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Dialysis

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The nutritional status on depression in hemodialysis patients

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Background: 18%>80% of patients on dialysis have some form of nutritional deficiency. In many hemodialysis (HD) centers, markers of nutritional status including the normalized protein catabolic rate (nPCR) are evaluated monthly. Malnutrition has been known to induce depression. And, depression can also lead to malnutrition. The aim of the current study was to identify the association with nutritional status and depression in HD patients.

Methods: The 101 participants on HD from the Daegu Catholic University Medical Center were assessed from September to October in 2013. Patients on HD for acute kidney injury were excluded from this study.

Depression was evaluated using the Hospital Anxiety and Depression Scale (HADS). HADS-depression score of 11 or higher indicates depression. Serum albumin, total cholesterol and phosphorus, and nPCR were used as a marker of nutritional status. Statistical significance between nutritional markers and depression was assessed by independent sample t-test and linear regression analysis.

Results: The mean age was 57.3 ± 12.2 years, 53.9% were male, and 52% received HD due to diabetes mellitus. The means of nPCR, serum albumin, total cholesterol and phosphorus were 0.81 ± 0.18 g/kg/day, 3.99 ± 0.33 g/dL, 137.1 ± 33.0 mg/dL and 5.43 ± 1.92 mg/dL, respectively. HADS-depression score was 9.43 ± 4.17 . The HD patients with depression (HADS-depression score ≥ 11) indicated lower nPCR than the other (0.77 ± 0.18 vs. 0.84 ± 0.18 ; $p=0.049$). Upon linear regression analysis, the nPCR was correlated with HADS-depression score ($\beta=-0.227$, $p=0.025$). There was also the significantly negative association with nPCR and HADS-depression score after adjustment for age, hemoglobin, white blood cell ($\beta=-0.248$, $p=0.010$). However, we couldn't find that depression was associated with serum albumin, total cholesterol and phosphorus.

Conclusion: This study explored that the low nPCR among nutritional markers is associated with the depression. We should consider the diagnosis and management of depression as well as improvement of nutritional status in HD patients with malnutrition.

Keywords: Depression, Hemodialysis, Nutritional status