

Cardiac CT: The Imaging Technique of Choice?

Udo Hoffmann, M.D., M.P.H.

Available data suggest that cardiac CT may be superior to competing tests in the management and especially the early triage of acute chest pain patients because (1) it is a fast, relatively simple, and robust test with the potential to be available 24/7 in both tertiary and community hospital settings, (2) it uniquely provides a direct and noninvasive visualization for CAD, (3) rapid early discharge of nearly half of all patients with cardiac pain may be possible by excluding CAD, and (4) extending the spectrum of CAD through the detection of nonobstructive CAD may result in a more accurate short- and long-term prediction of cardiovascular event risk and in improved preventive strategies. However, the growing availability of cardiac CT in EDs across the United States not only expands the opportunities for its clinical application but also heightens the need to ensure that clinical practice is dictated by evidence-based medicine. Recent attention to radiation exposure, which is inherent with both SPECT and CT imaging, should also cause us to carefully consider the appropriate use of these modalities. There are a number of randomized trials underway that will help to clarify whether cardiac CT is indeed more efficient as compared to competing technologies. In addition, new developments in blood biomarkers such as high sensitive troponin may change our view on acute coronary syndrome, especially unstable angina and need to be considered in the spectrum of tests. Thus, a number of important questions need to be addressed to justify widespread routine clinical application of cardiac CT.