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**EVOLIUCINĖ MEDICINA:
ŽMOGAUS RAIDOS PERSPEKTYVOS IR SVEIKATA
BESIKEIČIANČIOJE APLINKOJE**

**EVOLUTIONARY MEDICINE:
PERSPECTIVES ON HUMAN DEVELOPMENT AND HEALTH
CONSEQUENCES IN A CHANGING ENVIRONMENT**

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RESUSCITATION STATUS AND CARDIAC ARREST LOCATION AS PROGNOSTIC DETERMINANTS IN ACUTE CORONARY SYNDROME: A SINGLE-CENTRE RETROSPECTIVE ANALYSIS OF SURVIVAL AND NEUROLOGICAL OUTCOMES

Mindaugas SMETANINAS¹, Artiomus SIRVYS², Vilhelmas BAJORAS², Arvydas BARANAUSKAS²

¹Faculty of Medicine, Vilnius University, Vilnius, Lithuania

²Center of Cardiology and Angiology, Vilnius University Hospital Santaros Clinics, Vilnius, Lithuania

Contact e-mail: mindaugas.smetaninas@mf.vu.lt

Background and Aim: Cardiac arrest complicating acute coronary syndrome (ACS) carries high mortality and neurological morbidity, and the optimal invasive strategy remains uncertain. We evaluated whether resuscitation status on arrival at the catheterisation laboratory and the location of cardiac arrest were associated with in-hospital mortality and neurological outcome in patients with ACS undergoing coronary angiography.

Materials and Methods: In this retrospective single-centre study, ACS patients who underwent invasive coronary angiography between 2014 and 2025 were screened. One cohort (131 patients) was grouped by resuscitation status: already resuscitated before the procedure, or refractory arrest requiring a mechanical resuscitation device during angiography. A second cohort (159 patients) was grouped by arrest location: out-of-hospital, in-hospital, or in the catheterisation laboratory. Outcomes were in-hospital mortality and post-resuscitation neurological status; retrospective analysis was performed using IBM SPSS software.

Results: In-hospital mortality was 39.4% in already-resuscitated patients versus 86.4% in those requiring a mechanical resuscitation device during angiography ($p < 0.001$). The latter also had longer resuscitation times (mean 66.1 vs 21.9 minutes) and higher admission lactate (10.7 vs 7.7 mmol/L). By arrest location, mortality rose stepwise: 39.8% out-of-hospital, 60.4% in-hospital, and 78.6% in-laboratory ($p < 0.001$). Neurological outcome among survivors did not differ significantly by location; notably, all survivors of in-laboratory arrest were free of neurological disability.

Conclusions: Resuscitation status before catheterisation and cardiac arrest location were important determinants of survival in ACS. Ongoing mechanical resuscitation during angiography and in-laboratory arrest identified the highest-risk patients, supporting their use in early prognostic assessment and invasive decision-making.

Keywords: acute coronary syndrome, cardiac arrest, cardiopulmonary resuscitation, mortality, neurological outcome