



Ferdinando Calabria and Orazio Schillaci (Eds). Radiopharmaceuticals. Metabolic Pathways for PET/CT and PET/MRI Imaging

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This book has an original structure, as indicated by the inclusion of “Radiopharmaceuticals” as a keyword in the title of a publication directed to physicians. From the subtitle it can be understood how the clinical aspects are pursued starting from the knowledge of metabolic pathways of radiotracers used for PET/CT and PET/MR molecular imaging.

The editors are Ferdinando Calabria, of the Neuroimaging PET/MRI Research Unit at the IBFM-CNR in Catanzaro (Italy), and Orazio Schillaci, Professor of Nuclear Medicine and Dean of the Faculty of Medicine at the University of Tor Vergata in Roma, who is President of the Italian Association of Nuclear Medicine and Molecular Imaging. The editors sought the collaboration of many Italian authors and the group working at the Oncology Institute of Bellinzona and Lugano, in Switzerland.

The volume comprises 11 chapters for a total of 187 pages, and is enriched by many images and diagrams. The format, that is generally followed, is based on the following sequence describing each radiopharmaceutical: radiochemical synthesis, pharmacokinetics, physiological distribution, clinical Indications, clinical cases, acquisition protocols, variants and pitfalls, and references. In some chapters, mainly those concerning neuroimaging, PET/MRI studies and protocols are also presented. The first chapter, concerning ¹⁸F-FDG, is the most extensive and dense in terms of content, considering not only

oncological indications, but also its clinical role in the imaging of inflammation and infection, in neuroimaging, and in cardiology. The following chapters present ¹⁸F-DOPA, radiocholine, ¹⁸F-FET, ¹⁸F-NaF, somatostatin analogues labelled with ⁶⁸Ga, ⁶⁴Cu radiopharmaceuticals, radiotracers for amyloid imaging, and ⁸²Rb for myocardial imaging. The last two chapters discuss respectively the bone pathway associated with the clinical use of ²²³Ra-dichloride in the radionuclide therapy of bone metastases from prostate cancer, and ¹¹C-methionine.

As mentioned above, the major interesting feature of the book is its original approach, including all the most important basic premises, with the emphasis on pathophysiology and the clinical use of PET radiotracers. The chapter on FDG provides a wide and exhaustive discussion, but being synthetic, the particular interest in the chapter lies in the presentation of other less widely used radiopharmaceuticals. Together with radiotracers already used in the clinical practice, procedures not yet widely performed are also described including acquisition protocols. Particularly interesting is the presentation of personal experience in the use of ⁶⁴Cu radiopharmaceuticals that are still in the research phase, of PET/MRI cases, and of the pathophysiological background that forms the basis for radionuclide therapy with ²²³Ra-dichloride.

For the reasons discussed above, we think that this book may be of interest first to residents starting to be involved in molecular imaging, who can understand that it is important in nuclear medicine to begin with a functional/metabolic approach to be able to better utilize its huge clinical power. The book may also be of value to all nuclear medicine physicians already working in the field, to refresh their basic knowledge and to learn more about newer radiopharmaceuticals.

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