

# The ACEF (age, creatinine, ejection fraction) score as a prognostic marker in acute coronary syndrome

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**Introduction:** Studies have shown that age, serum creatinine levels, and left ventricular ejection fraction (LVEF) combined in ACEF score have predictive value for clinical outcomes in patients undergoing elective coronary artery bypass surgery and promising value for those undergoing percutaneous coronary interventions (PCI)<sup>1-3</sup>. The aim of this study was to investigate the prediction value of ACEF score for a novel major adverse cardiovascular events (MACE) and cardiovascular (CV) death in patients with acute coronary syndrome (ACS).

**Patients and Methods:** We included patients hospitalized at Dubrava University Hospital with ACS from January 2017 to January 2024. Data involving baseline demographic characteristics, laboratory results on admission, comorbidities, ACS type and MACE were collected. The ACEF score was calculated using the formula: age (years)/LVEF (%) +1(if baseline serum creatinine was >176 μmol/L). MACE was defined as a composite of novel ACS and need for elective or urgent percutaneous or surgical revascularization. Follow-up data were collected by clinical visits or telephone interviews.

**Results:** This registry-based study included 1414 ACS patients with median age of 64 years (IQR 56-72), 70% male. Total of 817 (58%) patients had ST elevation myocardial infarction (STEMI). Median follow up was 16 months (IQR 4-36). Median serum creatinine levels were 81 μmol/L (IQR 69-96) and LVEF 55% (IQR 45-60). ACEF score ranged from 0.436 to 5.533 with median of 1.181 (IQR 1.00-1.454). Patients were divided into tertiles based on ACEF score (low ≤1,000 (n376); 1,000 > mid ≤1,454 (n686), high ≥1,454(n352)). ACEF score correlated significantly both with CV death (HR 31.17, 95%CI 15.58 -74.12, p<0.05) and with MACE (HR 21.28, 11.24-98.04, p<0.001), with AICcWt severity 0.

**Conclusion:** Our data suggest that ACEF score has significant correlation with MACE and CV death in ACS patients, but more patients with diverse ACEF score must be included to confirm its real prediction value.

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## LITERATURE

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