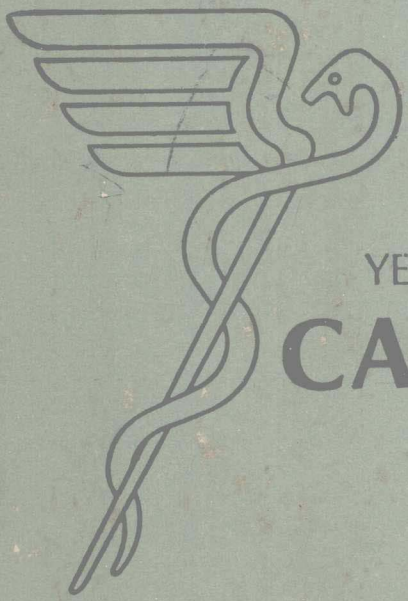


1975 YEAR BOOK OF CANCER

The YEAR BOOK of

Cancer

1975

Compiled and Edited by

RANDOLPH LEE CLARK

B.S., M.D., M.Sc. (Surgery), D.Sc. (Hon.) — Houston, Texas

President, The University of Texas System Cancer Center;
Professor of Surgery, The University of Texas M. D. Anderson Hospital and Tumor Institute;
Member, President's Cancer Panel;
Consultant, National Cancer Institute; F.A.C.S.

RUSSELL W. CUMLEY, B.A., M.A., Ph.D.

Editor and Head, Department of Publications, and Professor of Medical Journalism, The University of Texas System Cancer Center M. D. Anderson Hospital and Tumor Institute; Executive Editor, The Medical Arts Publishing Foundation

with the Editorial Assistance of

JOAN E. McCAY, B.A., M.A.

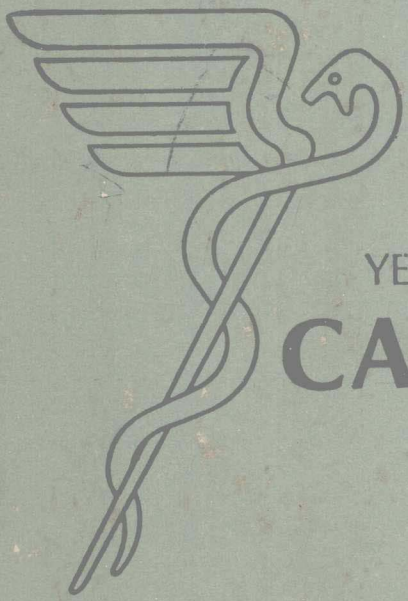
Managing Editor and Supervisor of Publications, Department of Publications, The University of Texas System Cancer Center M. D. Anderson Hospital and Tumor Institute; Associate Professor of Medical Journalism, The University of Texas Health Science Center at Houston, Division of Continuing Education

YEAR BOOK MEDICAL PUBLISHERS, INC.
35 EAST WACKER DRIVE • CHICAGO

Printed in U.S.A.

Library of Congress Catalog Card Number: 57-3807

International Standard Book Number: 0-8151-1783-3



1975 YEAR BOOK OF CANCER

The YEAR BOOK of

Cancer

1975

Compiled and Edited by

RANDOLPH LEE CLARK

B.S., M.D., M.Sc. (Surgery), D.Sc. (Hon.) — Houston, Texas

President, The University of Texas System Cancer Center;
Professor of Surgery, The University of Texas M. D. Anderson Hospital and Tumor Institute;
Member, President's Cancer Panel;
Consultant, National Cancer Institute; F.A.C.S.

RUSSELL W. CUMLEY, B.A., M.A., Ph.D.

Editor and Head, Department of Publications, and Professor of Medical Journalism, The University of Texas System Cancer Center M. D. Anderson Hospital and Tumor Institute; Executive Editor, The Medical Arts Publishing Foundation

with the Editorial Assistance of

JOAN E. McCAY, B.A., M.A.

