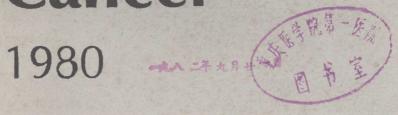
Cancer



CLARK - CUMLEY HICKEY

## Cancer

1980

Compiled and Edited by

RANDOLPH LEE CLARK
B.S., M.D., M.Sc. (Surgery), D.Sc. (Hon.), L.H.D. (Hon.),
LL.D. (Hon.)—Houston, Texas

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

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

Professor Emeritus, Department of Scientific 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

## ROBERT C. HICKEY, B.S., M.D.

Executive Vice President, The University of Texas System Cancer Center; Director and Professor of Surgery, M. D. Anderson Hospital and Tumor Institute; Professor of Surgery, The University of Texas Medical School at Houston



YEAR BOOK MEDICAL PUBLISHERS, INC. CHICAGO · LONDON

Copyright © November, 1980 by YEAR BOOK MEDICAL PUBLISHERS, INC.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher.

Printed in U.S.A.

Library of Congress Catalog Card Number: 57-3807 International Standard Book Number: 0-8151-1788-4

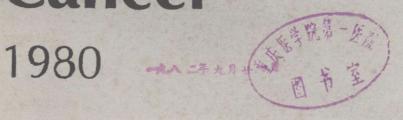
#### TABLE OF CONTENTS

## **Table of Contents**

	Introduction						9
		•					
	ACKNOWLEDGMENT						11
	Brain and Nervous System						15
	HEAD AND NECK						27
3.	Skin		 				37
4.	Breast						49
5.	CHEST						71
6.	BILIARY TRACT, LIVER, AND PANCREAS						87
7.	STOMACH, DUODENUM, AND SMALL BOWEL			1.			95
8.	Colon, Rectum, and Anus						107
9.	GENITOURINARY TRACT						117
10.	FEMALE GENITAL TRACT						129
11.	LEUKEMIA AND LYMPHOMA						143
12.	CANCER IN CHILDREN						163
13.	ENDOCRINE TUMORS						173
14.	BONE AND SOFT TISSUE TUMORS						185
15.	PATHOLOGY						195
16.	ROENTGEN DIAGNOSIS						217
17.	NUCLEAR MEDICINE						229
18.	RADIOTHERAPY						239
19.	CHEMOTHERAPY AND HORMONE THERAPY						257
20.	IMMUNOLOGY AND IMMUNOTHERAPY						275
	CANCER SUPPORT THERAPY						303
	RECONSTRUCTION AND REHABILITATION .						315
	ADVANCED TUMORS AND TERMINAL CARE						327
	EPIDEMIOLOGY, STATISTICS, AND CANCER C						339
	CARCINOGENESIS						349
	GENETICS						359

14 TABLE C	OF CONTENTS
27. BIOCHEMISTRY :	
28. RADIOBIOLOGY AND RADIOPHYSIC	cs
29. Molecular Biology	411
30, Cytology	431
31. VIROLOGY	
32. General Animal Tumors .	471
107	
781	
	16. Boznacky, Diagnoliis
	22. RECONSTRUCTION AND REHABILITATION

# Cancer



CLARK - CUMLEY HICKEY

## Acknowledgments-

Producing an accurate, timely, and authoritative YEAR BOOK OF CANCER requires the supportive efforts of a great many persons throughout the world—over.500 this year. Members of the editorial court, experts in vibrous areas of cancer research, review the literature for their respective specialities and exlect the most significant articles for abstraction. The authors of those articles are then invited to prepare abstracts, provide diustrations, and, when necessary, pre-

see addends to update their information

blembers of the staff of The University of Texas System Cancer Center M. D. Anderson Hospital and Tumer Institute give generously of their time and expertise throughout this process. The bibliography from which most of the selections are drawn is compiled by Marion Stringer and her assistants in the Research Medical Library and by the Department of Biomethematics. The manuscript is prepared for publication in the Department of Scientific Publications. Diane Rivern and Biane Culhane served as managing editor and manuscript editor, respectively, for this year's volume. The damanding tasks of keeping up with the voluminous correspondence and typing the many hundreds of pages that made up the manuscript were carried out by Susan Pink and Darothy Kisling.

