MR images taken during the systole phase improve diagnoses of scars on the heart

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MR images taken when the ventricles of the heart relax and fill with blood and then when the ventricles contract and eject blood to the rest of the body provide a more complete picture of the extent of myocardial scar in patients with ischemic cardiomyopathy, a new study finds.

Detection of scar is important because it helps identify patients who are at higher risk of a fatal event, said Dr. James Fernandez, the first author of the study.

The standard protocol to determine scar in these patients is to collect just diastolic data (when the ventricles relax), said Dr. Fernandez. "However, our study of 30 patients at the University of Southern California found that images taken during the systolic cardiac phase (when the ventricles contract) can show scars not seen on images taken in the diastolic phase," Dr. Fernandez said. "Scars were seen in 23 studies in diastole versus 25 studies in systole," he said. In three studies, systolic images showed scars beneath the left ventricle, an area prone to ischemic damage, that were not detectable on diastolic images," Dr. Fernandez said.

The study will be part of the electronic exhibit program at the ARRS Annual Meeting in Washington, DC.

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