

## 혈액투석 환자에서 영양상태와 인지기능장애의 상관관계

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### Correlation of Nutritional Status with Depression and Cognitive Function in Hemodialysis Patients

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**Introduction:** Malnutrition, depression and cognitive impairment are in themselves challenging problems in hemodialysis patients, but diagnosis and treatment are often suboptimal. Nutritional status and its association with cognitive function and depression remain uncertain

**Methods:** Seventy seven patients with maintenance hemodialysis were enrolled as part of this cross sectional study. Nutritional assessment was undertaken with a bio-impedance spectroscopy device, the Body Composition Monitoring (BCM), handgrip strength (HGS), a seven-point subjective global assessment (SGA) and serum biomarkers (albumin, prealbumin, cholesterol, CRP). HGS was measured before and after HD sessions on the non-fistula side with dynamometer (Jamar) and the highest value was used for analysis. Muscle function (MF) loss was defined as less than the 10th percentile of population-based reference in Korea. Neuropsychological test was performed by Mini-Mental State Examination in the Korean version of CERAD assessment packer (MMSE-KC) and Beck depression Inventory (BDI) during the 1st hour of dialysis.

**Results:** The mean age was 59.2 years and the median dialysis duration was 39.5 months. 56.6% were men, 58 % had diabetes. The Mean MMSE and BDI score were  $27.1 \pm 3.1$  and  $20.5 \pm 10.8$ , respectively. 68.9% had MF loss and 51.3 % had moderate to severe depression. In the multivariate analysis, BDI score correlated with handgrip strength ( $r = -0.342$ ,  $p = 0.003$ ), SGA score ( $r = -0.226$ ,  $p = 0.050$ ) and Lean tissue index ( $r = -2.47$ ,  $p = 0.035$ ). MMSE score correlated with age ( $r = -0.337$ ,  $p = 0.003$ ), handgrip strength ( $r = 0.259$ ,  $p = 0.026$ ), lean tissue index ( $r = 0.273$ ,  $p = 0.019$ ), fat tissue index ( $r = -0.345$ ,  $p = 0.003$ ), albumin ( $r = 0.283$ ,  $p = 0.013$ ). After adjustment for other clinical variables, Patients with MF loss were more likely to be depressed (adjusted OR=3.78, 95% CI 1.2–12.7).

**Conclusion:** Handgrip strength was associated with depression, independently of age, sex, albumin, prealbumin and CRP levels. MMSE score was not associated with nutritional status.

**Key Words:** 우울증, 인지기능장애, 혈액투석

Depression, Cognitive dysfunction, Hemodialysis