Our appreciation and thanks also go out to Miss Dorothy U. Mixoguelti and members of the Cancer Chemotherapy Information Center of the Japanese Cancer Association for their contributions to this

emulov

Despite the fact that all these people have duties other than those involved in prepared this volume, they willingly compiled with our demanding achedule in the hope that their efforts will help bring to physickling vital new information in the field of cancer research. To all these people, without where assistance this book would have been impossible to compile, we express our amount appreciation. We also wish to acknowledge the continuing apport of the William Heiermann Fund, which makes this annual publication possible.

## Cancer

1980

Compiled and Edited by

RANDOLPH LEE CLARK
B.S., M.D., M.Sc. (Surgery), D.Sc. (Hon.), L.H.D. (Hon.),
LL.D. (Hon.)—Houston, Texas

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

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

Professor Emeritus, Department of Scientific 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

### ROBERT C. HICKEY, B.S., M.D.

Executive Vice President, The University of Texas System Cancer Center; Director and Professor of Surgery, M. D. Anderson Hospital and Tumor Institute; Professor of Surgery, The University of Texas Medical School at Houston



YEAR BOOK MEDICAL PUBLISHERS, INC. CHICAGO · LONDON

Copyright © November, 1980 by YEAR BOOK MEDICAL PUBLISHERS, INC.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher.

Printed in U.S.A.

Library of Congress Catalog Card Number: 57-3807 International Standard Book Number: 0-8151-1788-4



