

Effect of a protein-rich meal intake in hemodialysis patients

Cristina Caetano¹, Jorge Silva², Jorge Antunes², Ana Valente¹, Cristina Garagarza¹

¹Nephrocare Portugal, Nutrition Department

²Nephrocare Grândola

Cristina Garagarza: cgaragarza@hotmail.com; +351 91 005 20 86

NephroCare

Introduction

Protein intake is a key point to maintain an adequate nutritional status in hemodialysis (HD) patients. There are some studies that confirm the positive influence of intradialytic oral nutritional supplementation in several nutritional parameters in HD patients. The aim of this study was to evaluate the effect of intradialytic oral nutritional supplementation in HD patients.

Results

Table 1. Patients data

	IG	CG
N	41	44
Age (years) ¹	72.3±12.3	67.9±13.1
Male	65%	61%
Diabetics	42%	26%
HD vintage (months) ¹	50.9±51.6	66.1±47.1

¹Values presented as Mean ± SD.

Both groups were similar in the parameters studied at the start of the study, except in albumin (CG: 3.8±0.3; IG: 3.6±0.2; p=0.003). At the end of the 6 months albumin was CG: 3.69±0.32 and IG: 3.62±0.26 (p=0.28).

Methods

- This was a 6-months single center non-randomized controlled trial, with 85 patients in HD at least for 3 months (3 times/week).
- Patients who presented at least one albumin value ≤ 3.8 g/dL in the last two measurements before the beginning of the study were selected to the **intervention group** (IG).
- During the 6 months, the IG was given a meal during each HD treatment which consisted in 160 ml of a drink rich in protein and an egg sandwich.



- The **control group** (CG) continued to eat the snack that usually brought from home.
- Laboratory parameters and body composition parameters were measured at baseline and at the end of the 6 months.
- A p-value <0.05 was considered statistically significant.

Table 2: Laboratory parameters and body composition: comparison between groups

	Control Group		P-value	Intervention Group		P-value
	Month 0	Month 6		Month 0	Month 6	
Protein intake (nPCR - g/kg/dia) ¹	1.07±0.23	1.06±0.24	0.522	1.08±0.27	1.19±0.28	0.002
Dry Weight (Kg) ¹	66.6±14.8	66.1±15.4	0.221	64.8±12.2	65.2±12.5	0.250
Phosphorus (mg/dL) ¹	4.3±1.3	4.1±1.3	0.231	3.9±1.1	3.8±1.2	0.617
Potassium (mEq/L) ¹	5.1±0.7	4.9±0.7	0.110	5.1±0.7	4.9±0.7	0.417
C-reactive protein (mg/dL) ¹	19.4±33.6	21.0±39.4	0.828	18.6±21.0	20.9±26.7	0.659
Albumin (g/dL) ¹	3.8±0.4	3.7±0.3	<0.001	3.6±0.2	3.6±0.3	0.684
Variation of Albumin	-	-0.14±0.23	<0.001	-	-0.01±0.19	0.680
Hypoalbuminemia (%)	29.9%	61.4%	p<0.001	82.1%	75.6%	0.250
Low fat issue index (%)	7.7%	14.3%	0.660	22.0%	10.8%	0.046
Low lean tissue index (%)	30.8%	50.0%	0.033	22.5%	21.6%	0.710

Conclusion

An intradialytic intake of a meal rich in protein contributes to improve protein intake and body composition parameters. Therefore, this type of intervention can contribute to ameliorate patient's nutritional status without affecting negatively other parameters. Other studies with the inclusion of individual nutritional counselling as well as intradialytic exercise should be performed to support these results.

