LACK OF LINEAR RELATIONSHIP BETWEEN COMORBIDITY, NUTRITIONAL MARKERS, AND DIALYSIS EFFICIENCY IN A FRENCH AND ITALIAN COHORT OF ELDERLY, IN-HOSPITAL HEMODIALYSIS PATIENTS (CALEIDDO STUDY).

NEED FOR RECONSIDERING OUR MARKERS IN HIGH COMORBIDITY POPULATIONS?

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OBJECTIVES

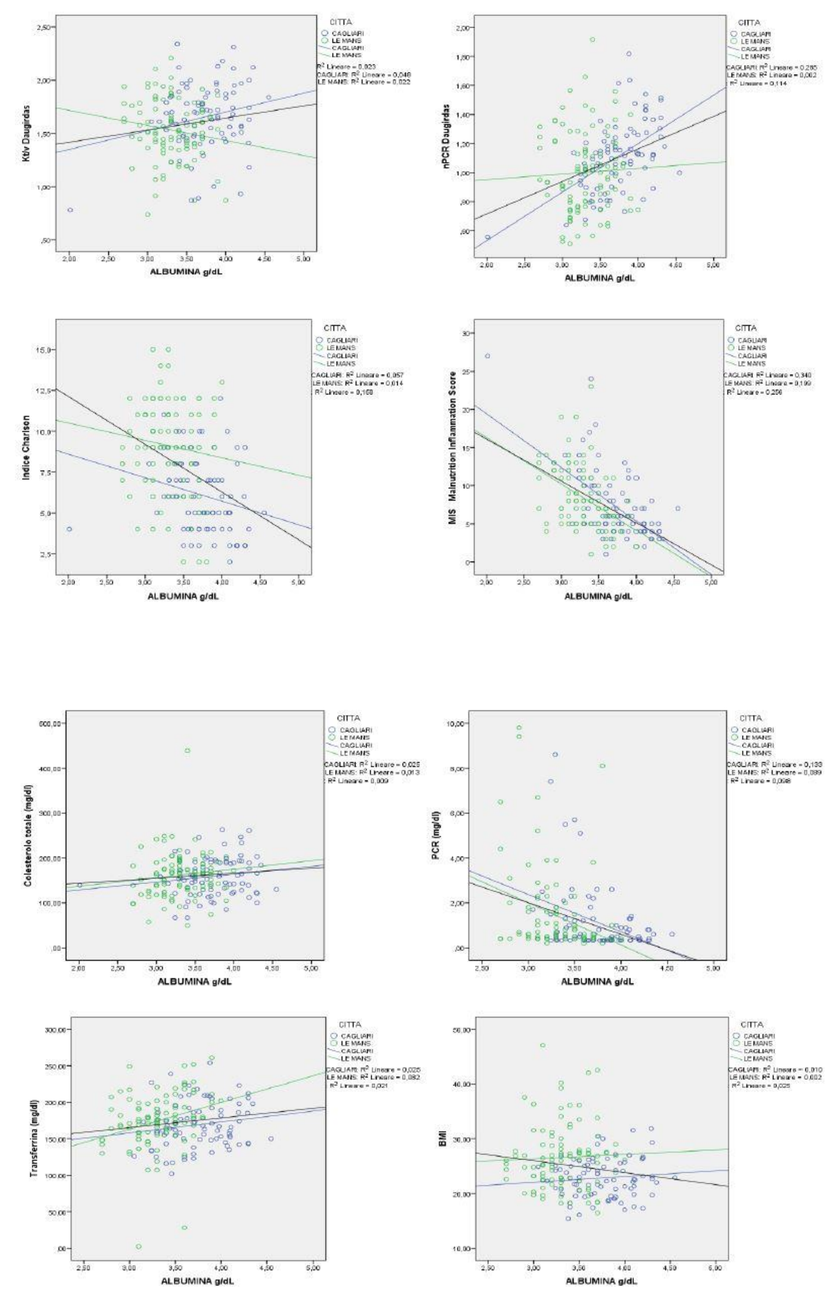
The **diet and dialysis dyad** is differently modulated in different Countries and international comparison may be helpful in identifying common patterns and specificities.
With this aim we compare two hospital treated cohorts on hemodialysis-hemodiafilitration in Italy and France.

METHODS

The settings are public dialysis Centers (Centre Hospitalier, **Le Mans** and Ospedale Brotzu, **Cagliari**), with the only beds for hospitalisation in Nephrology in the area, in cites of about 300,000 inhabitants , with a wider referral area (about 800,000 inhabitants).
In both settings the patients treated in hospital were negatively selected, since out of hospital networks ensure dialysis to cases with lower case-mix.

