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BOOK REVIEW

P. Peller, R. Subramaniam and A. Guermazi (eds): PET-CT and PET-MRI in oncology. A practical guide

Springer-Verlag, Berlin Heidelberg 2012, ISBN 978-3-642-01138-2

Ida Annarumma · Luigi Mansi

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This book is one of the first to compare the already established procedure, PET/CT, and the most recent procedure to have arrived on the diagnostic scene, PET/MRI. The editors are Patrick Peller, Assistant Professor of Diagnostic Radiology at the Mayo Medical School in Rochester, Rathan Subramaniam, Associate Professor of Radiology and Nuclear Medicine at Johns Hopkins in Baltimore, and Ali Guermazi, Professor of Radiology at Boston University School of Medicine. The contributors include renowned experts from North America, Europe, Asia and Australia. The foreword is by Maximilian F. Reiser and Sanjiv Sam Gambhir.

The editorial result is a useful and practical reference book, didactically helpful in achieving the best use of PET/CT and PET/MRI in oncology. In this field, PET/CT is a technique already established thanks to its ability to provide reliable information both anatomical and functional. On the other hand, PET/MRI is developing very rapidly and promises to have important clinical applications in oncology, such as in neuropsychiatry. Also very interesting is its potential in the evaluation of inflammatory diseases, where a cost-effective advantage will be its lower radiation dose, which is also relevant to paediatrics.

The text is presented as a practical guide to the applications, indications, performance and interpretation of these two methods. The volume, Including 432 pages enriched by many images, is divided into two parts and is aimed both at specialists and residents in nuclear medicine and/or radiology and at oncologists, radiotherapists and other clinicians interested in improving their knowledge in diagnostic imaging in oncology.

The book is very well structured. The first part is entitled "Basics", and consists of three chapters: the first describes the physical principles and instrumentation of the two methods, and this is followed by a chapter on radiochemistry and radiopharmacy. Very interesting and original is the third chapter, which describes how to interpret the images obtained.

Understanding the first part is essential to better appreciate the second part, the core of the book, entitled "Oncologic Applications" and including the remaining 16 chapters. After review of the applications of PET/CT and PET/MRI in the different oncological regions (central nervous system, head and neck, chest, breast, gastrointestinal, genitourinary, gynaecological, musculoskeletal, haematological, dermatological), chapters are devoted to the most common malignancies in childhood, the assessment of response to therapy, metastatic disease, and radiotherapy planning. Very interesting and original are the last two chapters which concern, respectively, patients with HIV and the most frequent and/or intriguing pitfalls and artefacts as possible sources of error.

All chapters are enriched by high quality illustrations with comprehensive captions, and by an up to date and extensive bibliography.

In our opinion this is an outstanding book, representing an important resource for all people who want a thorough introduction to the new intriguing diagnostic scene in which PET/CT and PET/MRI will compete and/or interact within the whole diagnostic imaging toolbox, that also includes nonhybrid machines, to build the most effective diagnostic course.

I. Annarumma · L. Mansi (✉)
Nuclear Medicine, Second University of Naples, Naples, Italy
e-mail: luigi.mansi@unina2.it