Complement factor concentrations in patients with acute myocardial infarction: time course and ability to predict left ventricular dysfunction

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AIM
Inflammatory processes may contribute to myocardial ischemia/reperfusion injury after myocardial infarction (MI). We aimed to evaluate the predictive value of complement factor concentrations for the occurrence of post-MI left ventricular (LV) dysfunction.

PATIENTS & METHODS
Fifty-five patients with acute MI were included. Complement factors and CRP were assessed at hospital admission (HA) and during the first 3 days. LV ejection fraction was determined by echocardiography before hospital discharge.

RESULTS
Total hemolytic complement (CH50) on admission and peak CRP during the first hospitalization days were higher in patients who developed LV dysfunction (LV ejection fraction ≤45%). By contrast, neither absolute concentrations of single complement factor concentrations nor changes in these concentrations over time were associated with the occurrence of LV dysfunction. CH50 at HA was independently associated with LV dysfunction.

CONCLUSION
This study generates the hypothesis that CH50 concentration at HA in patients with acute MI may identify individuals at high risk for LV dysfunction.