## **Editorial Board**

Anesthesiology

HOLLIS E. BIVENS, M.D., Houston, Texas

WEN J. CHIU, M.D., Houston, Texas

JACQUES F. DUPUIS, M.D.,\* Houston, Texas

WILLIAM S. HOWLAND, M.D., New York, New York

THOMAS R. KAIN, M.D., Houston, Texas

BENJAMIN M. RIGOR, M.D., Houston, Texas

#### Basic Research

STUART A. AARONSON, M.D., Bethesda, Maryland

DAVID E. ANDERSON, Ph.D.,\*
Houston, Texas

RALPH B. ARLINGHAUS, Ph.D.,\*
Houston, Texas

RICHARD S. BENUA, M.D., New

York, New York JAMES M. BOWEN, Ph.D.,\* Hous-

ton, Texas

EDWARD BRESNICK, Ph.D., Burlington, Vermont

LEON L. DMOCHOWSKI, M.D.,

Ph.D., \* Houston, Texas CHESTER A. GLEISER, D.V.M., Houston, Texas

Howard J. Glenn, Ph.D., Houston, Texas

FELIX L. HAAS, Ph.D.,\* Houston, Texas

LUBOMIR HNILICA, Ph.D., Nashville, Tennessee

ROBERT HURLBERT, Ph.D.,\* Houston, Texas

YOHEI ITO, M.D., Kyoto, Japan JOHN H. JARDINE, D.V.M., Hous-

ton, Texas
IVAN I. KAISER, Ph.D., Laramie,
Wyoming

S. S. KALTER, Ph.D., San Antonio, Texas

THOMAS S. MATNEY, Ph.D., Houston, Texas

EDWIN A. MIRAND, Ph.D., D.Sc. (Hon.), Buffalo, New York

KARL H. MUENCH, M.D., Miami, Florida

ROBERT B. NASO, Ph.D., Houston, Texas

GARTH NICOLSON, Ph.D., Irvine, California

KAMAL J. RANADIVE, Bombay, India

FREDERICK B. RUDOLPH, Ph.D., Houston, Texas

GRADY F. SAUNDERS, Ph.D., Houston, Texas

Joseph F. Saunders, Ph.D., Bethesda, Maryland

WILLIAM J. SCHULL, Ph.D., Hiroshima, Japan

LOUISE C. STRONG, M.D., Houston,

Texas

EARL F. WALBORG, JR., Ph.D.,

Smithville, Texas

DAVID WRIGHT, Ph.D., Houston,

#### Dermatology

SAMUEL F. BEAN, M.D., Houston, Texas

ARTHUR J. SOBER, M.D.,\* Boston, Massachusetts

#### Epidemiology

JOHANNES CLEMMESEN, M.D., Copenhagen, Denmark

N. E. DAY, M.D., Lyons, France ELEANOR J. MACDONALD, A.B.,\* Houston, Texas

THOMAS F. MANCUSO, M.D., Pittsburgh, Pennsylvania

John J. Mulvihill, M.D., Bethesda, Maryland

<sup>\*</sup>Section Chief

Gastroenterology

ELMER W. HEFFERNON, M.D., Boston, Massachusetts

**Gynecology and Obstetrics** 

ERNEST W. FRANKLIN III, M.D., Atlanta, Georgia

M. STEVEN PIVER, M.D., Buffalo, New York

FELIX N. RUTLEDGE, M.D.,\* Houston, Texas

Hematology

RAYMOND ALEXANIAN, M.D., Houston, Texas

Fred Conrad, M.D., Houston, Texas

JEANE P. HESTER, M.D., Houston, Texas

BURTON JAMES LEE III, M.D., New York, New York

C. C. SHULLENBERGER, M.D.,\* Houston, Texas

ARTHUR TROWBRIDGE, M.D., Temple, Texas

#### Internal Medicine

RICHARD F. BAKEMEIER, M.D., Rochester, New York

CLARA D. BLOOMFIELD, M.D., Minneapolis, Minnesota

GEORGE R. BLUMENSCHEIN, M.D., Houston, Texas

DAVID T. CARR, M.D., Houston,

Rowe A. Castagno, M.D., Hartford, Connecticut

PHILLIPS K. CHAMPION, JR., M.D., Houston, Texas

C. DECKERS, M.D., Brussels, Belgium

ROBERT C. GALLO, M.D., Bethesda, Maryland

ALBERT E. GUNN, M.B., B. CH., B.A.O., Houston, Texas

THOMAS P. HAYNIE III, M.D.,\*
Houston, Texas

EVAN M. HERSH, M.D.,\* Houston, Texas

GABRIEL HORTOBAGYI, M.D., Houston, Texas

\*Section Chief

LAIRD G. JACKSON, M.D., Philadelphia, Pennsylvania

DAVID A. KARLIN, M.D., Houston, Texas

MICHAEL KEATING, M.D., Houston, Texas

MAVIS P. KELSEY, M.D.,\* Houston, Texas

CLAUDE LAGARDE, M.D., Bordeaux, France

KENNETH B. McCredie, M.D., Houston, Texas

EUGENE M. McKelvey, M.D.,\*
Houston, Texas

DAVID W. MOLANDER, M.D., New York, New York CARL PLAGER, M.D., Houston,

Texas NAGUIB A. SAMAAN, M.D., Ph.D.,

Houston, Texas MELVIN L. SAMUELS, M.D., Hous-

ton, Texas
MARC STRAUS, M.D., Valhalla,
New York

JOHN L. STROEHLEIN, M.D., Houston, Texas

Neurology and Neurosurgery

LYLE A. FRENCH, M.D., Minneapolis, Minnesota

MILAM E. LEAVENS, M.D.,\* Houston, Texas

CHARLES B. WILSON, M.D., San Francisco, California

Orthopedics

JOHN T. MAKLEY, M.D., Cleveland, Ohio

JOHN A. MURRAY, M.D., Houston, Texas

