

BOOK REVIEWS

NUCLEAR MEDICINE ANNUAL 1983. L. M. Freeman, Ed. New York, Raven Press, 1983, 408 pp, \$39.50

As years go by I purchase fewer medical textbooks and rely more on journals as a source of current information. My reason for this is that by the time books come to press, they are already dated—this criticism, however, cannot be directed at the 1983 *Nuclear Medicine Annual*.

The format follows that of previous volumes. There are nine chapters, covering a wide spectrum of current nuclear medicine practice. Each chapter stands on its own, and the list of authors is a mini "Who's Who" of the field.

In general, the style of writing is even and easy to read, and the quality of print and images is excellent. I particularly liked the chapters, "Radionuclide Evaluation of Joint Disease," by Lull and colleagues and "The Use of Radioiodine in the Management of Thyroid Cancer," by Hurley and Becker. These chapters, just as all the others, are exceedingly well referenced and contain important clinical information not easily obtained from a single source.

Dr. Graham's article, "Clinical Applicable Modifications of Anger Camera Technology," is excellent and provides valuable information for those in the market for a new instrument.

Although the chapter on the role of nuclear medicine in non-coronary heart disease is an excellent review, I felt that additional technical details would have been helpful, e.g., how best to subtract background or find the correct position of the edge of the ventricles. If the interobserver variation in determining ejection fraction is 5%, how can we use 5% as a significant change?

The chapter on nuclear magnetic resonance imaging is less well organized, and the explanation of the physics requires some prior understanding of basic principles and terminology. Not all would agree that the abbreviations used are standard in the literature. The title of the chapter indicates it will cover the interrelationship with radionuclide imaging, but although there is a discussion of microwave imaging, real-time ultrasound, and digital angiography, the interrelationship with nuclear medicine is largely limited to that with emission tomography.

Thrall and Swanson wrote the chapter, "Interventional Aspects of Nuclear Medicine," which includes a discussion of a conglomerate of studies—testing thyroid function with TSH and TRH; determining adrenal function by dexamethasone suppression; analyzing heart function with exercise thallium and gated-angiographic studies; evaluating kidney function with diuresis renography; and detailing procedures on the gut, including gastrointestinal reflux, bleeding, hepatobiliary imaging including the response to cholecystikinin. Clearly, these are unrelated topics, and although the authors are recognized authorities the overall format of the chapter seems somewhat contrived. In addition, there is overlap in this chapter with the one on gastrointestinal imaging by Chaudhuri and Chaudhuri.

Larson and Carrasquillo have provided a very valuable chapter on nuclear oncology, and their up-to-date information on radiolabeled monoclonal antibodies against a melanoma antigen gives some hope that this form of treatment might well have efficacy.

The final chapter by Holman and colleagues deals with radiolabeled compounds (in particular [¹²³I]iodoamphetamine) for functional brain imaging.

Who should buy and who should read this book? A copy should be available in every nuclear medicine laboratory, and I believe all nuclear medicine residents will find it valuable, both for clinical practice and for obtaining factual information necessary to satisfy examination requirements. Nuclear medicine consultants will find most chapters very enlightening. Even those who consider themselves expert in specific areas, will find this book provides some new information and references.

Freeman and Weissmann are to be congratulated on this work. We hope the series will continue to present up-to-date information on a wide variety of nuclear medicine procedures straight from the pens of authorities.

I. ROSS McDOUGALL
Stanford Univ. Med. Ctr.
Stanford, California

COMPUTED TOMOGRAPHY IN RADIATION THERAPY. C. C. Ling, C. C. Rogers, and R. J. Morton, Eds. New York, Raven Press, 1983, 284 pp, \$45.00

This volume is based on material presented at the symposium, "Computed Tomography in Radiotherapy," (September 18-19, 1981, Arlington, Virginia) sponsored by the American Association of Physicists in Medicine. The collection of papers presents an excellent review of the state of the art technology in the use of transmission computerized tomography (TCT) in radiotherapy.

The volume is divided into three primary sections; use of TCT in clinical radiotherapy, in radiotherapy treatment planning, and in clinical dosimetry. Anatomical regions and specific tumor sites for CT applications in radiotherapy are discussed in the first section. For each anatomic area and tumor site, attention is given to special considerations and precautions necessary in the evaluation of diagnostic TCT scans compared with therapy TCT scans. The anticipated benefits and impact of TCT on tumor localization and normal tissue delineation on radiotherapy treatment results are discussed. Of special note in this section of TCT and radiotherapy is the chapter devoted to the value of TCT in brachytherapy applications. Illustrations include a gynecological implant with standard tandem and ovoids, an Ir-192 implant of the breast, and an I-125 permanent implant of the prostate. For each presentation, the usefulness of TCT for the determination of normal and tumor tissue localization and for spatial identification of radioactive seeds and sources is illustrated.

The second section provides information necessary for the use of TCT in treatment planning: an introduction to the physics of TCT, unique specifications for a TCT scanner for therapy, patient positioning requirements, and three-dimensional treatment planning. The routine use of TCT in radiotherapy is described. Some problems specifically addressed include: patient positioning, table tops, alignment marks, breathing, contrast materials, and relating therapy scans to other diagnostic studies. An excellent