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UTILITY OF CARDIAC MAGNETIC RESONANCE IMAGING FOR DETECTION OF CARDIAC SARCOIDOSIS

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

Monday, April 04, 2011, 9:30 a.m.-10:45 a.m.

Session Title: MRI: Evaluation of Non-ischemic Cardiomyopathy

Abstract Category: 38. MRI

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Background: Cardiac magnetic resonance (CMR) has become an important diagnostic tool in assessing patients for cardiac sarcoidosis (CS). However, there remains little data regarding sensitivity and specificity of delayed enhancement (DE) CMR and short T1 inversion recovery (STIR) CMR for detection of CS. We sought to assess the utility of DE-CMR alone and in combination with STIR-CMR in a cohort of patients with biopsy proven extra-cardiac sarcoidosis undergoing screening for cardiac involvement.

Methods: Patients with biopsy proven extra-cardiac sarcoidosis who demonstrated symptoms concerning for cardiac involvement were included in the cohort. Diagnosis of CS was based upon the 2006 modified criteria from the Japanese Society of Sarcoidosis and other Granulomatous Diseases, which includes DE-CMR.

Results: Of the 121 subjects in our cohort, we identified 80 patients who had CMR imaging. Of these, 32 (40%) were eventually diagnosed with cardiac sarcoidosis. Abnormal DE-CMR was found in 22 CS patients and 3 non-CS patients (68.8% sensitivity, 93.8% specificity, 88% positive predictive value (PPV), 81.8% negative predictive value (NPV)). Abnormal STIR-CMR was found in 16 CS patients and 2 non-CS patients (50% sensitivity, 95.8% specificity, 88.9% PPV, 74.2% NPV). A combination of either abnormal STIR-CMR or abnormal DE-CMR was found in 24 CS patients and 4 non-CS patients (75% sensitivity, 91.7% specificity, 85.7% PPV, 84.6% NPV).

Conclusion: Both abnormal DE-CMR and abnormal STIR-CMR showed high specificity for CS, with low sensitivity. This suggests that CMR is a useful tool as part of a screening program for CS in patients with biopsy proven extra-cardiac sarcoidosis, but cannot be relied upon as a sole measure to rule out CS. Further study is needed to improve the accuracy of diagnosis in patients with cardiac sarcoidosis.