ARE NEW DIAGNOSTIC CRITERIA FOR PERICARDITIS NEEDED?

Oral Contributions
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Background: Current criteria for diagnosing pericarditis include non-ischemic chest pain, PR segment depression and/or J point/ST segment deviation on ECG, pericardial rub and pericardial effusion on 2-D echo. Unfortunately, these criteria are transient and difficult to detect. Cardiac MRI is capable of detecting edema with T2 weighted imaging, and inflammation with gadolinium redistribution to the pericardial interstitial space on delayed enhancement imaging, both of which have been documented in pericarditis on CMR. This study was designed to assess correlation of CMR and standard clinical findings of pericarditis.

Methods: An institutional CMR database was queried for all patients who underwent a CMR chest pain protocol study with CMR evidence of pericarditis including pericardial enhancement on T2 weighted pulse sequences and/or pericardial uptake on delay enhancement imaging with gadolinium. The clinical records of these patients were reviewed including symptoms, physical exam findings, ECG and 2-D echo data. Rates of correlation of CMR findings and each clinical element were tabulated.

Results: 526 of 1,816 patients in the CMR database underwent a CMR chest pain protocol study. 55 of the 526 patients (10.4%) had evidence of pericardial edema on T2 weighted imaging, while 147 of 526 (27.9%) had pericardial enhancement on DHE imaging. Using the most stringent CMR criteria for a diagnosis of pericarditis, 44 of 526 patients (8.3%) had both. 29 of these 44 patients (65.9%) had a pericardial effusion on CMR, while only 5 (11.3%) had a pericardial effusion on 2-D echo. On ECG, only 24 of 44 patients (54.5%) had findings suggestive of pericarditis. Only 22 of 44 (50%) had a pericardial rub on auscultation.

Conclusions: Approximately 8% of patients with chest pain who undergo a CMR chest pain study including T2 and DHE have evidence of pericardial edema and inflammation. Only one-half of these patients have a pericardial rub or ECG change, and far less have a pericardial effusion on 2-D. These data suggest that current criteria for a diagnosis of pericarditis do not have a high rate of correlation with evidence of pericardial edema and/or inflammation on CMR, using the most stringent CMR diagnostic criteria.