Editorial on Heart Valve Disease

Contemporary multimodality imaging evaluation and management of heart valve disease and related conditions

Heart valve disease and related conditions, including mitral regurgitation, tricuspid regurgitation and thoracic aortic dilatation, are important conditions affecting many patients worldwide. With advancements in multimodality cardiovascular imaging, including three-dimensional and strain echocardiographic imaging, cardiac computed tomography and cardiac magnetic resonance imaging, there is an improved understanding of the various etiologies of valvular heart disease. In the field of mitral regurgitation and tricuspid regurgitation, these advancements in imaging have been critical in the rapid revolutions in transcatheter mitral and tricuspid valve interventions.

Appropriate imaging evaluation enables the optimal evaluation of patients, provides important risk stratification, and guides optimal management. This dedicated series will provide a contemporary update on left-sided valvular heart disease, mitral valve regurgitation, tricuspid valve regurgitation and thoracic aortic dilatation and aneurysmal disease. In addition, the utility of novel left atrial strain imaging in valvular heart disease and cardiomyopathy and related conditions is covered. Pulmonary hypertension can be associated with many types of valvular heart disease, and an expert Australian group provides a contemporary update on imaging pulmonary hypertension. The role of multimodality imaging extends beyond diagnosis and guiding treatment. This is illustrated in a contemporary review on the role of coronary artery calcium by computed tomography, and related techniques in cardiac risk assessment. Multimodality imaging plays an important role in assessing and guiding many electrophysiology procedures. A unique review article presents a contemporary overview of the roles of multimodality imaging in the field of electrophysiology. With the availability of large volumes of multi-modality imaging data, the field of cardiovascular imaging is at the forefront of a revolution in artificial intelligence and personalized cardiovascular medicine, which is covered by a dedicated review article.

The articles in this special series provide a contemporary update on the diagnosis, evaluation and management of heart valve disease and related conditions, and highlight the roles of multimodality cardiovascular imaging. We believe that these articles are clinically relevant, and hope they will be of interest to the wide readership of *Cardiovascular Diagnosis and Therapy*.

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