GERMAN C. STEINER, M.D., New York, New York

Otology, Laryngology, Rhinology

HELMUTH GOEPFERT, M.D., Houston, Texas

EDWARD C. HINDS, M.D., D.D.S., Houston, Texas

DONALD A. SHUMRICK, M.D., Cincinnati, Ohio

Pathology

N. B. ATKIN, M.D., Middlesex, England

HARRY L. EVANS, M.D.,\* Houston, Texas

H. STEPHEN GALLAGER, M.D.,\* Houston, Texas

Steven I. Hajdu, M.D., New York, New York

ROBERT V. P. HUTTER, M.D., Livingston, New Jersey

H. L. IOACHIM, M.D., New York, New York

JOHN LUKEMAN, M.D., Houston, Texas

F. WILLIAM ORR, M.D., Winnipeg, Manitoba

BARBARA M. OSBORNE, M.D., Houston, Texas

CARLO SIRTORI, M.D., Milan, Italy J. LESLIE SMITH, M.D., Houston, Texas

#### **Pediatrics**

NORMAN JAFFE, M.D., Houston, Texas

ALVIN MAUER, M.D., Memphis, Tennessee

Anna T. Meadows, M.D., Philadelphia, Pennsylvania

DENIS MILLER, M.D., New York, New York

MARGARET P. SULLIVAN, M.D., Houston, Texas

JAN VAN EYS, M.D., Ph.D.,\* Houston, Texas

#### **Physics**

JOHN HALE, Ph.D., Philadelphia, Pennsylvania

RONALD M. HUMPHREY, Ph.D., Houston, Texas

Monroe F. Jahns, Ph.D., Houston, Texas

RAYMOND E. MEYN, Ph.D., Houston, Texas

ROBERT J. SHALEK, Ph.D.,\* Houston, Texas

Radiotherapy and Roentgenology

John M. Bedwinek, M.D., St. Louis, Missouri

GILBERT H. FLETCHER, M.D.,\*
Houston, Texas

LILLIAN M. FULLER, M.D., Houston, Texas

BAO-SHAN JING, M.D., Houston, Texas

ERICH K. LANG, M.D.,\* New Orleans, Louisiana

ROBERT D. LINDBERG, M.D., Houston, Texas

ALAN LIST, M.D., Göteborg, Sweden

ROBERT McConnell, M.D., Houston, Texas

CARLOS A. PEREZ, M.D., St. Louis, Missouri

ANTOLIN RAVENTOS, M.D., Davis, California

FERDINAND A. SALZMAN, M.D., Boston, Massachusetts

E. H. SCHULTZ, JR., M.D., St. Petersburg, Florida

PHILIP STRAX, M.D., New York, New York

H. RODNEY WITHERS, M.D., Ph.D., Los Angeles, California

#### Surgery

IRVING M. ARIEL, M.D.,\* New York, New York

A. J. BALLANTYNE, M.D.,\* Houston, Texas

ROBERT M. BYERS, M.D., Houston, Texas

LARRY CAREY, M.D.,\* Columbus, Ohio

MURRAY M. COPELAND, M.D.,\*
Houston, Texas

JEAN DEKERNION, M.D., New Orleans, Louisiana

WILLIAM L. DONEGAN, M.D., Milwaukee, Wisconsin

BERNARD FISHER, M.D., Pittsburgh, Pennsylvania

STANLEY R. FRIESEN, M.D., Kansas City, Kansas

OSCAR M. GUILLAMONDEGUI, M.D., Houston, Texas

JOHN E. HEALEY, JR., M.D.,\* Miami, Florida

ROBERT C. HICKEY, M.D.,\* Houston, Texas

ROBERT J. JENSIK, M.D., Chicago, Illinois

RICHARD H. JESSE, JR., M.D.,\* Houston, Texas

<sup>\*</sup>Section Chief

MAURICE J. JURKIEWICZ, M.D., Atlanta, Georgia

CHARLES M. McBRIDE, M.D..\* Houston, Texas

MARION J. McMurtrey, M.D., Houston, Texas

WILLIS P. MAIER, M.D., Philadelphia, Pennsylvania

EDWARD W. MARTIN, JR., M.D., Columbus, Ohio

RICHARD G. MARTIN, M.D.,\* Houston, Texas

CLIFTON F. MOUNTAIN, M.D., \* Houston, Texas

MARVIN M. ROMSDAHL, M.D., Ph.D., \* Houston, Texas

GEORGE P. ROSEMOND, M.D., Philadelphia, Pennsylvania

ROBERT J. SCHWEITZER, M.D., Oakland, California

DONALD SHEDD, M.D., Buffalo, New York

ROBERT TURELL, M.D.,\* New York. New York

J. A. VAN DONGEN, M.D., Amsterdam, The Netherlands RONALD G. VINCENT, M.D., Buffalo,

New York

Urology DOUGLAS E. JOHNSON, M.D., \* Houston, Texas

GERALD P. MURPHY, M.D., D.Sc., Buffalo, New York

DAVID A. SWANSON, M.D., Houston, Texas

ANDREW VON ESCHENBACH, M.D., Houston, Texas

WILLET F. WHITMORE, M.D., New York, New York

Managing Editor DIANE S. RIVERA, B.A.

Manuscript Editor DIANE L. CULHANE, B.A., M.A.

CLAS SI SECTION

