

POSTER PRESENTATION

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Role of C reactive protein in evaluating the extent of myocardial inflammation in acute myocarditis

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Background

Cardiac MRI (CMR) is an excellent modality for myocardial tissue characterization, allowing demonstration and quantification of myocardial damage using late Gadolinium enhancement (LGE) sequence. C Reactive Protein (CRP) has been shown to be a prognostic marker in lymphocytic myocarditis. The purpose of this study was to study the correlation between CRP levels and the extent of myocardial damage in patients diagnosed with myocarditis.

Methods

The study cohort included 47 patients (Mean age 32.5±12, 89% males) admitted to the heart center with MRI proven acute myocarditis. Demographic, clinical, laboratory echocardiographic and CMR data was collected. CMR was performed using a 1.5 T scanner (Signa HDX GE medical systems) using a standardized protocol including SSFP and LGE sequences. LGE was quantified as percentage of the left ventricular (LV) mass. Patients were divided into two groups: LGE < 10% of LV mass and LGE > 10.1% of LV mass. These two groups were compared in regards to CRP levels and left ventricular (LV) function.

Results

CRP levels were positively correlated with the myocardial damage; in the LGE < 10% group CRP was 54.6±56, in the and LGE > 10.1% group CRP was 104±68 (P value= 0.022). This correlation was maintained also when CRP was divided into thirtailes (P value=0.004). LV ejection fraction was 59.9%±6.7 VS 52.2%±12 for the lower and mid LGE

thirtailes and upper LGE thirtaile, respectively (P value=0.023)

No correlation was found between the extent of myocardial damage (% LGE) and the CPK and Troponin levels or any of the baseline characteristics (table 1).

Conclusions

CRP was significantly and positively correlated with the extent of myocardial damage as quantified by CMR. It may serve as a simple yet valuable tool to predict LV damage and dysfunction in patients presenting with acute myocarditis.

Table 1 Late Gd enhancement (LGE) percentage baseline characteristics and CRP CPK and Troponin levels

	LGE<10% N= 16	LGE≥10% N= 31	P value
Age (Mean ± SD)	30.7±11	34.4±14	0.352
Diabetes mellitus	0	6.5	0.541
Hypertension	0	9.7	0.541
Dyslipidemia	0	16.1	0.150
Obesity	56.3	53.3	1
Smoker	31.3	29	1
CPK	560±680	612±427	0.779
Troponin	19.5±27	12±9.5	0.310
Troponin upper thirtile	31.3	29	1
LVEF			
CRP	54.6±56	104±68	0.022
CRP upper thirtaile	21.4	63	0.012

CPK- Creatinin Phosphokinase

LVEF- Left Ventricular Ejection Fraction

CRP-C Reactive protein

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