MALNUTRITION IN HAEMODIALYSIS AND IN PERITONEAL DIALYSIS: WHAT IS THE BETTER TREATMENT?

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OBJECTIVES

Malnutrition is a common feature in end stage renal disease and is a predictor of cardiovascular mortality in this kind of patients [1]. Furthermore, the type of dialysis could have an impact on malnutrition state for different reasons.
The aim of the study was to compare haemodialysis (HD) and peritoneal dialysis (PD) patients to evaluate the presence of malnutrition in both dialysis modalities.

METHODS

We performed a retrospective cross sectional study. We analysed the conditions of the patients such as age, type of dialysis, diabetes, presence of urine output, BMI, albumin, haemoglobin, CRP, total cholesterol, HDL, LDL, and triglycerides. Finally, we evaluated the pharmacological treatment such as statins, insulin, and oral hypoglycaemic agents.

All continuous variables were reported as the median values and interquartile range (IQR). All categorical variables were reported as percentage. Kruskal Wallis test, and Pearson's chi-square test were used to compare continuous and categorical variables, as appropriate. All reported p-values were two sided, and statistical significance was set at $p < 0.05$. Statistical analysis was performed with SPSS version 20.0.

Table 1

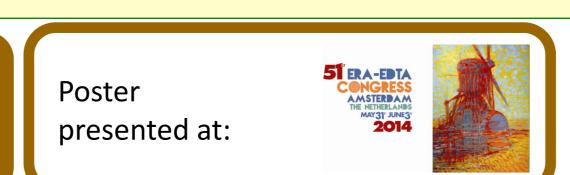|	Haemodialysis		Peritoneal dialysis		P-value
	median	IQR	median	IQR	
BMI (kg/m2)	24	21.1-28.5	26.3	23.6-29.3	0.005
Cholesterol (mg/dl)	154	132-179	170	146-206	<0.001
HDL (mg/dl)	46	40-60	43	35-55	0.026
LDL (mg/dl)	76	54-95	93	72-118	<0.001
Triglycerides (mg/dl)	126	97-180	149	98-229	<0.001
Haemoglobin (g/dl)	11.05	10.1-11.7	11.9	11.3-12.9	<0.001
Albumin (g/dl)	3.9	3.6-4.2	3.0	2.8-3.4	<0.001
CRP(mg/dl)	0.76	0.2-1.73	0.3	0.2-0.8	0.04
Statin therapy (%)	37.1		55.1		0.01
Insulin therapy (%)	13.8		19.6		0.079
Hypoglicemic agent (%)	2.3		2.1		0.939

RESULTS

We analysed 212 patients: 44.3% in haemodialysis and 55.7 % in peritoneal dialysis. 57.6% were male. About 20% were diabetic; we observed a non-significant difference between the two groups (PD 24.6% versus HD 19.2 p=0.09). On the other hand we observed a higher prevalence of urine output in PD patients (PD 77.1% versus HD 28.7% p<0.001). We found a statistically significant difference for all markers of malnutrition; specifically BMI, cholesterol, triglycerides and haemoglobin were higher in peritoneal dialysis patients, while albumin, and CRP were higher in HD patients. Finally, treatment with statins and insulin was different in the two groups. All details reported in table 1.

CONCLUSIONS

Some biomarkers such as albumin [2] , CRP [3], and haemoglobin [4] were related with malnutrition and were recognized as predictors of cardiovascolar mortality. Furthermore, there is no evidence about the optimal levels of cholesterol and triglycerides to prevent cardiovascular mortality in dialysis patients [5]. In our series, HD and PD patients had the same prevalence of diabetes but different nutritional patterns. Specifically, HD patients had higher level of albumin, while PD patients had higher level of haemoglobin and lower degree of inflammation. In such scenario, no clear advantage or disadvantage was associated with dialysis modalities in our dialysis population.

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M) Dialysis. M3) Cardiovascular complications in in CKD 5D.
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DOI: 10.3252/pso.eu.51era.2014

Poster presented at:

PosterSessionOnline.com