Book Reviews


The considerable interest of Electron Therapy in the treatment of malignant disease is clearly shown in the fact that, only two years after the Montreux Symposium, there has been a second symposium in San Francisco, in order to survey the present state of our knowledge and the further progress in this field.

The present volume, which contains the Proceedings of the San Francisco Symposium, brings 20 contributions by American and European Authors, covering the various aspects of electron therapy: physics, dosimetry, radiobiological effects, and clinical applications.

All those engaged in the radiotherapy of malignant diseases will find this book of the greatest interest.

H. Clive Sims, London-Geneve


Seldom in Medical History has a medical discipline shown such Spectacular growth as Nuclear Medicine. Nuclear methods have found application in both the diagnosis and treatment of disease, with the diagnostic techniques receiving an increasingly large share. The potential of nuclear methods in clinical medicine seems almost limitless.

The editor, Professor at the Johns Hopkins Hospital, Baltimore, has succeeded with a staff of distinguished collaborators to give a well balanced and comprehensive survey of the applications of nuclear medicine of to-day. The chapters dealing with the physical, biological, and technical bases, are followed by the clinical chapters on thyroid, metabolic diseases, blood, lung, circulation, gastrointestinal tract, kidney, nervous system, and skeleton; finally radiation injury, dosimetry, radiation safety, and also activation analysis are discussed.

The present book, which should serve both as a textbook for the student as well as a reference work for the specialist, is one of the best books on Nuclear Medicine at present in existence and can be warmly recommended.

H. Clive Sims, London-Geneve


The acquisition of knowledge on the treatment of cancer and the management of patients with diverse cancers has occurred at a phenomenal rate during the past ten years. Clinical experience in both radiology and surgery and chemotherapy has resulted in a solidification of many of our opinions during this period of time, and it is particularly appropriate that a readable summary of current information in the treatment of cancer should be presented at this time. Dr. Thomas Nealon, an oncologist from Philadelphia, and latterly New York, has attempted the monumental task of bringing the clinician up to date in the management of the patient with cancer in this new book. In this, he has succeeded remarkably well.
The bedrock principles on which current management of the cancer patients rests are first presented. This includes a brief discussion of the role of surgery, radiation and chemotherapy in the management of the cancer patient. In these initial presentations, the principles are presented, and the general goal of surgical treatment is summarized with a review of methods of cancer metastases and the guiding principle of the surgeon being a wide removal of the initial lesion, together with the removal of the primary lymphatic chain to which the tumor spreads. The differences in radiation therapy between conventional radiation and supervoltage therapy are elucidated, and the available chemotherapeutic agents and their mode of action are briefly but adequately reviewed.

The various cancers of the body are then discussed region by region, covering current clinical knowledge of diagnosis and therapy in all of the areas. Cancers of the head and neck, thorax, abdominal viscera, and extremities are all clearly reviewed. Controversies in treatment are well presented, and this is true primarily in the fields of carcinoma of the head, neck and larynx, carcinoma of the breast, and carcinoma of the esophagus and extremities. The uses of regional perfusion and intra-arterial infusions are also nicely covered in this volume. The place of lymphangiography, diagnostic arterial radiography and isotopes in the diagnosis and treatment of cancer are also adequately discussed. The management of the terminal cancer patient, both with respect to the use of endocrine ablation, hormonal therapy, and chemotherapy are all nicely covered.

The book is highly readable, not excessively long considering the areas covered, perhaps lacks in a good correlation of current research and theoretical knowledge, and the relationship of this information to changing concepts in the treatment of cancer. On the whole, however, the author has succeeded well in the formidable task of bringing the reader current concepts in management of the patient with cancer. This book will be particularly good for medical students, for general practitioners, and for libraries. It will have relatively little place other than as a review volume for people who are currently expert in radiation therapy or in the surgical management of cancer. The nature of the presentation is quite uniform, with careful editing having been done by Dr. Nealon in all sections which he did not contribute himself. The emphasis is distinctly on patient management, and the pathophysiology and pathology of cancer is discussed only in this relationship. Nevertheless, the book is a distinct contribution to our current understanding of the management of the cancer patient.

V. Richards, San Francisco, Cal.


Irving M. Ariel has devoted the major portion of his life to understanding the progress in clinical cancer. With the support of Grune and Stratton, Publishers, he now proposes to edit on a yearly basis a volume entitled ‘Progress in Clinical Cancer’. Volumes I and II are currently available for review. The magnitude of his task in summarizing and reviewing on a yearly basis progress in clinical cancer is enormous, for there are over 5,000 medical journals in publication, and there are a minimum of 10,000 articles published yearly in the English language alone on problems of clinical cancer. The hope is, of course, that through the acquainting of physicians with progress in cancer on at least a yearly basis, the current death rate from cancer will be tremendously reduced through both earlier diagnosis and more appropriate treatment. Currently, approximately one half million persons alone die or develop cancer in the United States each year, and it is
estimated that about fifty million others will develop cancer at some time during their lives in the United States. Obviously, such an enormous task will require multiple authorship. Volume I reviews the opinions of seventy-two contributors. Volume II summarizes the work of forty-nine contributors. The contributors have been gathered on a world-wide basis, and truly an international view of cancer is recorded in this series on ‘Progress in Clinical Cancer’.

