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Introduction

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The success story of cardiac computed tomography (CT) imaging continues to unfold. On one hand, technology keeps evolving at a rapid pace, and, on the other hand, well-designed research studies provide evidence concerning the clinical use of coronary CT angiography and other aspects of cardiac CT.

Imaging patients with chest pain remains the foremost application of coronary CT angiography. Especially in intermediate-risk patients, many invasive angiograms can be avoided if CT reveals "normal" coronary arteries. It is important to know that many patients with acute chest pain also have "normal" coronary arteries and no coronary artery stenosis. Of course, it is of utmost importance to very rapidly separate those who do have coronary disease (and need to be treated accordingly) from the many others who have chest pain due to noncardiac and usually less threatening causes. CT imaging may be a tremendously useful image technology to achieve this. In his article in this supplement, Dr. Charles White, from the University of Maryland, describes the potential use of CT angiography in patients with acute chest pain.

However, cardiac CT does not stop at the coronary arteries. CT allows for morphologic (and, to some extent, functional) imaging of the heart. Due to its 3-dimensional nature and high spatial resolution, CT is uniquely suited to serve as a reference method for other imaging modalities or as morphologic substrate for fusion imaging in the context of interventions. Electrophysiology procedures are often complex and lengthy and would in many respects benefit from exact localization of the catheters inside the heart, and CT can do just that. This supplement includes a thorough review article by Dr. Laurens Tops and his colleagues from Leiden University Medical Center, who present some of the most important aspects of this application.

These two articles should serve as a valuable resource for all those with an interest in cardiac imaging and CT. For additional information, a report of a case of preoperative risk assessment using coronary CTA is available online at www.jcvit.com. We hope you will find all of this information useful and inspiring for your clinical work.

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