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How to Distinguish Between Myocarditis and Sarcoidosis Based on CMR Imaging

I read with great interest the manuscript "Late Gadolinium Enhancement Among Survivors of Sudden Cardiac Arrest" (1). This paper offers the best available guidance on the management of this complex group of patients, which we recently utilized in the management of one of the patients admitted to our hospital. As someone who performs cardiac magnetic resonance imaging, I am often confronted by the inability to distinguish between active myocarditis and cardiac sarcoidosis, especially when the ventricles do not exhibit gross structural abnormalities. I find the delayed gadolinium enhancement pattern alone insufficient in distinguishing between these conditions unless extra-cardiac sarcoidosis is manifest.

Perhaps this distinction is moot since late gadolinium enhancement turns out to be the single best predictor of future appropriate implantable cardioverter-defibrillator therapy. On the other hand, this may be important because treatment for sarcoidosis may be available. Additionally, a clear definition of the mechanisms/disease that leads to sudden cardiac death is important from the epidemiologic point of view. Therefore, it would be helpful for the investigators to highlight the methods utilized to distinguish between these conditions.

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THE AUTHORS REPLY:

We thank Dr. Aneja for the interest in our article (1) and also appreciate that the feedback that the information provided in the article was of use when you were involved in the care of a patient surviving sudden cardiac arrest.

Sarcoidosis consists of both an active, inflammatory phase as well as a chronic phase, in which scarring and fibrosis are present. Although the cardiac magnetic resonance (CMR) features of the 2 conditions overlap especially during the acute phase, there are some suggestive features that help differentiate the two (2,3). The following features are typically seen in cardiac sarcoidosis (2,3):

1. Late gadolinium enhancement (LGE) in cardiac sarcoidosis often involves more than one segment, in a basal distribution, and often involves the septum.