Association of Overhydration and Muscle Wasting measured by Bioelectrical impedance analysis and Mortality in Hemodialysis patients.

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**Objectives:** Assessment of fluid status in hemodialysis patients is very important. Overhydration in hemodialysis is associated with generalized edema, cardiovascular complications, hypertension. The aim of this study was to determine the factors correlated to mortality of hemodialysis patients with assessment to the body muscle mass and fluid status, using bioelectrical impedance analysis (BIA).

**Methods:** This study involves 93 patients who underwent hemodialysis between January 2010 and May 2015 at Bundang CHA medical center. Medical records including laboratory data such as serum albumin, C-reactive protein, lipid profile etc. and BIA data (extracellular water, intracellular water, total body water, soft lean mass, fat free mass, skeletal muscle mass etc.) were reviewed retrospectively until June 2017.

**Results:** Eleven of total 93 patients were expired until May 2017. In the overall survival group age was younger, and C-reactive protein (CRP), albumin level was higher, and extracellular water/total body water (ECW/TBW) ratio was lower, compared with expired patient group. Kaplan-Meier survival analysis revealed that overhydration group (ECW/TBW>0.4) had higher mortality than non-overhydration group (ECW/TBW ≤ 0.4).

**Conclusions:** In hemodialysis patients, overhydration is an important factor for mortality and BIA could be a reliable modality for assessment of overhydration. We suggest that overhydration is a more risk factor for mortality than muscle wasting in hemodialysis patients.