## Introduction

The 157 members of the Year Book of Cancer editorial board for this 24th volume of the series have once again examined an enormous amount of oncologic literature, over 29,000 articles, in an effort to select those that best describe the progress being made on many fronts in the war against cancer. After careful consideration, they chose the more than 250 articles abstracted in this volume as the most informative that have been written about the causes, prevention, detection, and treatment of cancer in the past year. The hundreds of articles listed as additional reading are also worthy entries, and, were it not for the constraints of space and time, they, too,

could profitably have been abstracted.

While early detection continues to be the best weapon against cancer mortality, the controversy over certain diagnostic methods, e.g., screening for breast cancer, illustrates that, while physicians need every available tool to detect disease, the safety of the patient is uppermost in their minds. Further refinements of techniques such as scintigraphy and ultrasonography, as well as combinations of some modalities, have resulted in even greater accuracy of these techniques. Radionuclides are being used increasingly in the detection and localization of various cancers. For example, carcinoembryonic antigen radioantibodies as an adjunct to photoscanning are discussed in one report. Several authors advocate scintigraphy as a valuable adjunct in the staging of a variety of neoplasms. Likewise, the role of aspiration biopsy in diagnosis and lesion localization is the subject of a number of abstracts. Much interest and progress are also being expressed in cytogenetics in relation to tumor diagnosis, prognosis, and choice of therapeutic regimen. These techniques of chromosome study show promise for evaluation of those persons at risk for cancer and should aid in a better understanding of cancer etiology.

The importance of computerized axial tomography for the diagnosis, staging, and follow-up of patients with cancer continues to be demonstrated. The authors of one article describe the advantages of combining computerized tomography with lymphangiography to establish the diagnosis of mesenteric masses. Another author examines the use of computerized tomography guidance of fine-needle aspiration biopsy for localizing abdominal tumors. Indeed, computerized tomography has proved to be a versatile tool in the effective manage-

ment of the cancer patient.

Progress and refinements are also being made in the various treatment modalities. Different chemotherapy combinations that are effective as second-line treatment in patients with prior exposure to other drugs are detailed in one report. A new combination chemotherapy

regimen, Adriamycin, bleomycin, vinblastine, and dacarbazine (ABVD), has achieved promising results in the treatment of patients with advanced Hodgkin's disease. Another report that discusses the use of cis-platinum reflects a renewed interest in intra-arterial chemotherapy. Innovations in chemotherapeutic drug administration include the encapsulation of cytosine arabinoside in liposomes. This method not only is more effective in its cytotoxicity than the method of continuous drug infusion, but also may reduce the undesirable toxic side effects of the drug.

Advances in immunotherapy have likewise proved rewarding. Some studies indicate that prostaglandin inhibitors may be of value in therapy for human cancer. Several reports focus on the study of human macrophages, contending that a knowledge of them is central to an understanding of cancer immunology. Of particular interest are the studies that report on interferon, an immunotherapeutic agent that is the focus of much current controversy. Although results are still preliminary, there are indications that the substance has value in the treatment of patients with multiple myeloma or those malignant lymphoma patients with favorable prognosis who fail to achieve a cure with intensive chemotherapy. Until now, research has been hampered by the impurity of the substance, its scarcity, and its high cost.

