

the author and is based on studies carried out during his appointment as a research associate at the Baker Clinic Research Laboratory in the Department of Medicine, Harvard University Medical School, New England Deaconess Hospital and the Joslin Clinic, Boston, Massachusetts, from 1952 to 1953 and from 1955 to 1958.

The aim of the investigation was to study the changes in the conjunctival vessels of diabetic and healthy individuals in an effort to determine whether any difference could be detected in diabetics as compared with healthy individuals which would allow one to consider these changes to be a part of a specific diabetic angiopathy. The studies were based primarily on qualitative and semiquantitative biomicroscopic observations and on quantitative measurements of vessel calibers on flash photographs of the conjunctival vessels.

The entire manuscript is divided into seven chapters and represents the summary of the observations carried out on 550 individuals, 327 of whom were diabetic and 223 of whom were asymptomatic apparently healthy subjects.

Chapter 1 is essentially a review of the literature dealing with diabetic vascular disease and presents the most essential reasons available in the literature for support of the hypothesis of a generalized specific diabetic angiopathy. At the onset of the investigation in 1952 no study had been made of the conjunctival vessels in relation to the question of the existence of a generalized diabetic angiopathy.

Chapter 2 gives an account of the material used in this investigation and a detailed description of the methods employed. There is also a discussion of the anatomy of the conjunctival vessels and of the characteristics of these vessels which were studied.

Chapter 3 concerns the investigation of the changes in the conjunctival vascular bed of 175 healthy and 220 diabetic subjects. They were grouped according to sex and age and the studies were all done as a blind test. The selection of the subjects for study was made by a colleague so that the observer was unaware of the diagnosis or medical history of the subjects. Final analyses were done after all observations had been concluded.

Chapter 4 deals essentially with the conjunctival changes in relation to the duration of the diabetes in seventy diabetic children.

Chapter 5 reviews the findings in the conjunctival changes in sixty younger diabetics with diabetic nephropathy or retinopathy or both. Flash photographs of larger pairs of vessels in the conjunctiva were taken on forty-seven younger diabetics and forty-eight healthy individuals at two moments of the day, morning and afternoon, with subsequent measurements on a negative film. The data accumulated are analyzed in Chapter 6.

Chapter 7 compares the results obtained in the present investigation with the existing literature on the subject. The author concludes from his findings that there is a specific and diabetic angiopathy consisting essentially of severe conjunctival changes of greater frequency in children with diabetes of longer duration than those with diabetes of a shorter duration and secondly that severe conjunctival changes are more frequent in diabetics with retinopathy or nephropathy than in diabetics without those late diabetic vascular mani-

festations. In addition, his data allow one to believe that in diabetics the conjunctival changes differ in various ways from those occurring in healthy individuals and that these changes can be considered a part of a specific diabetic angiopathy.

Excellent illustrations are present as well as diagrams enabling the reader to understand each of the changes which have been studied. Although the text is written primarily for a Scandinavian audience, nevertheless there is an excellent summary of each chapter in English at the end of the manuscript. A thorough bibliography on the subject is included. Although there may be some who will differ with the conclusions, one must agree that the author has based his studies on careful detailed observations carried out in a well-designed fashion. The observations appear clear-cut. The data are presented succinctly and represent a vast study on the conjunctival vessels as related to diabetes.

METABOLIC AND ENDOCRINE PHYSIOLOGY: AN INTRODUCTORY TEXT. By Jay Tepperman, M.D. \$7.50, 214 pp., Year Book Medical Publishers, Chicago, Illinois, 1962.

Since publications relating to endocrinology and metabolism are increasing exponentially, the casual reader in these fields is continuously challenged to select articles and volumes which provide the most information in both an efficient and yet enjoyable manner. This book, totaling 214 pages including index, satisfies both requirements. It presents a coverage of all the major subdivisions of endocrinology after an introductory chapter, a chapter on methodology and levels of metabolic organization and a chapter on the hypothalamohypophysial relay system, which includes the neurohypophysis and its functions.

These prefatory chapters are followed by chapters on male and female reproduction, thyroid, adrenal cortex, adrenal medulla, endocrine pancreas, energy balance and finally a chapter on the parathyroids. Each is succinctly written and introduced by a table presenting the historical landmarks pertaining to that particular field. This is then followed by an up-to-date treatment of the biochemistry and physiology, and here Dr. Tepperman has not only faced the difficult challenge of presenting what could be a confusing and complicated mass of information, but has succeeded in trimming and organizing the essential facts into a most logical sequence. This is then followed by pertinent clinical comments which serve only to underscore the theme put forward in the discussion of the physiology and biochemistry. The presentation is thus expertly woven into a fabric, as well-understood by the first-year student in physiology as by the practitioner trying to refresh and augment his basic understanding of disease processes.

The presentation is all the more supported by extremely simple but clever illustrations interrelating the various mechanisms on which endocrine and metabolic functions are based. Of particular merit to students of diabetes mellitus are the chapters on "Endocrine Pancreas" and "Energy Balance," these being the specialty of the author and thereby undoubtedly the most outstanding in a book that is already outstanding. This reviewer has attempted several times to present this information and can only admire the clarity and ease whereby the author has presented the information in these two chapters.