Association between biochemical markers and left ventricular dysfunction in the ST-elevation acute myocardial infarction.

[Article in Spanish]
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Abstract

OBJECTIVE:
The association between biochemical markers and left ventricular ejection fraction in patients with myocardial infarction was not completely studied. Our goal is to study the association between biochemical markers and left ventricular dysfunction in patients with ST-elevation acute myocardial infarction.

METHODS:
With an observational and prospective design we included patients with less than 24h ST-elevation myocardial infarction. Leukocytes, glucose, B-type natriuretic peptide and T troponin were measured at admission, and creatine-phosphokinase and creatine-phosphokinase-MB were measured at admission and serially, and correlated with the ejection fraction estimated by echocardiography.

RESULTS:
A total of 108 patients were included. The median left ventricular ejection fraction was 48% (interquartile range 41-57). Simple linear regression analysis showed that B-type natriuretic peptide (P=.005), peak creatine-phosphokinase-MB (P=.01), leukocyte count (P=.001) and glucose (P=.033) were inversely and significantly associated with the left ventricular ejection fraction. The other parameters showed no association. B-type natriuretic peptide (P=.01) and peak creatine-phosphokinase-MB (P=.02) were the only two variables significantly associated with the left ventricular ejection fraction in the multiple linear regression analysis. Both markers were significantly associated with a left ventricular ejection fraction < 50%, independently of other clinical variables.

CONCLUSION:
B-type natriuretic peptide and peak creatine-phosphokinase-MB showed significant association with left ventricular ejection fraction in the acute phase of ST elevation acute myocardial infarction. This association was independent of the presence of other biochemical markers and clinical variables related to ventricular dysfunction.

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KEYWORDS:
Acute coronary syndrome; Argentina; Biochemical markers; Disfunción ventricular izquierda; Infarto de miocardio; Left ventricular dysfunction; Marcadores bioquímicos; Myocardial infarction; Síndrome coronario agudo