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EDITORIAL

Editorial

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The field of nuclear medicine has witnessed major advances in imaging technology and radiopharmaceuticals development in a relatively short time interval. An impressive leap has occurred between the invention of the first gamma camera by Anger in 1957[1] to the presently widely available hybrid technology of positron emission tomography – computed tomography (PET–CT) and single-photon emission computed tomography – computer tomography (SPECT–CT).[2] The field is yet to witness the impact of the emerging PET-magnetic resonance imaging (MRI) scanners. The variability of available radiopharmaceuticals to evaluate various body functions adds to the uniqueness of this field of functional imaging.

Advancement in the field is dependent on new ideas and developments in the various subspecialties of nuclear medicine.[3] For example, new cameras with higher resolution are needed in nuclear physics and instrumentation. Smaller and hand-held imaging devices might also expand the field enormously. In general, nuclear medicine is in need of new radiopharmaceuticals to image wider body functions and to help identify different disease patterns. The wide scope and unlimited possibilities of potential radiopharmaceuticals that depict various complex body functions could be a major stimulus to the most creative minds.

Major progress has occurred in oncology with the introduction of F-18 fluorodeoxyglucose (FDG) and PET imaging into nuclear medicine. However, some common tumors, like prostate cancer, have not been significantly impacted by PET imaging. Further research and development of more specific imaging agents are needed for these tumors.

Nuclear medicine is at the initial stages of investigating the complex human brain with its sophisticated pathways, neurotransmitters, and receptors.[4] Much research and a series of investigations are needed in nuclear neurology to identify and diagnose various neurological and psychiatric disorders.[5] This unique field of functional and metabolic imaging of the brain can delineate multiple metabolic abnormalities when anatomic imaging is normal.

Nuclear cardiology has impacted the management of coronary artery disease (CAD) significantly in the past two to three decades.[6,7] New major developments in the identification of vulnerable plaques and prevention or reversal of progression of CAD in routine clinical practice are anticipated.

The introduction of new, targeted radio-labeled therapeutic agents have provided many cancer patients with additional therapy options particularly in chemotherapy-resistant patients or as adjunct therapeutic agents.[8]

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The number of available journals to publish the outcomes of research and new ideas in nuclear medicine is limited compared to the wide scope and plethora of information in this field. Thus, our journal, *Research and Reports in Nuclear Medicine*, aims to include a broad scope of research results and useful information. Furthermore, open access facilitates the free availability of articles to our readers and free exchange of information. We welcome all submissions of valuable research results, ideas, case reports and new innovations. We are committed to an expedited review process and timely publication of quality manuscripts.

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