Keeping Current with the Latest Advances in Cardiovascular Imaging

Vasken Dilsizian, MD

Corresponding author
Vasken Dilsizian, MD
Division of Nuclear Medicine, University of Maryland Medical Center, 22 South Greene Street, Gudelsky Building, Room N2W78, Baltimore, MD 21201-1595, USA.
E-mail: vdilsizian@umm.edu

Current Cardiovascular Imaging Reports 2008, **1:**1
Current Medicine Group LLC ISSN 1941-9066

The past decades have seen the evolution of growing information in correlative and comparative noninvasive imaging studies involving the structure and function of the heart. Noninvasive imaging can now assess virtually every aspect of cardiac function: anatomy, physiology, biochemistry, innervation, and its vascular system. With the development of these advanced imaging technologies, the focus of medical care has steadily shifted from clinical history and physical examination to increased reliance on image-guided diagnosis and treatment. Although there are many scientific journals and textbooks to read and symposia to attend, it is extremely difficult for clinicians to distill the literature into cohesive information for the day-to-day management of patients. Thus, a journal in which experts present clear and concise reviews about the latest advances in cardiovascular imaging should be welcomed and readily accepted. The launch of this new journal, *Current Cardiovascular Imaging Reports*, represents a step toward fulfilling this unmet clinical need of keeping current.

The benefits derived from the rapid technologic developments in imaging have revolutionized the entire cardiovascular field. As a result, new disciplines such as molecular imaging have been created in cardiovascular imaging. The evolution of fused or integrated imaging systems, such as hybrid positron emission tomography (PET)/CT, PET/MR, and single-photon emission CT (SPECT)/CT, has opened a whole world of new opportunities for cardiovascular imaging; it allows the combination of a highly informative anatomic localization of a lesion or disease process with its functional correlates in the form of perfusion, metabolism, or receptor activation. For example, the stimulus for plaque rupture and thrombus formation leading to acute myocardial infarction is not well defined. Even when culprit lesions are identified by coronary angiography, they may not necessarily represent the lesion that ultimately will rupture. Contrarily, plaque rupture occurs frequently in nonculprit or insignificantly narrowed coronary arteries. The application of hybrid PET/CT or PET/MR systems may potentially identify the vulnerable plaque within a coronary artery lumen by colocalizing inflammatory cells (using radionuclide techniques) to the specific plaque (using CT or MR) that is vulnerable to rupture. Beyond diagnosis of a disease process, these techniques are rapidly transitioning to help guide therapy, as in PET/CT-guided ablation therapy and MR-guided interventional procedures. Further development and refinement of the instrumentations and shorter examination times will most likely cause image-guided interventional procedures to become clinically widespread.

Current Cardiovascular Imaging Reports will place the entire area of cardiovascular imaging in its proper perspective by establishing the indications and limitations of each imaging technique and by summarizing recent advances. Authors will present review articles examining timely topics and the genesis of great ideas that have led the scientific field in recent years. Each of the six issues per year will be dedicated to one particular imaging technique: echocardiography, nuclear imaging, cardiac MR, cardiac CT, intravascular imaging, or molecular imaging. Coherent and unified messages of latest advances will be provided in each issue. The articles will be abundantly illustrated with high-quality images. Distinguished section editors with special interest and personal achievements will make every effort to maintain a current and evidence-based journal and to limit speculative material.

This journal will serve as an invaluable resource to readers. Beyond the primary objective of making *Current Cardiovascular Imaging Reports* clinically relevant, we will also aim to break down artificial barriers among those who are called clinicians, radiologists, physiologists, biochemists, physicists, and pharmacologists in the study of the heart. Together, we look forward to fulfilling our goals to the best of our ability by providing growth of ideas, advancement of knowledge, and excellent scientific contributions. This issue marks the start of an orderly procession of scholarly publications for many years to come.

Disclosure

No potential conflicts of interest relevant to this article have been reported.