Prevalence and factors associated with frailty in end-stage renal disease patients under online-haemodiafiltration

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Introduction

CKD accelerates the aging process on cell, tissue and organ level because of protein energy wasting, various uremic toxins, inflammation, and oxidative stress [1] (figure 1).

Frailty is a biological syndrome characterized by decreased reserves and resistance to stress factors resulting from cumulative decreases in several physiologic systems [1] and associated to adverse outcomes as disability, dependency, falls, institutionalization, hospitalization and death [1, 2, 3].

Objectives

To evaluate the prevalence of frailty and its association with sociodemographic, clinical and biochemical markers

Methods

- Cross-sectional study with 97 ESRD patients on dialysis at the NephroCare Maia Clinic, Portugal (39.2% males; 69.86 ± 14.03 years)
- Tilburg Frailty Indicator: Physical, psychological and social domains
- Correlations: Sociodemographic variables and comorbidities, duration of dialysis, haematological, iron status, dialysis adequacy, nutritional and inflammation markers

Results

62.8% of patients are frail with a higher prevalence in female patients (male - 45.5%, female - 72.0%, p=0.021). Figure 2 shows a significant correlation between age and the physical frailty score (r=0.271; p= 0.009). No association was found between age and cognitive or social frailty scores.

Multiple regression analysis (Table 1) identified civil status (beta=0.260; p=0.013), two or more chronic diseases (beta=-0.302; p= 0.004) and not being eligible for renal transplant (beta=-0.209, p=0.040) as independent variables significantly associated with the global frailty score (R2 =0.247).

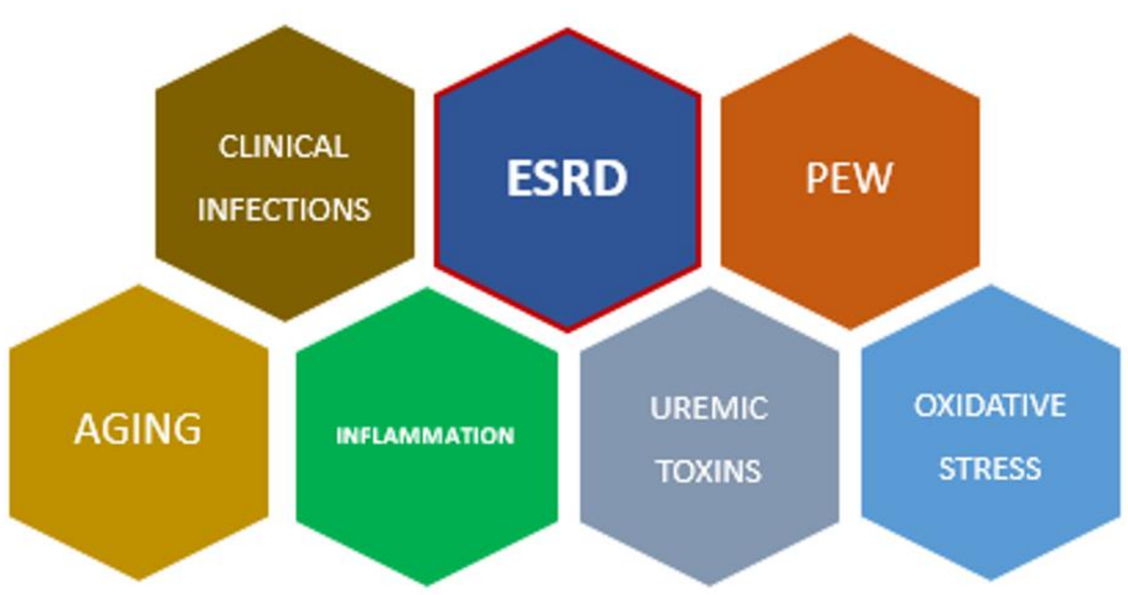

Figure 1: Factors contributing to frailty in ESRD

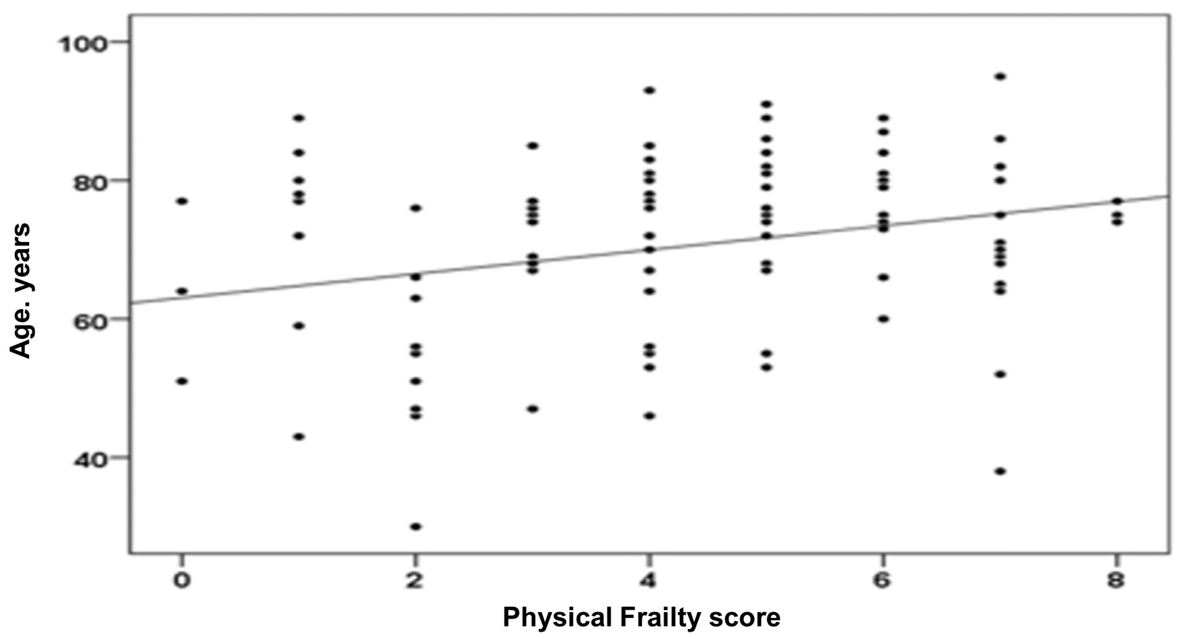

Figure 2: Weak positive correlation of physical frailty and age

	Unstandardized Coefficients		Standardized Coefficients	
	B	Std. Error	Beta	t
(Constant)	8.409	1.879		4.475
Civil Status	1.611	.633	.260	2.547
Two or more chronic diseases	- 1.939	.646	- .302	-3.001
Eligible for renal transplant	- 1.349	.648	- .209	-2.083

Table 1: Multiple regression analysis

Conclusion

Frailty is highly prevalent in ESRD patients on dialysis. Identification of frailty may underline the necessity of interventions to preserve their independence, quality of life, and survival.

References

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