Abstract: P15

Serum chloride as marker for prognosis for patient with acute decompensated heart failure: a systematic review and meta-analysis on prognosis

Authors:
LK Evangelista¹, JD Ramos¹, DL Villanueva¹, MD Tiongson¹, FE Punzalan¹, ¹Philippine General Hospital - Manila - Philippines,

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Background: Several studies have suggested that hypochloremia is associated with adverse outcomes among patients with heart failure. The association appears to be more marked in those with acute decompensation.

Research Question: What is the association of hypochloremia with mortality and worsening heart failure among patients in acute decompensation?

Objective: Determine the association of admission hypochloremia to all-cause mortality, heart failure death and worsening heart failure among patients with acute decompensated heart failure.

Criteria for Inclusion of Studies: Studies were included if they satisfied the following criteria 1) observational cohort studies; 2) included patients admitted for acute decompensated heart failure; and 3) reported data on mortality and worsening heart failure in association with admission hypochloremia.

Methods: A systematic search using MEDLINE, Clinical Key, ScienceDirect, Scopus, and Cochrane Central Register of Controlled Trials databases was done, from June 2018 to January 31, 2019. The characteristics of included studies were collated. Data abstraction and quality assessment, using the Newcastle-Ottawa Quality Assessment Scale, were done independently by two reviewers, and disagreements were settled by a third reviewer. Review Manager (RevMan) 5.3 was utilized to perform Mantel-Haenzel analysis of random effects and compute for relative risk.

Results: We included three high quality cohort studies involving 3,444 patients admitted for acute decompensated heart failure and having low serum chloride levels on admission. Our study shows that admission hypochloremia is associated with increased risk for all-cause mortality [RR 1.63, (95% CI 1.60 to 2.28, p<0.00001]. Risks for heart failure death as mentioned in one study and worsening heart failure also in one study are likewise increased with hypochloremia on admission.

Conclusion: Admission hypochloremia is associated with higher all-cause mortality among patients admitted for acute decompensated heart failure. The risk for heart failure death and worsening heart failure are also increased. Admission hypochloremia may be a useful prognosticator for heart failure patients.