This YEAR BOOK edition includes, for the first time, a chapter devoted to the subject of Cancer Support Therapy. It replaces the former chapter on anesthesiology and includes such topics as anesthesia, respiratory therapy, protected environments, antibiotics and nutrition,

and intravenous hyperalimentation.

Investigations continue along many avenues. The abstracts mentioned in this introduction describe but a few of the important developments in the multifaceted attack on cancer. That there is increasing cause for optimism in a battle that, until comparatively recently, was considered almost hopeless is perhaps the best incentive to continue the fight with increased vigor. We have already come so far in such a short time that the future holds exciting possibilities.

## Acknowledgments

Producing an accurate, timely, and authoritative YEAR BOOK OF CANCER requires the supportive efforts of a great many persons throughout the world—over 500 this year. Members of the editorial board, experts in various areas of cancer research, review the literature for their respective specialties and select the most significant articles for abstraction. The authors of those articles are then invited to prepare abstracts, provide illustrations, and, when necessary, pre-

pare addenda to update their information.

Members of the staff of The University of Texas System Cancer Center M. D. Anderson Hospital and Tumor Institute give generously of their time and expertise throughout this process. The bibliography from which most of the selections are drawn is compiled by Marion Stringer and her assistants in the Research Medical Library and by the Department of Biomathematics. The manuscript is prepared for publication in the Department of Scientific Publications. Diane Rivera and Diane Culhane served as managing editor and manuscript editor, respectively, for this year's volume. The demanding tasks of keeping up with the voluminous correspondence and typing the many hundreds of pages that made up the manuscript were carried out by Susan Fink and Dorothy Kisling.

Our appreciation and thanks also go out to Miss Dorothy U. Mizoguchi and members of the Cancer Chemotherapy Information Center of the Japanese Cancer Association for their contributions to this

volume.

Despite the fact that all these people have duties other than those involved in preparing this volume, they willingly complied with our demanding schedule in the hope that their efforts will help bring to physicians vital new information in the field of cancer research. To all these people, without whose assistance this book would have been impossible to compile, we express our sincere appreciation. We also wish to acknowledge the continuing support of the William Heuermann Fund, which makes this annual publication possible.

## Acknowledgments-

Producing an accurate, timely, and authoritative YEAR BOOK OF CANCER requires the supportive efforts of a great many persons throughout the world—over.500 this year. Members of the editorial court, experts in vibrous areas of cancer research, review the literature for their respective specialities and exlect the most significant articles for abstraction. The authors of those articles are then invited to prepare abstracts, provide diustrations, and, when necessary, pre-

oare addends to update their information

Members of the staff of The University of Texas System Cancer Center M. D. Anderson Hospital and Tumer Institute give generously of their time and expertise throughout this process. The bibliography from which most of the selections are drawn is compiled by Marian Stringer and her assistants in the Research Medical Library and by the Department of Biomethematics. The manuscript is prepared for publication in the Department of Scientific Publications. Diane Rivern and Diane Calbane served as managing editor and manuscript editor, respectively, for this year's volume. The damanding tasks of keeping up with the voluminous correspondence and typing the many hundreds of pages that made up the manuscript were carried out by Susan Pink and Dorothy Kisling.

Our appreciation and thanks also go out to Miss Dorothy U. Misoguelti and members of the Cancer Chemotherapy Information Center of the Japanese Cancer Association for their contributions to this

volume

Despite the fact that all these people have duties other than those involved in preparing this volume, they willingly couplied, with our demanding schedule in the hope that their efforts will help bring to physiciding vital new information in the field of cancer research. To all these people, without whose assistance this book would have been impossible to compile, we express our amount appreciation. We also wish to acknowledge the continuing support of the William Heiermann Fund, which makes this annual publication possible.

此为试读,需要完整PDF请访问: www.ertongbook.com