

MUSCLE WASTING IS ASSOCIATED WITH DEPRESSION AND ALTERED MENTAL STATE IN DIALYSIS PATIENTS

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OBJECTIVES:

Chronic kidney disease (CKD) is a common disorder associated with increased morbidity and mortality. Protein energy wasting is an important contributor to high morbidity and mortality in dialysis patients. Hand grip strength (HGS), 10 meters walking test (10MWT) gives important clues about muscle strength. We determined the daily intake recalls, clinical and laboratory parameters in a selected group of hemodialysis patients searched with their association with muscle strength.

MATERIALS AND METHODS:

Patients over 18 years old with CKD who underwent hemodialysis were included in the study. The 10MWT and HGS were determined on 47 participants. These patients' serum albumin, prealbumin, prolactin, testosterone, estrogen, folic acid, 25 OH vitamin D and vitamin B12 levels were evaluated. We performed the beck depression inventory (BDI), comorbidity scoring system (CSS), fatigue severity scale (FSS) and the minimal state examination (MMSE) tests to the patients. All tests were conducted face to face.

RESULTS:

We included forty-seven clinically stable hemodialysis patients (F/M:19/28, HD duration: 38.4±48.2 months).

The median of 10MWT duration of patients was 9 (5.6-27.9) seconds. There was a negative relationship between the 10MWT with albumin, prealbumin levels, hand grip strength and MMSE test score of the patients and this relationship was statistically significant ($r=-0.390$, $p=0.006$; $r=-0.364$, $p=0.011$; $r=-0.369$, $p=0.011$; $r=-0.398$, $p=0.007$; respectively). In contrast, there was a positive correlation with BDI, CSS, FSS tests ($r=0.405$, $p=0.005$; $r=0.421$, $p=0.004$, $r=0.304$, $p=0.045$; respectively). Also, there was a negative correlation between hand grip strength test with BDI and FSS tests ($r=-0.445$, $p=0.002$ and $r=-0.47$, $p=0.001$). We found only positive correlation with prealbumin and MMSE test of the patients ($r=0.372$, $p=0.008$ and $r=0.284$, $p=0.048$). Daily energy intake of the patients with worse muscle strength was significantly lower. We did not find any correlation with prolactin, testosterone/estrogen, folic acid, 25 OH vitamin D and vitamin B12 levels of patients with muscle strength tests.

CONCLUSIONS:

Simple muscle strength and 10 meters walking tests are significantly associated with nutritional parameters, presence of depression and altered mental state of patients. So, multidisciplinary approach should be performed for patients when evaluating their functional capacity.

