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FRIED'S FRAILTY SCALE IDENTIFIES THOSE ELDERLY PATIENTS WITH ADVANCED CHRONIC KIDNEY DISEASE THAT MAY BENEFIT FROM A THOROUGH GERIATRIC EVALUATION

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INTRODUCTION AND AIMS: A thorough geriatric evaluation of elderly subjects affected by advanced chronic kidney disease (CKD) can help to individualize their therapeutic and care program. However the overwhelming number of elderly patients attending the nephrology clinics does not allow all of them to undergo a complete geriatric evaluation. Therefore we need to validate a reliable tool that can help to identify those patients that will benefit the most from a complete clinical evaluation. Frailty is a clinical definition that identifies patients suffering from cumulative deficits in different domains, which give them a worse prognosis in terms of a greater risk of disability, institutionalization and mortality. In this study we evaluated whether the assessment of frailty can help to identify those patients that may benefit from a multi-disciplinary approach.

METHODS: We evaluated 129 prevalent CKD elderly patients attending our outpatient clinic, all subjects had a relatively stable renal function and were not on dialysis yet (age \geq 65 years, eGFR $<$ 45 ml/min). We excluded patients not able to collaborate and those deemed to have a life expectancy $<$ 6 months. Frailty was defined in accordance with the impairment in three or more domains of the Fried's Frailty Phenotype scale (FFP). Comorbidity was classified according to Cumulative Illness Rating Scale (CIRS). Nutritional status was evaluated using three different multiple choice tests: International Society of Renal Nutrition and Metabolism (ISRNM), Malnutrition-inflammation score (MIS), Geriatric Nutrition Risk Index (GNRI), Mini Nutritional Assessment (MNA). Body composition was measured using a multifrequency bioelectrical impedance analysis device (BIA). Physical performance was evaluated using Short Physical Performance Battery (SPPB); handgrip strength. Cognitive / psychological evaluation has been determined using the Mini Mental State Examination (MMSE), Clock Drawing Test and the Geriatric Depression Scale (GDS).

RESULTS: We examined 129 prevalent CKD elderly patients attending our outpatient clinic, 53% males, age 80 ± 6 years. Overall 49% of patients were classified as frail. Frail (F-CKD) and not frail CKD patients (NF-CKD) showed the same burden of comorbidities (CIRS comorbidity: $6,1 \pm 1,6$ vs $5,3 \pm 1,8$; $p=0,17$; CIRS severity: $21,1 \pm 5,5$ vs $19,1 \pm 5,2$; $p=0,20$). However F-CKD had a higher prevalence of protein energy wasting syndrome (37 vs 15%, $p=0,01$), were more malnourished (MIS $8,1 \pm 5,3$ vs $4,6 \pm 2,4$; $p<0,001$ and MNA 24 ± 4 vs 26 ± 2 ; $p=0,0004$) and had less lean tissue than NF-CKD subjects (lean tissue % $42,5 \pm 9$ vs $52,4 \pm 10,9$). F-CKD patients had also a worse overall physical performance than NF-CKD at SPPB ($5,0 \pm 2,4$ vs $9,3 \pm 1,7$; $p<0,0001$). Finally, F-CKD had a more severe cognitive impairment (MMSE $25,7 \pm 3,4$ vs $27,7 \pm 2,8$; $p=0,0015$, Clock Drawing Test $2,6 \pm 1,9$ vs $4,1 \pm 1,7$ $p<0,0001$) as well as a greater depression-index: GDS $11,0 \pm 5,6$ vs $7,1 \pm 5,8$ $p=0,001$.

CONCLUSIONS: In our cohort the patients classified as frail according to Fried definition (i.e. F-CKD), were more frequently malnourished, sarcopenic and moreover they had a reduced overall physical and cognitive performance. Therefore we suggest that FFP may be a reliable tool to identify those elderly CKD patients that may benefit from thorough geriatric evaluation.