Stefano Fanti, Mohsen Farsad, Luigi Mansi (eds): Atlas of SPECT-CT

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One of the most important improvements in the evolution of nuclear medicine instruments in recent years is the fast development of hybrid systems, which are a direct method of integrating the physiological and functional data furnished by nuclear medicine devices (SPECT and PET) with the anatomical data furnished by radiological modalities (CT and RM). With the so-called fusion imaging it has become possible to obtain information containing the advantages but not the disadvantages of the single procedures taken alone, allowing higher diagnostic accuracy.

The first system able to perform simultaneous CT and SPECT studies was reported in 1992 for brain imaging. Currently SPECT/CT systems are becoming more and more common in nuclear medicine departments and different commercial systems are now available. There are a lot of textbooks and atlases dedicated to PET/CT systems but very few dealing with SPECT/CT. This is due to the clinical role of SPECT/CT that at present is still not as well defined as that of PET/CT, since PET is the most important and successful innovation of nuclear medicine imaging that was for this reason immediately integrated into many clinical guidelines and protocols.

There really was a need for this *Atlas of SPECT-CT* that collects a lot of very interesting contributions written by many expert nuclear medicine physicians in 13 chapters. They report with a very clear and simple language the technical basis and the main indications for SPECT/CT. Therefore, this atlas is not only a collection of clinical cases explained by means of very

beautiful images (in total 135 multi-view figures), but it is also a synthetic and very effective text reviewing the applications of SPECT/CT in the daily routine. Chapter 1 introduces the advent of hybrid systems, the parallels and divergences of SPECT/CT with respect to PET/CT, the clinical role of gamma emitters in the third millennium and the use of SPECT/CT in clinical emergencies. Chapter 2 is fully dedicated to technology and physics. Chapter 3 reports the diagnostic importance of SPECT/CT in oncology. Bone imaging is the matter treated in Chap. 4 showing the most common skeletal diseases. Brain imaging with SPECT/CT is the content of Chap. 5. The cardiac indications for SPECT/CT are described in Chap. 6, where the topic of radiation exposure by hybrid imaging is also addressed. Parathyroid pathology is shown in Chap. 7. Sentinel node imaging for various tumours (melanoma, prostate cancer, breast cancer and hand and neck tumours) is the topic of Chap. 8. Infection imaging using SPECT/CT is the main content of Chap. 9, while red blood cell imaging can be read in Chap. 10. Chapters 11 and 12 are dedicated to ventilation/perfusion imaging and radiation therapy planning, respectively. The last chapter, Chap. 13, discusses the dosimetric applications of SPECT/CT. All chapters include a short list of the most recent bibliography. This 230-page book will serve as a good reference text for both nuclear medicine physicians and radiologists. It will also represent a complete educational support for physicists, technologists, radiographers, fellows and students. The reading and understanding are very easy, since the textbook is well structured and the format is elegant and comfortable.

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