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IS FRAILTY ASSOCIATED WITH QUALITY OF LIFE, NUTRITIONAL STATUS AND CLINICAL CONDITION IN ELDERLY PATIENTS ON HEMODIALYSIS?

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Introduction and Aims: We aimed to examine the association between frailty and quality of life (QOL), nutritional status and clinical condition in elderly patients on hemodialysis (HD).

Methods: Observational and cross-sectional study including 157 non institutionalized patients aged >60 years on HD for at least 3 months. The QOL was assessed by the Kidney Disease and Quality of Life questionnaire (KDQOL), nutritional status was assessed by the subjective global assessment (SGA), body fat (BF; by skinfold thicknesses) and skeletal muscle mass (SMM; by bioelectrical impedance). BF and SMM were divided by the square height in meters to calculate the BF index and SMM index. The clinical condition was assessed by urea Kt/V, albumin, 25 OH Vitamin D and C-reactive protein (CRP). Frailty was defined by a modification of the 5 frailty criteria from Fried et al: 1. Weight loss: Unintentional weight loss ≥2.5 kg in the past 6 months; 2. Slow walking: scored when answering “yes, limited a lot” for the question: “How much your health now limits you to walk one block?”; 3. Weakness: Handgrip strength (measured by hand dynamometer) in the lowest 20% percentile of our sample according to gender (≥20kg for men and ≤14kg for women); 4. Exhaustion: scored when answering “Some of the time”, “a good bit of the time”, “most of the time” or “all of the time” for the question “How much of the time during the past 4 weeks did you feel worn out?”; 5. Low physical activity: defined from self-reported exercise habits.

Three groups were created based on the number of positive frailty criteria: 3 to 5 domains: Frailty group (Frig); 1 to 2 domains: Pre-frailty group (PreFG); No domain: Non-frailty group (Non-FG).

Results: The prevalence of frailty, prefrail and non-frail was 31% (n=48), 62% (n=97) and 8% (n=12), respectively. The mean age was similar among the groups (FrailG=72±8; PreFG=70±7; Non-FG=73±8 years). The proportion of women was higher in the FrailG (FrailG=63%; PreFG=24%; Non-FG=25%; p<0.001). Regarding QOL, among the 22 domains of KDQOL, 18 were significant lower in the FrailG (p<0.05). Regarding the nutritional status, protein energy wasting (assessed by SGA) was higher in the FrailG than in the PreFG and Non-FG (72%; 56% and 33%; P=0.03, respectively). A tendency toward higher BF index was observed in the FrailG (FrailG=9.3±3; PreFG=7.9±3; Non-FG=7.7±3; p=0.07) and no difference was observed for the SMM index (FrailG=8.1±2; PreFG=8.1±2; Non-FG=9.1±2 kg/m2; P=0.11). Regarding the clinical condition, CRP was higher in the FrailG (0.37 (25th-75th, 0.2-1.2mg/dl) and PreFG 0.51 (25th-75th, 0.2-1.2mg/dl) than in the Non-FG (0.20 (25th-75th, 0.1-0.5mg/dl); P=0.04). Frailty score was negatively associated with SGA scores (r=-0.35; P<0.01); and SMM index (r=-0.3; P<0.01) and positively associated with BF index (r=0.20; P<0.02).

In addition, frailty criteria was negatively associated with 19 from 22 KDQOL domains.

Conclusions: In conclusion, in elderly on HD frailty was associated with worse QOL, nutritional status and inflammatory status. The inflammatory status was worse in the Frail and Pre-frail groups.

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