis' is discarded in favor of a hemolytic familial disease; bone changes are regarded as secondary to myeloid.

This work is primarily useful to those interested in the anatomo-pathologic aspects of Cooley's disease.

DAVIDE LIMENTANI


This book is the English translation of Danish research published in 1947. Of the 279 pages, the first 104 are concerned with methods, analysis and discussion. Almost half of the report presents pedigree charts and case histories of the families and individuals involved. A brief summary in Danish is included, and a bibliography is appended.

The analysis of the data in this monograph is based on statistical methods which treat the data on a population (i.e., distribution) basis. Such treatment is both descriptive and evaluative and is effectively used on this material.

This study of leukemia in humans was begun in 1945 at the University Institute of Pathologic Anatomy in Copenhagen, Denmark. Two hundred and nine individuals having leukemia were selected from hospital records available in greater Copenhagen and information was gathered on all immediate members of their families as well as uncles, aunts and grandparents. This leukemic group was then matched as closely as possible by a comparable nonleukemic control group of 100 individuals and the corresponding information of their families.

Information gathered by interview was verified by examination of hospital records and death certificates and it was found that the death certificates of 387 relatives of the leukemic probands showed that none of them had died of any of the diseases inquired about. A similar examination of the death certificates of 300 individuals of the control material who were not supposed to have died of cancer showed that four of them had in fact died of that disease. Examination of the supposed cancer diagnoses showed them to be correct in 92 per cent of the cases, while of 687 persons not stated to have died of cancer, 58 per cent were so listed in the death certificates.

There were 17 leukemic probands who had at least one other case of leukemia in their family which could be verified, while the families of the control material had only one case of leukemia. This is a significantly higher incidence of leukemia in the patient material and cannot be attributed to chance. The familial incidence of leukemia in this material is at least 8.1 per cent.

The author believes that the hereditary factors operating in leukemia are common to all the different varieties of the disease because the frequency of the varieties of leukemia observed in 39 families was the same as the incidence of the different varieties of leukemia among 310 nonselected patients.

A significant correlation was found to exist between siblings for age of onset of leukemia. Since it is unlikely that two siblings would show the same disease at the same age by chance, the concept of genetic relationship is strongly supported. The familial incidence which amounts to at least 8 per cent of all cases is more than can be explained by coincidence. 'The demonstrated relation [of 8 per cent familial incidence] . . . must be supposed to be genetic.'
The most likely method of inheritance is believed to be failing dominance but whether due to a single gene or to several (polymeria) is left an open question. On the basis of the present data consisting of thirteen families, from this study, plus data from the literature, the author believes that extrachromosomal inheritance may be excluded. Simple dominance and recessive inheritance are also excluded, while sex-linked and sex-limited inheritance have not been demonstrated.

The investigation of a possible relationship between pernicious anemia and leukemia showed that in the 209 leukemic proband pedigrees there were 17 verified cases of pernicious anemia, i.e., 8 per cent of the families. In the control material, pernicious anemia was found in only 6 of the 200 families, i.e., 3 per cent. The relationship between leukemia and pernicious anemia may, in Videbaek’s opinion, be due to a hereditary disposition which leukemia and pernicious anemia may have in common with cancer. No genetic relation between leukemia and other diseases of the blood-forming organs was found.

The last section of this paper is devoted to the consideration of the genetic relation between leukemia and cancer. In the data of this study there were 319 cases of cancer (7.89 per cent) among 4041 relatives of leukemic probands, while there were 2418 cases (5.99 per cent), among 3641 relatives of the control group. The incidence of cancer is about 32 per cent higher in the patient material than in the control group—a statistically significant difference. The conclusion of this section is that a relation does exist between leukemia and cancer evident both in the greater frequency of cancer in relatives of leukemic individuals and also the frequent coexistence of cancer and leukemia in the same patient. Leukemia is therefore believed to be a malignant neoplasm of the blood and the hemopoietic apparatus.

This study is an attempt to answer problems on a factual basis. Though conclusions are few, the methods of the study and its objectives are worthy of high praise. Probably few other people recognize as clearly as does the author that much more data from unimpeachable sources is necessary before final conclusions can be reached. Investigators of leukemia and cancer will find occasion to return to this work, for it will serve as a useful basis of comparison for their own data.

I. Ludwen


This monograph is the second edition of Frey-Wyssling’s “Submikroskopische Morphologie des Protoplasmas und seiner Derivate,” first published in 1938. Extensively revised and rewritten, it has been excellently translated by Prof. J. J. Hermans and Miss M. Hollander.

The clear and exact style of this book makes it a pleasure to read, and it should become familiar to all cytologists, cell physiologists, and bio-physicists; as the best existing presentation of the subject, it will act to the student who is unfamiliar with submicroscopic phenomena as a key to a new world. Even for the specialist, almost every page will be found to contain some piece of unfamiliar and interesting information, but the book is more than a mine of material; it is unusually evocative of ideas for future investigation, many of which will probably come to mind only after it has been read and laid down.

The first section, on the Fundamentals of Submicroscopic Morphology, deals with the organization of solids and the structure of gels; the second section deals with the fine-structure of protoplasm (cytoplasm, nucleus, chloroplast, and the erythrocyte), and the last section deals with the fine-structure of the protoplasmic derivatives (cellulose, cutin, chitin, fibrin, keratin, collagen, myosin, and starch grains). There is a selected bibliography of over 700 references, together with a subject and an author index. Most of the figures have been introduced to illustrate the spatial arrangements of atoms, molecules, and larger structures discussed in the text; this they do so clearly that it would be possible to become acquainted with the outlines of the subject by studying the figures alone.

ERIC PONDER

Erratum

An unfortunate error in the preceding issue of Blood (June 1949), in the section on correspondence concerning revised hematologic nomenclature, gives a misleading impression. Page 781, the first sentence following the references to Dr. Osgood’s letter should read: “A subsequent letter received from Dr. Jones indicates that Dr. Downey was unable to attend two of the last meetings of the Committee, and that he does not agree on all points with the report.” (instead of “... indicates that he was unable to attend ... ”).
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