Non-Ischemic Cardiomyopathy

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Nonischemic cardiomyopathies (CM) comprise a group of diseases that affect the myocardium and generally result in some degree of myocardial dysfunction. As described in the name, these disorders do not result from coronary artery disease or myocardial ischemia, and constitute a collection of diseases ranging from abnormalities of the myocytes or structural proteins (primary cardiomyopathy such as arrhythmogenic right ventricular cardiomyopathy or familial cardiomyopathy) to infiltrative disorders (such as amyloidosis or sarcoidosis).

The purpose of this session will be to review the major categories of nonischemic cardiomyopathies, to provide examples of those disease states, and to describe the role of cardiac magnetic resonance (CMR) in the evaluation of these disorders. Instruction will be given on the use of SSFP, T1, T2, T2*, STIR, late gadolinium enhancement (LGE), and contrast-enhanced T1-weighted (or global relative enhancement) sequences. Matching the goals of the study to the protocol strategy will be emphasized. Assessment of global and regional function using myocardial tagging and DENSE imaging will be reviewed. The use of these techniques for serial assessment of diseases and the therapeutic impact of imaging findings will be presented, especially in thalassemia, where CMR has had a major impact on diagnosis, management, and prognosis of this not uncommon condition.

Examples of disease states to be discussed include: Dilated CM, infiltrative diseases, Tako-tsubo syndrome, storage diseases (Fabry-Anderson, thalassemia), hypertrophic CM, non-compaction CM, and various forms of myocarditis. The impact of the presence and the patterns of LGE and the role of quantitation of fibrosis will be reviewed.

Suggested reading material for the session includes:

