LEANER PATIENT MEANS LESSER RISK IN HAEMODIALYSIS

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INTRODUCTION

The evaluation of patient´s body composition requires the knowledge of patients' characteristics with effect on it such as age (older patients have lower lean mass), gender (females have higher fat mass), and comorbidities like diabetes mellitus (diabetic patients have greater fat mass).

AIM

Describe the characteristics of patients grouped according to their lean tissue index (LTI). And to demonstrate that higher lean mass is associated to lower risk for incident haemodialysis patients.

METHOD

The study includes 1887 incident HD patients excluding amputated and carriers of unipolar peacemaker patients.

We registered parameters of BCM (Body Composition Monitor, Fresenius Medical Care), demographics, analytical, blood pressure and treatment, and follow-up the patients 15 ± 8 months.

The analysis was performed with the SPSS computer program, version 19. P< 0.05 was considered to indicate statistically significance.

We describe the characteristic of patients grouped by lean tissue index (Table 1).

Also, we demonstrate that patients with lean tissue index lower than 10th percentiles have higher risk after adjusting for other cardiovascular risk factors (Table 2).

Parameter	LTI<10%	10%<LTI<90%	LTI >90%
N	186	1473	228
Age (years)	63.66	66.19	66.48
AvROH* (%)	11.96	12.92	9.51
SBP pre-HD* (mmHg)	134.04	138.6	141.6
ERI* (UI/Kg/week/g/dL)	12.88	10.24	9.59
Albumin* (g/dL)	3.42	3.65	3.68
Charlson CI adjusted	5.27	5.46	5.46
CRP	1.80	1.71	1.45

Table 1. Characteristics of patients grouped according to lean tissue index (LTI). AvROH: average relative overhydration; Charlson C.I. adjusted: Charlson comorbidity index adjusted for age; SBP pre-HD: systolic blood pressure. *Indicates P-value <0.05.

Cox Regression	HR (95%)	CI (95%)		P-value
LTI>p90				0.008*
LTI p10<>p90	3.918	1.229	12.485	0.021*
LTI < p10	6.649	1.917	23.061	0.003*
Age	1.031	1.012	1.050	0.001*
Gender (male)	1.372	0.859	2.191	0.186
Diabetes Mellitus	1.372	0.971	3.293	0.062
AvROH>15%	1.788	1.256	3.736	0.005*
Vascular Ac. (catheter)	2.166	1.469	3.661	0.000*
OH*D. Mellitus	0.387	0.163	0.922	0.032*

Table 2. Cox Regression with risk factors for incident HD patients. AvROH: Relative Overhydration by BCM; Vascular Ac.: Vascular Access; CV Disease: Cardiovascular Disease.

RESULTS

We observed that patients with greater lean tissue index aren't younger than others with lower lean mass but they have higher systolic blood pressure, greater albumin and lesser inflammation markers such as erythropoietin resistance index (ERI) and C Reactive Protein (CRP).

And patients with higher lean mass have lower mortality risk (HR=0.317) after adjusting for other cardiovascular risk factors compared with patients with lower lean mass, particularly with those with lean tissue index lower 10th percentile.

CONCLUSIONS

Patients with LTI higher than the 90th percentile have same age but higher systolic blood pressure, greater albumin and lesser inflammation markers than those with lower lean mass. After adjusting for other risk factors, they have lower mortality risk (HR=0.317).

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