

Sloan-Kettering Institute Cancer Series

Gastrointestinal Tract Cancer

Edited by Martin Lipkin, M.D.
and Robert A. Good, Ph.D., M.D.



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***Martin Lipkin, M.D., and
Robert A. Good, Ph.D., M.D.***

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Preface

In observing the development of modern scientific knowledge, many individuals have expressed concern over the rapid growth of information in various specialized disciplines. Over 100 years ago the first Secretary of the Smithsonian Institution, and more recently Dr. Vannevar Bush while proposing the modern expansion of the National Institutes of Health, both noted problems that prevented the proper utilization of information by individuals in medical and related scientific fields. These observations, together with concomitant implications of future difficulty, are particularly pertinent to the field of oncology. The rapid evolution of the latter discipline has largely been aided by the incorporation of concepts and methods developed over a long period of time, and drawn from a wide variety of other scientific fields.

The large body of discoveries that have contributed to our current understanding of neoplasia, however, cannot be viewed as being made up of equal parts. They bring to mind Claude Bernard's view "*des déterminismes simples et complexes*" in the physiological and biochemical regulation of bodily functions. He was able to observe that the most important and basic of physiologic processes were destined to be fewer in number than those of less fundamental and more highly specialized purpose. He understood that in the future development of medical science, studies of the latter would occupy much of the time and attention of investigators, and were likely to contribute much to scientific literature.

The emergence of oncology as a scientific discipline of major importance, and indeed those areas related to gastrointestinal cancer, have been accompanied by proliferations of literature having similar characteristics. Although science may be "built up with facts as a house is with stones,"* at this time new publications in the field should aid in the development of a milieu leading to new and incisive reasoning. Simultaneously, they should strengthen lines of communication that will improve our understanding both of basic mechanisms and the speedy and efficient application of new discoveries. "There are science and the applications of science, bound together."† These

*Henri Poincaré, 1908.

†Louis Pasteur, 1871.

points were major considerations in planning this volume, and in the creation of this series of books on neoplasia.

Recent advances in our understanding of gastrointestinal tract cancer have led to a fuller awareness of factors contributing to its pathogenesis, and have given new insights into methods of detection and treatment. When new findings from experimental disciplines as diverse as genetics, immunology, biochemistry, carcinogenesis, epidemiology, and pathology are brought together, an interesting view begins to emerge on the evolution of the disease, and on new approaches to its detection, prevention, and treatment. Increased susceptibility of specific population groups to disease and pathogenic elements including those of environmental origin can be viewed more clearly; an outline of programs that might well reduce the incidence of disease and its mortality begins to be seen.

In this volume, fundamental aspects of the biological organization of gastrointestinal mucosa are reviewed, and a number of areas are suggested for further development and integration among the specialized disciplines involved. The topic of individual and familial susceptibility to gastrointestinal malignancy is stressed, together with newer discoveries relating to environmental, genetic, and immunologic factors, highlighting their possible interactions. Experimental models and their contribution to our understanding of both gastric and colonic neoplasia and their treatment are reviewed. The concluding sections of the volume focus on future directions in the early diagnosis and detection of gastrointestinal cancer, and on its therapy; an attempt is made to present a critical appraisal of newer advances including those related to treatment.

Throughout the development of the book, emphasis has been placed on recent findings having the best potential for improving our understanding of fundamental processes in gastrointestinal neoplasia, and of equal importance for application to clinical oncology. The task at hand would have been easier had a single concept in neoplasia been sufficiently advanced to satisfy requirements proposed by Einstein: "A theory is the more impressive the greater the simplicity of its premises is, the more difficult kinds of things it relates, and the more extended is its area of applicability." At the present time, the accomplishments in biological research discussed in this volume are moving toward an objective of that type. The task underway however is still complex, the most important problems remain largely unsolved, and they have to be approached with even greater vigor in the future. In doing so, and in attempting to fulfill the goals referred to above, we are obliged to keep in mind the complexities of the biological sciences involved, and the slow but steady progress that has characterized the evolution of major advances in this area of human endeavor.

M. Lipkin
R. A. Good

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I

***Biological Organization of
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