

IMPACT OF OMEGA-3 SUPPLEMENTATION ON THE NUTRITIONAL STATUS AND INFLAMMATORY PROFILE OF GASTRIC CANCER PATIENTS: A RANDOMIZED CONTROLLED TRIAL

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INTRODUCTION

Supplementation with omega-3 fatty acid has been proposed to prevent weight loss occurring by cancer cachexia. The objective was to study the effect of omega-3 supplementation on the nutritional status and inflammatory profile of gastric cancer patients, during anticancer pretreatment.

METHODS

A randomized, open, controlled, clinical trial study in gastric cancer outpatients from National Cancer Institute, Brazil. Patients received a formula enriched with omega-3 (3.5g of omega-3 EPA/DHA; intervention group/IG) or standard formula without omega-3 (control group/CG) for 30 consecutive days. Patients were evaluated before and after supplementation according to nutritional status (anthropometric data and Patient-Generated Subjective Global Assessment-PG-SGA) and inflammatory profile (interleukin 6/IL-6, C-reactive protein/CRP). The primary endpoint evaluated was weight gain. The data were analyzed using SPSS 17.0 by *Mann Whitney* test and results were showed as median and interquartile interval. P-values <0.05 were considered statistically significant.

RESULTS

Thirty-four patients were included in each group, 64.7% were male, 44.1% were elderly, 45.6% were stage III of the disease, and 61.8% with moderate malnutrition by PG-SGA. It was observed in IG an weight gain compared to CG, and also a reduction of IL-6 concentration, after supplementation (Table 1). It was observed maintenance of nutritional parameters in IG and a decrease in some anthropometric parameters after supplementation only in CG, such as midarm muscle area (Table

Table 1 - Nutritional, biochemical, inflammatory and immune parameters of the two groups after nutritional supplementation.

	Intervention Group (n=34)	Control Group (n=34)	P value
Weight (Kg)	64,6 (58,9-69,2)	66,1 (52-75,3)	0,699
Weight gain (Kg)	1,2 (0,9-2,0)	0,7 (0,4-1,3)	0,034
CD4 (%)	37,1 (28,9-42,8)	41,5 (31,0-49,8)	0,143
CD8 (%)	25,6 (19,3-28,2)	22,6 (16,7-30,3)	0,572
CD4/CD8	1,3 (1,0-1,7)	1,9 (1,2-2,5)	0,090
IL-6 (pg/mL)	5,7 (4,1-6,4)	6,3 (5,6-8,6)	0,032

Table 2 - Comparison between the initial phase and after the nutritional supplementation of the control group

	Control Group Initial Phase (n=34)	Control Group After the nutritional supplementation (n=34)	P value
Mid arm circumference (cm)	24,0 (22,2-26,2)	23,3 (21,7-26,1)	0,010
Mid arm muscle area (cm²)	45,7 (38,9-54,4)	43,2 (36,7-54,4)	0,027
Albumin (g/dL)	4,4 (4,1-4,7)	4,3 (3,8-4,5)	0,018
CRP (mg/dL)	0,23 (0,1-1,3)	0,37 (0,1-2,8)	0,004
CRP/Albumin ratio	0,05 (0,0-0,3)	0,09 (0,0-0,7)	0,040
IL-6 (pg/mL)	5,9 (5,3-7,6)	6,3 (5,6-8,6)	0,003

CONCLUSION

It is concluded that omega-3 supplementation leads to weight gain and a reduction in the inflammatory profile of pretreatment gastric cancer patients.

Disclosure of Interest: None Declared