F-C6

Prognostic Impact of Hyponatremia at Various Time Points During Hospital Periods on Long-term Mortality in Patients with Acute Myocardial Infarction

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Background: We investigated the incidence and prognostic impact of hyponatremia at various time points during hospital periods on long-term mortality among patients who survived from acute episode of acute myocardial infarction (AMI).

Methods: We retrospectively analyzed 1,863 patients diagnosed with AMI. Hyponatremia was defined as a serum sodium level <135 mEq/L and baseline, nadir, discharge, and average sodium levels during hospital period were analyzed.

Results: Hyponatremia was presented in 309 patients based on baseline sodium level (16.6%), in 518 patients on nadir sodium level (27.8%), in 147 patients on discharge sodium level (7.9%) and in 140 patients on average sodium level during hospital period (7.5%). In a multivariate Cox-proportional regression analysis, discharge sodium level as either continuous or categorical variable showed most strong relationship on long-term mortality (hazard ratio [HR] as continuous variable = 1.07, 95% confidence interval [CI]: 1.01-1.13, p=0.014; HR as categorical variable=1.75; 95 % CI: 1.09-2.80; p=0.021), whereas baseline sodium level did not have prognostic impact on long-term mortality after adjustment.

Conclusion: The serum sodium level and incidence of hyponatremia varied during hospital period according to different time points, and the association between sodium level and long-term mortality are differed at various time points. The discharge sodium level appears to be best predictor of long-term mortality among the patients who survived from acute episode of AMI.

Key Words: 저나트륨혈증, 장기사망률, 심근경색
Hyponatremia, Long-term mortality, Myocardial infarction