Carnitine and lipid profile in pemphigus vulgaris patients: A double-blind randomized Controlled trial

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Background:

Pemphigus Vulgaris (PV) is a rare, autoimmune bullous disease of the skin and mucous membranes. Corticosteroids are usually the main core treatment for control of PV, which could result in complicating disorders.

Objective:

This study aimed to determine the lipid-lowering effects of L-carnitine supplementation in PV patients.

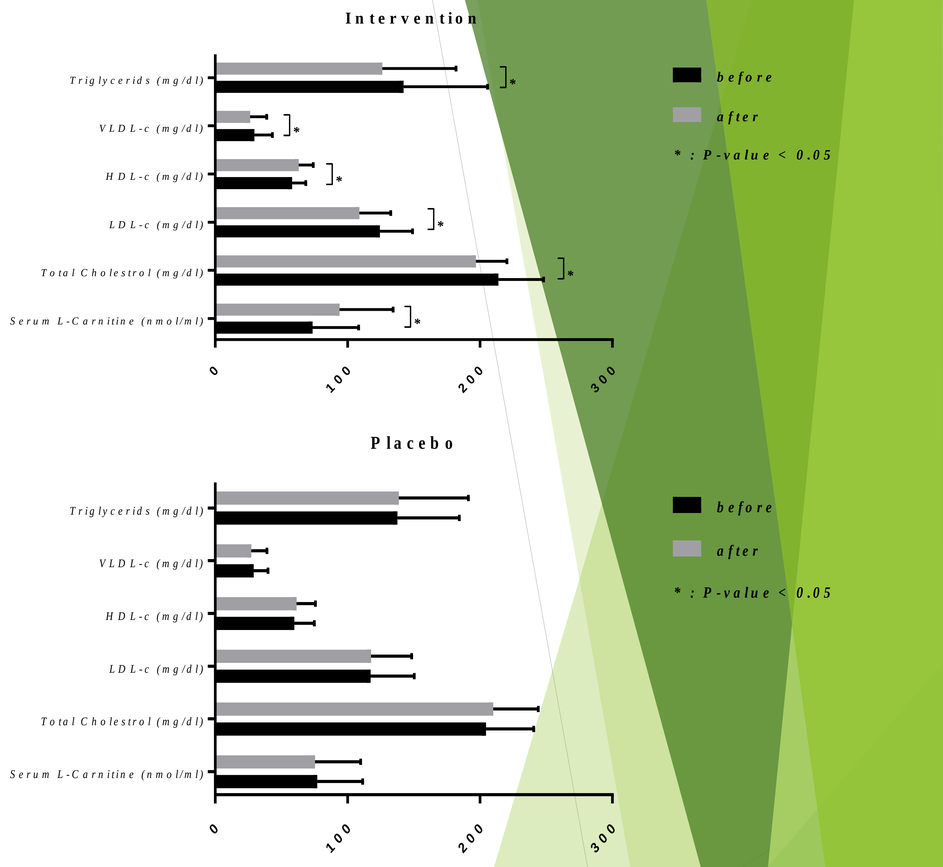
Methods:

In this randomized, double-blind, placebo-controlled clinical trial, 52 patients with PV were divided randomly into two groups to receive 2 g L-carnitine (n=26) or placebo (n=26) for 8 weeks. Serum levels of L-carnitine (LC) and lipid profiles were evaluated at the beginning and end of the study.

Table:

Variable		Intervention group		Placebo group		
		Mean	SD	Mean	SD	P value*
TG (mg/dl)	Baseline	142.30	63.53	137.65	46.80	0.02
	Final	126.30	55.66	138.80	52.43	
LDL-C (mg/dl)	Baseline	124.40	24.66	117.45	33.01	0.01
	Final	108.99	23.60	117.72	30.73	
VLDL-C (mg/dl)	Baseline	29.66	13.62	29.04	10.82	0.02
	Final	26.46	12.50	27.27	11.77	
HDL-C (mg/dl)	Baseline	58.11	10.32	59.76	15.21	0.06
	Final	63.03	11.05	61.46	14.35	
TC (mg/dl)	Baseline	213.84	34.20	204.61	35.94	<0.001
	Final	196.92	23.51	210.03	34.60	
Carnitine (nmol/dl)	Baseline	73.61	34.86	77.12	34.33	<0.001
	Final	93.89	40.58	75.38	34.59	

***Obtained from ANCOVA, adjusted for baseline values.**



Figures: Within group analysis of lipid profile changes before and after the intervention in LC and placebo groups.

Results:

Only 47 participants [LC group (n=24) and placebo group (n=23)] completed the trial. L-carnitine intake considerably decreased serum levels of triglycerides (TG, P=0.02), total cholesterol (TC, P<0.001), low density lipoprotein-cholesterol (LDL-C, P=0.01), and very low density lipoprotein-cholesterol (VLDL-C, P=0.02). In addition, there was a significant increase in serum carnitine (P<0.001) and non-significant change in high density lipoprotein-cholesterol (HDL-C, P=0.06) in comparison with the placebo. Within-group comparisons also demonstrated that serum TG (P=0.001), TC (0.001), LDL-C (P=0.003) and VLDL-C (P=0.001) significantly declined and the mean concentration of carnitine (P<0.001) and HDL-C (P<0.001) significantly increased following L-carnitine supplementation. During the study, no harmful effects were reported by patients.

Conclusion:

This is the novel study to determine the favorable effects of L-carnitine supplementation on lipid profiles in PV patients. However, further investigations are required to confirm these results.

References:

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2. Hsu DY, Brieva J, Sinha AA et al. (2016) Comorbidities and inpatient mortality for pemphigus in the U.S.A. The British journal of dermatology 174, 1290-1298.