Each volume attempts to present a symposium on a given subject. Different viewpoints are bound to exist in as complex a problem as cancer, and the Editors makes a particular point of presenting authorities with divergent viewpoints, and following the presentation of divergent views, a critical analysis of these views is provided. The first volume is necessarily large because various subjects have been comprehensibly presented in detail. The hope is that future volumes will contain comparable chapters, but will present only the newer material which is developed during the preceding year or two. The first volume opens with two chapters dealing with the general nature and approach to cancer, an evaluation of current cancer therapy, and a prospective view of the impact of research upon clinical cancer. The immunological aspects of cancer are stressed in a series of chapters dealing with the response of the reticuloendothelial system to cancer in patients. The newer diagnostic techniques are presented, including the present status of cytology, mammography, lymphography, and thermography in the diagnosis of cancer. Cancer chemotherapy is discussed in great detail, and all of the currently proven drugs are thoroughly and critically viewed. The topics of regional perfusion, intraarterial infusion, and regional chemotherapy are discussed in detail. All of these areas have sufficient coverage that the physician who wishes to become current in these areas can find the necessary information and references in this volume to bring him abreast of the times. Sufficient detail is offered for the clinical surgeon that newer operative techniques could be utilized following a review of these chapters.

Improvements in radiation therapy and the use of radioactive isotopes in the diagnosis and treatment of cancer are again comprehensively reviewed in Volume I. In these areas, however, a general over-view is presented. The information would not be sufficiently detailed for a radiotherapist to use this volume as a reference work in this area. Nevertheless, it is particularly good for the general physician who wants to understand the proper uses of the new techniques in radiotherapy and radioactive isotopes in the management of his patients with difficult oncological problems.

Volume I also includes a review of important aspects of cancer of the head and neck, the relationship of radiation to the induction of thyroid cancer is carefully reviewed, and the extended radical operations for head and neck cancer, with their results, are covered in detail. The section on lung cancer includes a discussion of smoking and health. The chapter on surgical treatment of cancer of the esophagus is particularly interesting, and the newer techniques of colon transplantation in the management of this dreaded carcinoma are reviewed in detail.

Sections are also included on the treatment of lymphomas and leukemias, and on the management of smooth muscle tumors and soft tissue tumors.

A particularly interesting symposium in Volume I is on breast cancer, which is responsible for approximately twenty-five thousand deaths per year in the United States. The conflicting and diverging opinions are well presented. The problem of extended radical mastectomy is reviewed. A comparison of these results on an international basis is given, emphasizing the work currently under way in Russia and Sweden. The uses of preoperative and postoperative X-ray therapy are
discussed in detail, again giving the results from Sweden and from England, where these practices have been used extensively. The palliative treatment of advanced cancer of the breast, employing oophorectomy and adrenalectomy, is also thoroughly and critically reviewed. Volume I was published in 1965. Volume II was published in 1967. Volume II, of course, represents a continuation of the series, not a revision of Volume I but necessarily it covers, in parts, comparable areas, providing additional practical material not previously covered in Volume I. Volume II contains fewer articles on the broad nature of cancer, and directs itself more specifically to clinical problems of therapy in diverse cancers throughout the body. Volume II is, again, copiously illustrated, and the emphasis is on true clinical progress. The present reviewer considers both of these volumes excellent and extremely important and useful additions to the library of physicians interested in oncology, whether the physician be surgeon, radiotherapist or chemotherapist. The general areas of virology, genetics, tumor immunology, and the relationship of synthesis of proteins to cancer have not as yet been thoroughly reviewed in either of these two volumes, and it is hoped that future volumes will not only keep people abreast of the clinical progress in cancer but will begin to relate more clearly the advances in basic knowledge to current clinical practice. The only serious objection to the book, from the standpoint of the individual physician, is the cost. Volume I costs $35.00, Volume II costs approximately $20.00. It is almost essential to have both volumes. It is hoped that future volumes may be less expensive, once one has made the initial investment in this series. The book, of course, is a valuable reference book for any medical library in hospitals, medical schools or graduate institutions.

V. Richards, San Francisco, Cal.


Volumes I, II and III of this monumental work on Methods in Cancer Research are now available, and will be reviewed in this current analysis. This multi-authored volume will ultimately be a four volume treatise, and is designed to represent a comprehensive review of all available methods for analysis of the biological, oncogenic, morphological, biochemical and therapeutic phases of cancer research. Each volume is a detailed critical analysis designed for the research worker. These volumes are not easy reading for the clinician or general practitioner of medicine, and indeed, will be of relatively little use to him, but they will be magnificent reference works for those oriented towards the research aspects of oncology. They are authoritative, well illustrated, thorough, precise and clear in presentation. Leading international authorities write each section, and critical analysis of methods and procedures is well presented with the author’s personal views clearly expressed.

