RADIONUCLIDE SECTION SCANNING. AN ATLAS OF CLINICAL PRACTICE. P. J. Ell, O. Khan, P. H. Jarret, I. D. Cullum. London, Chapman and Hall Ltd., 1982, 285 pp

This atlas is one of the first to be published on radionuclide single-photon tomography. The authors have presented a balanced text, with both basic and clinical information. In Part One detection systems, image analysis, image and instrument parameters, methods of reconstruction, and radionuclide tracers are discussed in sufficient detail to provide the reader with an adequate insight into the basis for the techniques and procedures. Of particular value is the chapter on clinical results. This section not only describes the various factors involved in the analysis and results of tomographic imaging and makes comparisons with planar imaging and other imaging modalities, but also provides insight into the authors' approach and reasoning with respect to the clinical results. In Part Two, approximately seventy clinical examples are presented in the case report format. The planar images are included with the studies, and in many instances the results from single-photon tomographic imaging are compared with transmission computerized tomography and occasionally with diagnostic ultrasound. The clinical results from liver, lungs, and brain section scanning are emphasized; however, a limited number of cases are presented that include studies of the kidney, thyroid, and skeleton. In some cases comparative section scans are shown from images generated with the multiple detector system and the gamma camera system.

As with many rapidly developing disciplines, the images presented are not state of the art because of the time lapse for publication. Although more recent developments, particularly in computer software, provide images that are more pleasing to the eye, the diagnostic information is captured, even in these early images. As with planar radionuclide static studies, images from the sophisticated gamma camera appear more representative, however, the diagnostic accuracy has improved only slightly over comparable studies produced by the rectilinear scanning instruments.

This volume is a valuable addition to every nuclear medicine department. It not only provides brief (but comprehensive) information on the basic science aspects of single-photon emission tomography, but also a number of well-analyzed cases for an introduction to the images derived from this type of study. The authors are to be commended for this initial work on radionuclide tomography.

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