Sy08-5 Image Modalities for Arrhythmia Management

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Cardiac imaging modalities, including angiography, echocardiography, computed tomography (CT) and magnetic resonance angiography (MRA), possess variable characteristics and contribute widely to the diagnosis and management of cardiac arrhythmias. This presentation will focus on the three dimensional images provided by the CT and cardiac MRA in ablation of atrial fibrillation (AF) and ventricular tachyarrhythmias. Atrial fibrillation (AF) remains a major contributor to the cardiovascular mortality and morbidity in the worldwide population. New advances have been made recently in the elucidation of the pathophysiology and catheter-based therapy of AF. Understanding the morphological characteristics of LA in detail can not only achieve a more efficient and successful ablation but also prevent potential procedure-related complications. Both MDCT and MRA can depict the cardiac structures with excellent spatial resolution. They can also help to differentiate tissue properties of ventricles and atria. With the assistance of 3D images, we can be familiar about the normal and variant patterns of PVs, the important landmarks within LA, and the topographic relationship between LA, esophagus and the surrounding vascular structures before the ablation procedures. In addition, we can understand the morphometric alterations of PV/LA and procedure-related complications after ablation. Cardiac CT and MRA are also useful in identifying scar tissue of ventricle. This may play an important role in management of ventricular tachyarrhythmias post myocardial infarction. In addition, MRA can offer detailed information for characterizing the ventricular tissue in arrhythmogenic right ventricular cardiomyopathy.

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