A variety of topics in nuclear medicine—a branch of medicine which deals with the application of radioisotopes in the diagnosis, treatment, and study of human diseases—are presented in this book. Topics range from nuclear cardiology, neurology, oncology, physics, pharmacology, immunology, and therapy. The texts include manuscripts of oral and poster presentations made in the symposium by various authors and are arranged on the basis of the scientific issues addressed in the presentation. This enables easy access to the topics in which the reader is interested. The editors have made no attempts to change the format of the texts of the presentations; they remain as the same in the original manuscripts.

The scientific presentations deal with the most current issues in the respective fields of study: be it cancer or cardiac diseases, physics or pharmacology or therapeutic application of radioisotopes. They, in most cases, focus on a very specific issue in that field. As the issues are current, they are open to discussion and criticism; awaits approval and consensus by the scientific community through further studies. Thus this is not a textbook of nuclear medicine in the usual sense.

Nuclear medicine has come a long way in the half century of its existence. The core strength of nuclear medicine—tracer technology—gives it a higher degree of sensitivity to detect disturbance of body functions in diseases. However, it lacks the required specificity. But the introduction of biomolecules and their analogues, which can be labelled with appropriate radioisotopes, the specificity has also improved significantly. It is now possible to identify the etiology of inflammatory process in the body: bacterial, using radiolabelled antibiotics (Tc99m labelled Ciprofloxacine), autoimmune using labelled interleukins (I 123 labelled IL2 R). Tissue diagnosis of cancer is possible in vivo as in the case of Somatostatin receptor scintigraphy in the diagnosis of large meningiomas.

Advances in imaging techniques have improved the detection of foci of abnormal or disturbed function. Planar imaging could detect only foci the size of a few centimeters. With the advent of Single Photon Emission Tomography (SPECT) and Positron Emission Tomography (PET), the size of detectable lesion has been reduced to a few millimeters. In addition, co-registration of images from SPECT or PET and from CT or MRI has significantly improved the accuracy of localization of the foci of abnormal function.

When nuclear medicine techniques armed with these latest attributes, i.e. high sensitivity and high specificity are applied to the diagnosis and treatment of various diseases, it is possible to obtain information that makes the management of patients rational and decisive. Similarly when nuclear medicine techniques are applied to the study of body functions in health and disease, it can provide valuable insight into the pathophysiology of various disorders and diseases.

This book is not to be used as a textbook in nuclear medicine. It is a good source of reference for those who are actively engaged in research in nuclear medicine, as it takes one to the cutting edge of research in the given field of study. The authors of various articles are responsible for the conclusions drawn from their respective studies. The editors have not exercised any of their rights. They have simply grouped the various papers together based on the medical issue addressed in them. The reader will not see what is usually expected in a textbook such as standardized format of the contents, editorial efforts to guide the language and syntax and a free flowing arrangement of the theme.

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