



Abdelhamid H. Elgazzar, *Synopsis of Pathophysiology in Nuclear Medicine, Second Edition*

Springer Cham, 2023. ISBN 978-3-031-20645-0, eBook ISBN 978-3-031-20646-7

Luigi Mansi¹

Published online: 22 November 2023

© The Author(s), under exclusive licence to Springer-Verlag GmbH Germany, part of Springer Nature 2023

I have reviewed in the last years many books by Abdelhamid H. Elgazzar, one of my favorite nuclear medicine authors. The reason is linked to the approach of his most interesting texts for me, those on physiopathology, which is of high educational value, with deep cultural roots, and at the same time up-to-date.

To do nuclear medicine, well it is necessary to have good anatomical and clinical bases; other subjects such as biochemistry, radiochemistry, physics, and pharmacology are also being important. But, in full agreement with Elgazzar, I believe that knowledge of physiopathology is the fundamental pillar of our discipline, creating the conditions to understand not only what we know, because it is present in our cultural and experiential database, but also what we have never seen before. Pathophysiology is therefore the foundation of precision medicine, calibrated to the individual patient and to the individual pathological condition.

This peculiar and original editorial project by A.E. Elgazzar, actually professor and chairman of the Nuclear Medicine Department at Kuwait University, is based on the edition of a textbook, which arrived in 2022 with the fourth edition (the first being published in the previous millennium), followed in two cases from a synopsis. This is the second edition in this latter format, after the first one published in 2014, and it is more streamlined and also useful for a broader and less professional target of readers, with respect to the more extensive and in-depth major publication.

This 400-page volume, with over 200 illustrations, is divided into the following chapters: (1) Pathophysiology: General Principles, (2) Ionizing Radiation: Biological

Effects and Essential Cell and Tissue Biology, (3) Basis of Radiopharmaceutical Localization, (4) Inflammation, (5) Musculoskeletal System, (6) Endocrine System, (7) Genitourinary System, (8) Respiratory System, (9) Circulatory System, (10) Digestive System, (11) Central Nervous System, (12) Nuclear Oncology, (13) Basis of Therapeutic Nuclear Medicine.

Being a synopsis, i.e., a brief statement giving a general view of some longer subject, the publication resumes the most important information on the pathophysiologic basis of nuclear medicine and molecular imaging contained in the fourth edition of the corresponding textbook, published in 2022. In this sense, anatomic, physiologic, and pathologic aspects associated to the nuclear medicine diagnostics of each organ system are concisely explained, creating the conditions for better understanding scintigraphic patterns and selecting appropriate treatment modalities.

Therefore, having been published as a comprehensive companion guide to the fourth edition of *The Pathophysiology Basis of Nuclear Medicine*, this publication may be useful for two different categories of readers: (1) as a quick reference for professionals and residents in diagnostic imaging and (2) as a brief, easy-to-use, but nonetheless beneficial text for undergraduates and postgraduates as well as for practitioners in clinical and research fields interested in nuclear medicine and molecular imaging.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

✉ Luigi Mansi
mansi.luigi@libero.it

¹ Inter-University Research Center for Sustainability (CIRPS), Rome, Italy