Managing Editor and Supervisor of Publications, Department of Publications, The University of Texas System Cancer Center M. D. Anderson Hospital and Tumor Institute; Associate Professor of Medical Journalism, The University of Texas Health Science Center at Houston, Division of Continuing Education

YEAR BOOK MEDICAL PUBLISHERS, INC.
35 EAST WACKER DRIVE • CHICAGO

Printed in U.S.A.

Library of Congress Catalog Card Number: 57-3807

International Standard Book Number: 0-8151-1783-3

Editorial Board

*Section Chief

*Section Chief

Urology

MANUSCRIPT EDITORS

*Section Chief

75th Anniversary Edition

PUBLISHER'S FOREWORD

This year marks the 75th anniversary of the publication of the YEAR BOOK series, the only books of their type to be published continuously since the turn of the century.

The concept for the YEAR BOOKS was originated in 1900 by Gustavus P. Head, a Chicago physician, who felt that there was a need for a series of books that would present a digested selection of much of the best medical literature of the year in a volume convenient for reference. He believed that the value of the series to the reader would be enhanced by having outstanding medical editors add brief critical comments to evaluate the articles that they selected.

From 1900 until the end of World War I, most physicians were general practitioners with broad interests. Their information needs were satisfied by subscribing to the 10 original YEAR BOOKS as a series. After World War I, there was a significant rise in specialization within the medical profession. In 1922, reflecting this trend, advertisements for single YEAR BOOKS were mailed to specialists for the first time. The response was unprecedented and thousands of orders were received. Today, a YEAR BOOK is available to meet the needs of the physician in each major specialty area and in many of the subspecialty areas.

As specialization increased, there was an even greater increase in the complexity of the medical journal literature and in the number of journals published. To adequately cover the greater number of significant articles and to allow for better concentration of material for the physicians in specialty areas, the number of YEAR BOOKS in the series was gradually increased. By 1940 there were 15 YEAR BOOKS; the number increased to 16 in 1960, and in 1970, 21 separate YEAR BOOKS were published.

Very few readers are aware of the tremendous amount of thought and work that goes into the making of the YEAR BOOKS. Each year over 50,000 articles taken from thousands of individual journals are classified by hand and sent to the 52 medical editors for evaluation. The medical editors select a predetermined number of outstanding articles and return them to the publisher for abstracting and preliminary editing. The abstracts are returned to the medical editors for critical review. At this time, the medical editors add their editorial comments that help the reader to place the individual abstracts in perspective. The abstracts are then arranged in manuscript order by medical editors and returned to the publisher to be placed in production. The 21 YEAR BOOKS each year contain over 7,000 abstracted articles, nearly 3,000 illustrations and more than 5,000 editorial comments. The procedures for the YEAR BOOK OF CANCER vary slightly,

since that book has an active Editorial Board consisting of more than 150 editors.

It is of interest to add that Year Book Medical Publishers has experienced an even greater expansion in the publication of medical monographs and textbooks than in YEAR BOOKS during the past 75 years. Today, there are over 200 active titles available to meet the information needs of the busy clinician and the medical student. We are proud to have had the opportunity to reflect the advancements in medicine for the past 75 years.

Introduction

During the past century, much has been added to our understanding of the natural history and clinical course of the various types of cancer. Although there remain many unanswered questions about the molecular mechanisms involved in cellular transformation, the clinical approach and management of cancer has shown steady progress in terms of lives saved or extended and of decreased surgical mutilation.

Beginning in 1881 and extending through 1912, the radical surgical procedures introduced by Billroth, Halsted, Meyer, von Wertheim, Crile, and Miles for cancers of the stomach, larynx, bladder, breast, uterus, head and neck, colon and rectum were made possible by the previous development of knowledge of the basic pathology of cancer, as revealed by Müller, Virchow, and others. The anatomic basis of lymphatic drainage was accurately described by Rouvière, Sappey, and Cuneo, making possible the dissection of the primary lesion plus the regional lymph nodes in continuity to reduce the chance of recurrence or further metastasis of the disease. This knowledge, coupled with the contributions of Pasteur and Lister, the introduction of anesthesia and, a little later, of sterile rubber gloves, safe blood transfusions, and the physiologic treatment of shock, enabled surgeons to conduct well-planned and relatively safe internal surgery. They began to have sufficient time and surgical exposure to investigate and learn about the nature of the disease, the local occurrence, and the routes of spread and to stage the disease, guided by the regional and systemic manifestations. For a number of years, these radical procedures contributed essentially the only 5-year survivals for cancer patients.

