Nuclear Cardiology: Practical Applications

G.V. Heller and R.C. Hendel, eds.

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Nuclear Cardiology: Practical Applications is an informative text with the goal of providing succinct information on the indications for nuclear cardiac procedures and on how the results of these procedures can be used clinically. The authors successfully achieve their goal and also provide a concise source of information on both technical and interpretive aspects of nuclear cardiac imaging.

This second edition of the text consists of a total of 26 chapters divided into 5 sections, spanning approximately 400 pages. The first section begins with the basics of nuclear imaging physics and instrumentation. This is followed by a section on procedures and interpretation of radionuclide myocardial perfusion imaging, including performance of exercise and pharmacologic stress testing, imaging protocols, and interpretation of myocardial perfusion imaging. Section 3 is entitled "Other Nuclear Cardiology Procedures" and includes chapters on radionuclide angiography, cardiac PET, and hybrid imaging with SPECT/CT and PET/CT. This section also includes a chapter on SPECT of myocardial ischemia and innervation, including the use of ^{123}I-BMIPP (β-methyl-*p*-iodophenylpentadecanoic acid or 15-(*p*-iodophenyl)-3-(*R,S*)-methylpentadecanoic acid) and applications of cardiac imaging with ^{123}I-MIBG (metaiodobenzylguanidine). The fourth section includes 8 chapters covering clinical applications of nuclear cardiology, addressing the evaluation of patients with suspected coronary artery disease, risk stratification, preoperative risk assessment, and acute rest myocardial perfusion imaging in the emergency department, among other topics. Section 5 contains 5 chapters covering the basic principles of alternative noninvasive cardiac procedures.

Many of the chapters begin with a helpful introduction and end with a summary, which give an overview of the material presented within the chapter. At the end of each chapter, there is a comprehensive list of references specific to that chapter. Chapters also contain review questions at the end with detailed answers available in the back of the book, just before the index, a helpful resource for those using this book for review purposes. At first glance, I found the chapter on cardiac PET lacking; however, there is a separate and complementary chapter dedicated to hybrid imaging with PET/CT and SPECT/CT later in the book. This chapter should be read in combination with the separate PET and SPECT chapters for a more comprehensive overview. There are several helpful figures and image examples, many of which are in color.

This text is well suited for residents and fellows training in either nuclear medicine or cardiology. Practicing physicians performing and interpreting nuclear cardiac procedures will also find this useful as a concise and up-to-date review. For those with experience in radionuclide imaging, but not other noninvasive cardiac procedures, the chapters on alternative cardiac procedures give an excellent overview of the indications, strengths, and limitations of procedures such as electrocardiography exercise testing, echocardiography, cardiac CT angiography, and cardiac MRI.

In summary, *Nuclear Cardiology: Practical Applications* is an excellent source of concise, practical, and up-to-date information on the basic principles of nuclear cardiology, as well as alternative noninvasive cardiac procedures.

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