KSN 2016 Abstract Submission

Acute Kidney Injury

KSN2016ABS-1438

Hypoalbuminemia predicts the development of AKI in hospitalized patients: A retrospective cohort study

Yu Mi-Yeon*[1], Kim Sejoong[2], Baek Seon Ha[2], Lee Sung Woo[3], Chin Ho Jun[2], Chae Dong-Wan[2], Na Ki Young[2]

[1]Seoul national university hospital , seoul, [2]Seoul national university bundang hospital , Gyeonggi-do, [3]Eulji General Hospital, seoul, Korea, Republic Of

Background: The development of acute kidney injury is common and brings about poor outcomes. We aim to determine whether hypoalbuminemia (<34 g/L) may be a risk factor for development of acute kidney injury(AKI), and mortality in hospitalized patients.

Methods: We enrolled patients who admitted to the Seoul National University Bundang Hospital from January 2013 to December 2013. Hypoalbuminemia was defined as serum albumin level < 34 g/L and measured values within two days after admission. AKI was defined by modified the Acute Kidney Injury Network (AKIN) criteria and community acquired AKI was excluded.

Results: Total 19535 patients were enrolled and divided into hypoalbuminemic and normoalbuminemic groups at admission. The incidence of hospital acquired AKI in hypoalbuminemia group was 10.3% (403/3927) and 4.0% (623/15608) in normoalbuminemic patients (odd ratio [OR] 2.751, 95% confidence interval [CI] 2.414-3.134, P < 0.01). The ORs for 14-day, 90-day, and 1-year mortality of these groups were 2.563 (CI 2.318-2.835), 3.202 (CI 2.932-3.495), and 3.204 (CI 2.935-3.498), respectively. In patients with AKI, the group with albumin replacement showed more functional recovery from AKI (OR 3.109, CI 2.044-4.730, P < 0.01). Albumin replacement was strongly associated with recovery from AKI in the group without liver disease or sepsis (OR 3.423, P < 0.01; OR 3.435, P < 0.01) although serum albumin levels at admission were not correlated with functional recovery from AKI.

Conclusion: Hypoalbuminemia is associated with development of acute kidney injury and high mortality in hospitalized patients. Replacement of albumin after the outbreak of AKI may contribute functional recovery from AKI. Further clinical trials might be warranted.

Keywords: Hypoalbuminemia, acute kidney injury, albumin replacement