MODERN RADIATION ONCOLOGY

CLASSIC LITERATURE AND CURRENT MANAGEMENT

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FOREWORD

As regional director of the Southern California Permanente Medical Group, and having spent 25 years in the practice of gynecologic oncology, I have had the opportunity to witness the advances in cancer treatment from several perspectives. One of the most dramatic changes that has occurred is in the area of radiation oncology. Radiotherapists serve as the focal point for most of our cancer programs. Their knowledge and expertise have permitted a singular focus in providing a unique multidisciplinary approach to the area of oncology. The medical and surgical oncologists have more recently joined this select team of individuals totally devoted to the cure of cancer. This book salutes the efforts of our radiation oncology division specifically, and the specialty as a whole.

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PREFACE

Have you ever read papers in which it seems the most important sections are the acknowledgment, conclusion and introduction, whereas the main text is almost irrelevant?

Have you ever wondered why and for what reason you are irradiating a particular patient with a particular disease? Who designed the field shape? Why the dose?

Have you ever asked, how did a specific tumor become accepted as radiocurable or at least responsive to radiations?

Have you ever entered into the depths of the "literature" to answer a specific question regarding the care of a patient, only to emerge confused rather than secure and knowledgeable?

Have you ever felt that much of what you read contains conclusions contradictory relative to the data?

While reading your journals, have you questioned whether the standard of clinical investigation is merely a wearisome description of factitious detail and an unnecessarily prolonged discussion?

We think that the literature of radiation oncology is fun to read. We are convinced that a viewpoint that expresses both strengths and weaknesses can be clearly presented.

Each of our 29 contributors has been asked to establish the case for the current use of radiation therapy in their assigned areas. They were permitted great latitude in style and format. The first step was the selection of the *classic manuscript*. This article was to express the clinical basis for radiation therapy today. Each author deliberated many hours over the problem of selecting this classic in oncology. Many found 4 or 5 articles, each equally effective in getting across the essential ideas. Each author was guilt-ridden that the choice implies that the rest of the articles are somewhat inferior. At the time of publication, some of the contributors undoubtedly think that if given the chance they would choose differently.

After choosing the classic article, our authors' next task was to summarize recent articles (*annotated bibliography*) which contributed to or added to or argued with the ideas already presented in the classic article. You will see that this annotated bibliography varies in amount and context, depending on the motives of the contributor. The final task was the *overview;* it forms a summary statement which answers the who, what, where, and how of the radiation oncologist's role in each disease. The overview is a personal commentary, written by the contributor, and designed to give the reader a perspective of the topic which can be applied to the patient with resulting improvement in quality care. The overviews were burdensome to write. Where does fact stop and opinion begin? The overviews that deal with the topsy-turvy world of multimodality management were especially difficult. It is best to read the classical manuscript, the annotated bibliography, and the overview of each subject as *one self-contained chapter.*

We regret that some clinical areas such as rectum, stomach, pancreas, and melanoma, palliation, and psychosocial factors are not represented; nevertheless the subjects chosen will, we hope, serve as a storehouse of information for the resident, radiation therapist, chemotherapist, pathologist and surgeon.

The reader should be seeking the general principles that underlie the dissimilarities in clinical radiation therapy. These principles are peculiarly elusive and difficult to present; they have to be restated, since the task of resolving the various discrepancies of clinical radiation therapy into a few principles is, in the strict sense of the word, hardly possible. It is the purpose of this book to review and present the current scientific principles which have emerged to explain the relevance of radiation in the treatment of specific diseases.

We have demanded of our contributors to decide (not ponder), to discuss (not ignore) controversy, and when in doubt, speak (not mumble).

H.A.G.
A.R.K.

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CENTRAL-NERVOUS-SYSTEM TUMORS

SUPRATENTORIAL GLIOMAS

CLASSIC ARTICLE

Radiation therapy in the management of neoplasms of the central nervous system, with a special note in regard to children: Twenty Years' experience, 1939–1958*

ANNOTATIONS AND COMMENTARY BY GLENN E. SHELINE

* Reprinted from Am J Roentgenol 84:610–628, 1960.

RADIATION THERAPY IN THE MANAGEMENT OF NEOPLASMS OF THE CENTRAL NERVOUS SYSTEM, WITH A SPECIAL NOTE IN REGARD TO CHILDREN: TWENTY YEARS' EXPERIENCE, 1939–1958*

By JEAN BOUCHARD, M.D., D.M.R.E. (Cantab.),† *and* CARLETON B. PEIRCE, A.B., M.D., M.Sc., F.R.C.P.(C), F.A.C.P., F.A.C.R.‡
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PERIODIC review of experience, with associated critical assessment of effectiveness, is imperative in the use of ionizing radiation as a therapeutic agent. In no group of malignant tumors is this more true than in regard to those arising in the central nervous system, especially within the brain and brain stem. Their biologic characteristics, as well as their common location in critical areas, increase the difficulty of diagnosis and of surgical extirpation. The potential role of radiation therapy in the control of these neoplasms, either conjointly with surgery, or alone when surgical measures are incompatible with preservation of function or life, should be constantly under scrutiny.

Disability and mortality are common effects of these tumors, which influence notably cold statistical analysis of results. Whether or not irradiation will favorably affect either or both the virtually inherent disabling or lethal characteristics of these neoplasms must be continually and critically applied. These questions can be answered only by a long-term project such as is now reported.

Some types of neoplasms of the central nervous system are so exotic that few diagnostic and therapeutic groups will have opportunity to accumulate a statistically significant number for study.

During the twenty year period, 1939–1958, we have treated with ionizing radiation a substantial number and variety of neoplasms of the central nervous system. This has resulted from our close association with the Departments of Neurology and Neurosurgery of the Montreal Neurological Institute and the Royal Victoria Hospital. The patience, interest and cooperation of our colleagues in those fields is gratefully acknowledged. Only under such auspicious circumstances, with their very close observation and response to the patient's often critical requirements for medical and nursing care, could we have persevered and obtained the results which will speak for themselves.

Evaluation of the effectiveness of radiation therapy in the management of tumors of the central nervous system must be closely related, in general, to the individual differences of each type of tumor treated. Classification of these neoplasms rests primarily on their histopathologic features which often present difficult problems to the neuropathologist. During the winter 1958–1959, many hours were spent discussing with the late Doctor William V. Cone his review of the histopathology of the entire group in order to accomplish a special re-analysis of the clinical and histopathologic features of these tumors. This applied particularly to certain tumors which had behaved peculiarly and others whose classification had been rather obscure.

As a result of that review of the more than 800 cases in our entire series of 1939–

* Presented in brief form to the IXth International Congress of Radiology, Munich, July, 1959.

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