

post-pone dialysis commencing. Implementation of physical activity programs is also crucial to counteract the tendency to sarcopenia.

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NUTRITIONAL AND FUNCTIONAL ASSESSMENT IN OLDER CKD OUTPATIENTS ON TERTIARY CARE: PROTEIN INTAKE AND RISK OF SARCOPENIA

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INTRODUCTION AND AIMS: Abnormalities in body composition, nutritional status, physical activity and performance are associated with poor quality of life, increased risk of protein energy wasting, morbidity and mortality. The nutritional management in older CKD patients is quite complicated as many factors may affect their dietary habits. CKD guidelines suggest an energy intake of 30 Kcal/kg LBW for subjects over 60 years of age together with low protein, sodium and phosphorus intake are also recommended. On the other hand, concerns exist about the protein utilization rate in elderly people where higher protein intake is recommended. Finally another concern is the high prevalence of sedentary lifestyle that characterizes elderly CKD patients. The aim of our study was to assess nutritional and functional aspects of older CKD male patients on tertiary care, and the risk of sarcopenia.

METHODS: This study included 80 male out-patients aged >60 years, affected by stage 3b-4 CKD, clinically stable, followed-up in our CKD outpatient clinic. Forty patients older than 75 years (older group) were compared to the other 40 patients aged 60-74 years (control group). All patients received standard care including a dietary support, namely low protein (0.8-0.6 g/kg/bw/d) high energy regimes and reduction of sodium and phosphorus intake. All the patients underwent a comprehensive nutritional and functional assessment including biochemistry, anthropometry, bio-impedance, dietary interview, and tests of physical activity and performance.

RESULTS: No difference was detected between the two groups regarding eGFR, BUN, bicarbonate, phosphate, PTH, hematocrit, potassium. In respect to controls, older patients showed lower sAlbumin (4.04 ± 0.36 vs 4.23 ± 0.35 g/dl, $p < 0.05$), hand-grip strength (27.5 ± 6.3 vs 34.8 ± 6.6 Kg, $p < 0.001$), BMI (27.1 ± 3.3 vs 29.2 ± 3.9 kg/m², $p < 0.05$), skeletal muscle mass (26.6 ± 3.5 vs 29.5 ± 3.5 kg, $p < 0.001$) whereas no differences in fluid or fat mass were observed. Protein intake (as assessed by nPCR) was significantly lower in older patients (0.76 ± 0.21 vs 0.87 ± 0.2 g/kg/d, $p < 0.05$), well in accordance to lower urine phosphate excretion (444 ± 222 vs 678 ± 266 mg/d, $p < 0.01$) whereas sodium excretion and energy intake were similar. Average daily METs and steps were lower in older than in the control group (1.15 ± 0.20 vs 1.30 ± 0.22 , $p < 0.01$ and 4360 ± 2565 vs 6640 ± 3543 , $p < 0.01$, respectively) According to the criteria of the European Working Group on Sarcopenia in Older People, sarcopenia was more prevalent in the older than in the control group (55% vs 12.5%, $p < 0.001$). Sarcopenic older patients distinguished from non-sarcopenic ones for age (81 ± 3 vs 78 ± 2 yrs, $p < 0.01$) and performance at the 6-min walking test (257 ± 82 vs 312 ± 66 m, $p < 0.05$) but eGFR, biochemistry and protein dietary intakes were similar.

CONCLUSIONS: Our study showed that older CKD patients have lower muscle mass, lower muscle strength and lower physical capacity and activity levels, with a higher prevalence of sarcopenia. This occurs at the same residual renal function and metabolic profile. Energy intake was similar in the two groups, but a lower protein intake was detected in the older patients. Sarcopenia seems to be associated with age and physical capacity, but not to eGFR or to dietary intake. Close monitoring of functional and nutritional status is mandatory in older patients with pre-dialysis severe CKD who undergo dietary protein restriction in order to correct metabolic abnormalities and to