

Publication

Association of acyl carnitines and mortality in out-of-hospital-cardiac-arrest patients: Results of a prospective observational study

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Out-of-hospital cardiac arrest (OHCA) is a leading cause of mortality, yet the prediction of its outcome remains challenging. Serum Acyl Carnitines (ACs), a biomarker of beta-oxidation, have been associated with cardiovascular events. We evaluated the association of different AC species with mortality and neurological outcome in a cohort of OHCA patients.; We consecutively included OHCA patients in this prospective observational study upon admission to the intensive care unit. We studied the association of thirty-nine different ACs measured at admission and 30-day mortality (primary endpoint), as well as neurological outcome at hospital discharge (secondary endpoint) using the Cerebral Performance Category scale. Multivariate models were adjusted for age, gender, comorbidities and shock markers.; Of 281 included patients, 137 (48.8%) died within 30 days and of the 144 survivors (51.2%), 15 (10.4%) had poor neurological outcome. While several ACs were associated with mortality, AC C2 had the highest prognostic value for mortality (fully-adjusted odds ratio 4.85 (95%CI 1.8 to 13.06, $p < .01$), area under curve (AUC) 0.65) and neurological outcome (fully-adjusted odds ratio 3.96 (95%CI 1.47 to 10.66, $p < .01$), AUC 0.63).; ACs are interesting surrogate biomarkers that are associated with mortality and poor neurological outcome in patients after OHCA and may help to improve the understanding of pathophysiological mechanisms and risk stratification.

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