

edited by
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Archie W. Prestayko

Cancer and Chemotherapy

VOLUME III

INTRODUCTION TO
CLINICAL
ONCOLOGY

Academic Press
A Subsidiary of Harcourt Brace Jovanovich, Publishers

CANCER AND CHEMOTHERAPY

Volume II

Introduction to Clinical Oncology

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1981



ACADEMIC PRESS

A Subsidiary of Harcourt Brace Jovanovich, Publishers

New York London Toronto Sydney San Francisco



Y071845

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ACADEMIC PRESS, INC.
111 Fifth Avenue, New York, New York 10003

United Kingdom Edition published by
ACADEMIC PRESS, INC. (LONDON) LTD.
24/28 Oval Road, London NW1 7DX

Library of Congress Cataloging in Publication Data
Main entry under title:

Cancer and chemotherapy.

Includes bibliographies and index.

CONTENTS: v. 1. Introduction to neoplasia and
antineoplastic chemotherapy.--v. 2. Introduction
to clinical oncology.

1. Cancer--Chemotherapy. 2. Antineoplastic
agents. I. Crooke, Stanley T. II. Prestayko,
Archie W. [DNLM: 1. Neoplasms--Drug therapy.
2. Antineoplastic agents. QZ 267 C214]

RC271.C5C285 616.99'4061 79-8536

ISBN 0-12-197802-8 (v. 2)

PRINTED IN THE UNITED STATES OF AMERICA

81 82 83 84 9 8 7 6 5 4 3 2 1

CANCER AND CHEMOTHERAPY

Volume II

CANCER AND CHEMOTHERAPY

Volume I. Introduction to Neoplasia and
Antineoplastic Chemotherapy

Volume II. Introduction to Clinical Oncology

Volume III. Antineoplastic Agents



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GENERAL PREFACE

With the rapid development of new chemotherapeutic approaches and new agents used in the treatment of patients with cancer, a basic instructional workbook describing in some detail the drugs currently employed, current therapeutic approaches, and agents in development is essential. However, to understand fully cancer chemotherapeutic agents and their use, one must understand various aspects of anticancer drug development, the molecular and cellular biology of malignant disease, and the clinical characteristics of the most common neoplasms. Only with this information can a detailed discussion of anticancer drugs be presented.

It was with these thoughts in mind that *Cancer and Chemotherapy* was developed; the goal: to provide in a single source the information necessary for a detailed understanding of the major antineoplastic agents. Thus, Volume I is designed to provide the fundamental information concerning the molecular and cellular biology of cancer, carcinogenesis, and the basics of anticancer drug development. Volume II will provide clinical information relative to the most common human malignancies and discusses the use of chemotherapeutics in the treatment of those diseases. In Volume III the antineoplastic agents will be discussed. It contains reviews of all the major anticancer drugs and a review of agents in development. Furthermore, in two sections—the molecular pharmacology of selected antitumor drugs and the clinical pharmacology of selected antitumor drugs—significantly more detailed discussions of certain drugs are provided. These drugs were selected because they have interesting characteristics, and adequate data are available to allow a more detailed discussion. These two sections should be of particular value to individuals who have an interest in certain aspects of particular drugs.

Stanley T. Crooke
Archie W. Prestayko

PREFACE TO VOLUME II

In Volume II, leading oncologists present a review of the clinical features of the major tumor categories. Each chapter discusses the history, etiology, pathology, course of the disease, prognosis, accepted therapies, and the role of chemotherapy in advanced disease. The information presented in this volume is designed to provide a basic framework to allow better understanding of the antineoplastic drugs discussed in Volume III.

Stanley T. Crooke
Archie W. Prestayko

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Part I
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Lymphomas

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THE ACUTE LEUKEMIAS

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I. INTRODUCTION

The acute leukemias are primary malignant proliferations of the precursors of the formed blood elements. Characteristically, there is a progressive infiltration of the bone marrow, lymph nodes, and other organs by the immature neoplastic cells. As a consequence of the proliferation and accumulation of the leukemic cells in the bone marrow, the clinical course of leukemia is associated with a depletion of the normal cellular constituents of the blood. Thus, anemia, granulocytopenia, and thrombocytopenia—with resultant weakness, increased susceptibility to infection, and bleeding—become part of the clinical picture of acute leukemia. In the vast majority of cases, acute leukemia involves either the lymphocytic cell line (acute lymphocytic leukemia) or the granulocyte-erythroid-megakaryocytic cell line (acute non-lymphocytic leukemia).