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Relationship between serum CRP level and left ventricular function in patients with acute ST-elevation myocardial infarction: A cross-sectional study

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**Abstract:**

**Objective:** To investigate the relationship between serum C-reactive protein (CRP) level and left ventricular function in patients with acute ST-elevation myocardial infarction.

**Methods:** This study is a descriptive-analytic study and was conducted on patients with ST-elevation myocardial infarction, who were admitted to the Urmia Hospital in Seyed Alshohada Hospital, and underwent primary percutaneous coronary intervention from October to March 2018. Demographic, angiographic, echocardiographic data were evaluated based on the patients' records. All patients were evaluated for 90 min and CRP levels were measured during the first 6 h after the primary percutaneous coronary intervention.

**Results:** A total of 114 patients were studied, among whom 71.9% (82 patients) were male, and their mean age was (57.86±9.57) years old. The mean BMI was (26.1±3.8) kg/m<sup>2</sup>. Altogether 38.6% (44 patients) had a history of smoking, 17.5% (20 patients) of diabetes, 38.6% (44 patients) of hypertension, 5.3% (6 patients) of hyperlipidemia and 7.0% (8 patient) of coronary artery disease. The results showed a significantly negative correlation between ejection fraction and CRP, left atrial volume and CRP ( $P<0.05$ ), and a significantly positive correlation between the global longitudinal strain level and CRP. The CRP level was significantly different at various diastolic grades ( $P=0.001$ ). The level of CRP in patients with grade 2 diastolic dysfunction was higher than grade 1 diastolic dysfunction, while the level of CRP in diastolic grade 1 diastolic dysfunction was higher than the normal function.

**Conclusions:** High CRP levels are associated with ejection fraction, global longitudinal strain loss and left atrial volume.

**Keywords:** Coronary artery disease; ST elevation myocardial infarction; C-reactive protein; Myocardial infarction