Nuclear Cardiology and Other Noninvasive Imaging Techniques in Cardiology

This new book on nuclear cardiology and other noninvasive techniques is written by 120 authors. It starts with a presentation by the editor himself and there follow 4 prologues and a total of 63 chapters divided into 6 sections. The numbers themselves suggest the ambitious scale of this project and indicate that, very much to his credit, the editor has had to make innumerable contacts. Most authors are Spanish but they are joined by a good number of non-Spaniards of recognized international prestige.

The first part (14 chapters) is dedicated to technical aspects including radiopharmaceuticals, instrumentation, positron emission tomography (PET) technology, solid state, single-photon emission computed tomography (SPECT) perfusion technology, correction of attenuation, fusion of images, gated-SPECT, and radioactive isotope ventriculography. There are other chapters too but, really, these are the themes they deal with as many reiterate data and some chapter titles are almost identical.

The second part is the most extensive (29 chapters) and deals in depth with clinical applications of nuclear cardiology and some aspects of coronary physiology that improve understanding of cardiac PET. Some chapters might have been omitted as they summarize topics discussed in greater detail elsewhere. For example, Chapter 19 is dedicated to clinical aspects of myocardial perfusion with thallium and repeats topics such as the physiology of exercise and myocardial ischemia and stress types, found in earlier chapters.

The third part focuses on therapeutic applications of nuclear cardiology with a total of 23 chapters. This chapter also discusses prognostic value, post-infarction evaluation, myocardial perfusion and revascularization, myocardial regeneration in ischemic heart disease, and gene therapy follow-up using nuclear medicine techniques. Four chapters in part 6 discuss nuclear pneumology, dealing with thromboembolic pulmonary disease, nonthromboembolic pulmonary disease and things alien to the lung such as lymphedema.

The fourth part centers on using noninvasive imaging techniques to diagnose coronary heart disease and includes magnetic resonance imaging in perfusion studies and visualization of coronary arteries, stress echocardiography, contrast echocardiography and electron-beam computerized tomography. The fifth part is dedicated to treatments and control of treatments in nuclear cardiology. The chapters cover a variety of topics such as intravascular brachytherapy, intracoronary irradiation using xenium, cellular therapy and myocardial regeneration in ischemic heart disease, and gene therapy follow-up using nuclear medicine techniques.

The book is well produced, the binding sound, paper of good quality, print clear and the scientific content excellent. I think it deals with almost all the topics that can possibly interest the nuclear medicine specialist and the cardiologist in terms of studies they may want to perform on patients with any type of cardiomyopathy. It is, therefore, a highly recommendable reference book for any library. If so much information were not repeated in various chapters, the book would be far slimmer than it is but too much information is always preferable to too little.

The only thing missing is a table giving the doses of radiation administered to the patient in each study. When talking of other techniques, insufficient importance is given to this aspect. Nuclear medicine can harm patients as each study means they receive a dose of radiation and this must be taken into account; other techniques such as echocardiography and magnetic resonance imaging are innocuous. In Spain, perhaps we give insufficient importance to this but in other countries patients are asked to give written informed consent and are told about the amount of radiation they are going to receive.