
Preface to the Second Edition

The human spleen is an organ of very special and in some respects unique clinicopathological significance, and has emerged from a centuries-old scientific and medical obscurity only within living memory. Understanding of the biological functions and structure of the spleen has progressed through several phases: classical speculation, comparative studies confounded by profound differences between species, empirical studies of the disordered, and usually enlarged, spleen, and the outcome of splenectomy.

Each of these sources has left lingering fingerprints, often as widely accepted and persistent concepts at the clinical level, including those of (1) hypersplenism as a process or mechanism, (2) that there is no exclusive function of the spleen that cannot be performed by elements of the immune system everywhere, and (3) that the spleen acts as a useful reservoir of blood cells. The inherent errors of these concepts have proved limiting to the development of the rational interpretation of splenic disorder.

In the clinical context, the spleen long appeared as a silent, almost anonymous organ, presenting for notice principally when enlarged, or when peripheral blood cytopenias suggested the possibility of a splenic disorder. The discrete structural entity of the organ permitted surgical removal of the spleen (splenectomy) as a therapeutic intervention, which was long believed to carry no long-term penalties.

The first edition of this book, published in 1990 by Chapman and Hall Medical of London under the title *The Spleen: Structure, Function, and Clinical Significance* principally addressed the wealth of new information on the microscopic structure of the spleen, its immune functions, the mechanisms of related cytopenias, and the clinical sequelae of splenic disorders.

In the interval since that time there has been increasing recognition of the adverse consequences of absent or impaired splenic function, not only following splenectomy, but in a surprisingly wide range of diseases and disorders. This has led to a broad range of new surgical techniques designed to preserve sufficient splenic tissue to maintain the protective function of

the organ. Related to this has been an increasing clinical interest, especially with respect to the investigation of the spleen radiologically, that has greatly improved the recognition of splenomegaly, atrophy, and intrasplenic pathology. In addition there has been a significant improvement in the sensitivity of techniques providing quantitative estimates of the various functions that are impaired in hyposplenism.

The changes appearing in this edition have therefore increased the clinical emphasis of the work, although some significant revisions and additions that focus on the supporting basic sciences related to the organ are also widely distributed throughout the chapters.

It is with great regret that I record the untimely passing of three distinguished contributors to the first edition. First, Professor Aage Videbaek of the Gentofte University Hospital, Copenhagen, Denmark, whose rigorous and insightful contributions to hematology ably represented the discipline in Scandinavia. He was the editor of the *Scandinavian Journal of Haematology*, and established the standards for critical research and clinical application for which the journal and its successor, the *European Journal*, are well known. He will be greatly missed. Second, Dr. Jack Chamberlain, a former student of Professor Leon Weiss, and a man whose hematological research in the field of scanning electron microscopy at the Universities of Rochester and East Carolina contributed greatly to an understanding of the structure of the spleen. I am grateful to Mrs. Chamberlain for her permission to consolidate elements of his first edition chapter into Chapter 2 of this edition. Last, I regretfully record the passing of Eric Schmidt who taught in the Department of Medical Biophysics at the University of Western Ontario. In the words of his colleague and chief, Professor Alan Groom, "Eric was a gifted experimentalist and electron microscopist, a shrewd observer, whose scientific observations have been of enormous value." Fortunately, one of his last collaborative contributions to the science of the spleen is incorporated into this edition.

I am grateful to those former authors who, while unable to complete revisions of their former work, nevertheless provided the framework for the contributions in this Edition. I also wish to thank Mr. Thomas Lanigan of the Humana Press for his interest and encouragement in the preparation of *The Complete Spleen: Structure, Function, and Clinical Disorders*, and also to Chapman and Hall of London, who were most helpful in making the transition to a new publisher practicable. I am also indebted to Ms. Lisa Watts and Ms. Sherry Puckett of the Department of Medicine at Marshall University, WV,

and Ms. Katherine Carolan of the Department of Surgery at the University of Iowa, for their secretarial expertise and dedication. I am also grateful to the Huntington Clinical Foundation for support with respect to the editorial resources required, to Dr. F. G. Renshaw of Michigan State University and Dr. N. C. Bowdler of the University of Iowa for invaluable assistance in the preparation of this edition, to Mr. William Arnold for his valuable expertise with the illustrations, and to Mr. Jonathan Bowdler, whose communication skills were used to great advantage.

Anthony J. Bowdler, MD, PhD