TABLES AND GRAPHICS

	All cases	"Particular cases"	Le Mans	Cagliari	P Le Mans vs Cagliari
Number of patients	207	21	100	86	-
M/F	123/84 59.4/40.6 %	13/8 61.9/38.1 %	57/43 57/43 %	53/33 61.6/38.4 %	0.624
Age median (min-max)	69 (18-90)	67 (32-90)	72 (18-90)	65.5 (26-89)	0.007
Dialysis vintage median (min-max)	6.4 (0.1-43.5)	6.1 (0.2-24.7)	4.2 (0.08-43.5)	10.2 (0.4-36.9)	<0.001
Charlson index median (min-max)	8 (2-15)	7 (2-13)	9 (2-15)	6 (2-12)	<0.001
MIS median (min-max)	7 (1-27)	12.5 (2-27)	7.5 (1-23)	6 (1-27)	0.007
SGA	A 59.4% B 33.7% C 6.9%	A 37.5% B 31.3% C 31.3%	A 49% B 46% C 5%	A 75.6% B 19.8% C 4.7%	0.001
HD-HDF	88-119 42.5-57.5 %	11-10 52.4-47.6 %	25-75 25-75 %	52-34 60.5-39.5 %	<0.001
Catheter	45 (22.3%)	5 (29.4%)	24 (24%)	16 (18.6%)	0.475
Fistula	157 (77.7%)	12 (70.6%)	76 (76%)	70 (81.4%)	0.475
BMI median (min-max)	24.2 (14.6-47.1)	23.3 (16.6-43.4)	26.1 (16.4-47.1)	22.5 (14.6-31.8)	<0.001
Kt/V Daugirdas median (min-max)	1.6 (0.7-2.3)	1.3 (0.8-1.7)	1.5 (0.7-2.2)	1.7 (0.8-2.3)	0.001
nPCR Daugirdas median (min-max)	1.04 (0.5-1.9)	0.9 (0.5-1.5)	0.98 (0.5-1.9)	1.1 (0.6-1.8)	0.002
Albumin (g/dl) median (min-max)	3.4 (1.9-4.5)	3.4 (1.9-4.03)	3.2 (2.6-3.8)	3.7 (3-4.5)	<0.001



RESULTS

Data on **207** patients were analysed: we excluded **21** patients because of particular aspects (low life expectancy, dialysis one or bi-weekly) and considered in Italy (IT) **86** and in France (FR) **100** patients.
There were no significant baseline differences in age (median IT: 65,5, FR: 72) but a significant difference of comorbidity (Charson index: median IT: 6; FR: 9, p<0.001). Conversely, RRT vintage was significantly higher in IT (median 10.2 vs 4.2 years p<0.001). Use of hemodiafiltration was higher in FR (IT: 39.5%; FR 75%, p<0.001). No significant difference was found in Kt/V (Daugirdas: IT: 1.7; FR: 1.5), nPCR (IT 1.11; FR: 1.00). On the other hand, suggesting a role for albumin losses in HDF, albumin levels were lower in the FR population (IT: 3.7 g/dl; FR: 3.2 g/dL; p<0.001). In the overall population, as well as in each of the two Centers, no significant relationship was found between subject global assessment (SGA) and all the tested combinations of comorbidity index (Charlson), albumin levels, Kt/V (Daugirdas 2) and n-PCR (Daugirdas 2).
By applying linear regression to the main nutritional, dialytic and comorbidity parameters (Albumin, Total cholesterol, Transferrin, CRP, BMI, Kt/v Daugirdas, nPCR Daugirdas, Malnutrition Inflammation Score, Charlson index), some trends have been highlighted, but no one has been significant, probably due to background noise linked to the different characteristics of two populations. In the pictures, the correlation between albumin, the mainly used nutritional marker, and the other parameters.
Interestingly, however, the relationship between Kt/V and albumin is reversed in Italy and France, probably underlining the role of albumin losses in the latter setting, and the loss of relationship between dialysis efficiency and nutritional status in this context.

CONCLUSIONS

The lack of significant correlation between the classic comorbidity indexes in high-comorbidity dialysis cohorts underlines the need for a systematic reassessment of their significance in these populations, as a guide for dialysis prescriptions and as outcome marker over follow-up, indirectly supporting an individualised dialysis approach.

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