During the years prior to the turn of the century, events were leading to the development of the second truly reliable therapeutic modality for cancer cure and palliation, radiation therapy. Röntgen and the Curies gave us x-rays and radium, and Coolidge, in 1913, designed the vacuum tube for better control of x-ray emissions. Supervoltage therapy with 1–2 megavolts was attempted by a few individuals prior to World War II. Supervoltage radiation therapy for cancer, however, really began with the design and development of the cobalt-60 teletherapy unit by Fletcher and Grimmett between 1948 and 1952. The linear accelerator was designed subsequently and contributed skin-sparing effects, depth-controlled dosage, and rapid delivery of single treatments. These potentially curative tools were used alone and in conjunction with surgery to increase still further the numbers of 5-year survivals for many types of cancer.

Egyptian papyri described application of chemical compounds to ulcerating skin cancers. The development of agents for the manage-

ment of specific disease entities, however, came much later, with the advent of such compounds as aspirin and Ehrlich's "magic bullet," an arsenical compound for the treatment of syphilis. Although in 1865 Lissauer's use of potassium arsenite for the treatment of chronic leukemia, Ehrlich's use of chemotherapy for the destruction of parasitic microorganisms, and the application of mustard gas by Adair and Bagg for the treatment of cancer were some of the initial attempts at chemotherapy, it was not until the 1940's and 1950's that the first definitive agents were used for treatment of specific cancers. Nitrogen mustards, purine analogues and folic acid antagonists were first studied and used for cancer therapy by Lewisohn, Hitchings, Rhoads, Farber, Karnofsky, Pinkel, Heidelberger, Cooper, Burchenal, and others. Hormone ablation and manipulation, although described as early as 1837, were not consistently exploited until more than 100 years later. Chemotherapy joined surgical and radiation therapy for the treatment of cancer, first as a palliative approach for advanced cancers and more recently as a single curative modality for early stages of some cancers or an adjunct to either or both of the other therapeutic modalities.

The greatest success in curing cancer has been in treatment for localized disease. The challenge for the present and future is the successful control and cure of disseminated disease. As more has been learned about cancer and about the maximal capabilities and limitations of each therapeutic modality, the necessity for a multidisciplinary approach to the treatment of most cancer patients has become apparent. Surgery cannot eliminate every vestige of metastatic disease. Chemotherapy and radiation therapy are least effective when there is a large total mass of tumor tissue. But the surgical removal of the majority of the tumor mass creates situations where radiation therapy or chemotherapy or both are able to destroy the remaining areas of malignancy. The total result is less traumatic and mutilative for the patient, and therapeutic results are frequently better than would be achieved with a single modality.

A worldwide attempt during World War II to control the scourge of malaria led to the concept of attacking a problematic disease on all fronts simultaneously; eg, prevention and control through accurate diagnosis, rapid and adequate therapy and rehabilitation of individuals following therapy. This philosophy is permeating the field of oncologic therapy, most particularly since the National Cancer Act of 1971 mandated a nationwide plan and program to conquer cancer. Such measures as the screening of high-risk individuals for the early detection of cancer, development of better equipment for the detection and diagnosis of cancer at its earliest phases, and operative staging of disease prior to initial therapy will be responsible for a decrease, if not in the incidence of cancer, at least in the number of individuals who are treated for or die of advanced, disseminated cancer.

To aid significantly in the modification of cancer therapy to that of a multimodal or team approach, we are adding studies of the immunologic status of cancer patients and its contribution to the success or failure of therapeutic efforts. As an adjunct to the reduction of tumor