Volume I is concerned primarily with morphology of cancer, the nature of transplantation and metastasis, and the problems of carcinogenesis. The methods in electron microscopic cytology are well presented, and sufficient detail is given that the electron microscopist will find here the necessary information on fixation, embedding, sectioning, staining and microscopic techniques related to electron microscopy of both the solid tumors and tumors growing in tissue culture. The basic equipment for the establishment of an electron microscopic laboratory is given, and an analysis of the various available types of electron microscopes is clearly presented. Autoradiographic methods in cancer research are next discussed in detail. Particular attention is paid to the use of nuclear emulsions, radioactive isotope techniques, and the common problems
of artefacts in interpretation of quantitative autoradiography is clearly discussed. Karyological methods in the typing of tissues, the cultivation of tissue cells in vitro, and in the use of autoradiography are well presented to complete the section on morphology in Volume I. The fundamental biology of tumors is well presented in a section on transplantation of tumors, and the general nature of the metastatic process of cancer cells follows in a discussion on metastases and the factors influencing their ‘take and implantation’. Particular emphasis is given to the problems in tumor host relationship in the establishment and growth of metastases, and the experimental work, is well presented.

The section on carcinogenesis includes a discussion on the epidemiology of cancer research, the available tests for the detection of chemical carcinogens, and the relationship of aminoazo dyes to carcinogenesis. The subject of viral oncogenesis is discussed in detail, and the identification of viruses by electron microscopy is also presented in Volume I.

Volume II of Methods in Cancer Research is concerned primarily with the immunological aspects of cancer, problems of cell fractionation, and the relationship of enzymes to the neoplastic cell. The immunology of cancer is discussed both in its clinical relevance, in the serological techniques available for the analysis of tumor antigens, and in the current understanding of glycoproteins and lipoproteins and globulins in their relationship to cancer. The plasma cell tumors and myelomas are well discussed, and the relationship of toxohormones to the neoplastic process and immunological aspects of cancer is clearly elucidated.

The fractionation of the cancer cell is becoming of increasing importance and several chapters are devoted to the isolation and characterization of cytoplasmic components of cancer cells. Particular emphasis is placed upon the isolation of nuclei, the isolation, composition and function of nucleoli of tumors and other tissues, and the basic histo-chemical and cytochemical methods for the complete fractionation of the neoplastic cell.

Enzymes of the neoplastic cell are contrasted with enzymes in normal tissue, and the methods for biochemical identification of these enzymes are well presented in the final three chapters of Volume II.

Volume III is oriented towards the molecular biology of cancer and the relationship of the current and central dogma of biology, the relationship of DNA and RNA to the synthesis of proteins in the neoplastic cell, to the replication of the neoplastic cell, and to the formation of nuclear proteins, histones, and nucleotides in the cancer cell. The soluble proteins of liver and other tumors are discussed following several chapters on the DNA of cancer cells, the nucleic acids in cancer cells, the ribonucleotides in normal tissue and in tumor tissue. Each of these chapters on deoxyribonucleic acid and nuclear enzymes, ribonucleases, nuclear proteins, and nucleotides is clearly presented.

In the final two chapters of Volume III an attempt is made to relate current knowledge of molecular biology to sources of antitumor agents. The general design of anticancer agents, and the mechanism of action of these drugs is clearly interpreted in the light of current concepts in molecular biology. The emphasis, of course, always is on the research aspects, and again, the clinician and general physician will find little of value to him in the care and conduct of patients with cancer. Obviously, the advances in the care of cancer patients will stem from an increasing flow of fundamental knowledge of the type presented in this work, but at the present time the
The diversity of the material, the complexity of the interrelationships, and the synthesis of the research knowledge into useful clinical information leaves much to be desired. These three volumes are definitely essential for libraries and for cancer research workers. They will be worth browsing through for the clinician and general practitioner, but their main usefulness will be to those interested in exploring the fundamental biology of the cancer cell with the ultimate hope of enriching our understanding of the clinical nature of cancer.

Volume IV will be reviewed following its publication. It will be oriented primarily towards the nature of the invasive growth process and therapy, but it is not yet available for review. The book will include a section on carcinogenesis, a section on biology of the cancer cell, and a section on therapy, relating our current understanding of molecular biology to the alteration of the neoplastic cell. It will be reviewed separately once it becomes available.

This magnificent set of four volumes on methods in cancer research is essential for every research library and for every research worker in cancer research. It is beautifully done, well edited, and a decided asset to our understanding in cancer. The references are adequate, and will be a valuable reference work for research workers in any field of cancer research.

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