

LIPOPROTEIN-ASSOCIATED PHOSPHOLIPASE A2 IS AN INDEPENDENT RISK FACTOR FOR CARDIOVASCULAR EVENTS IN DIALYZED PATIENTS

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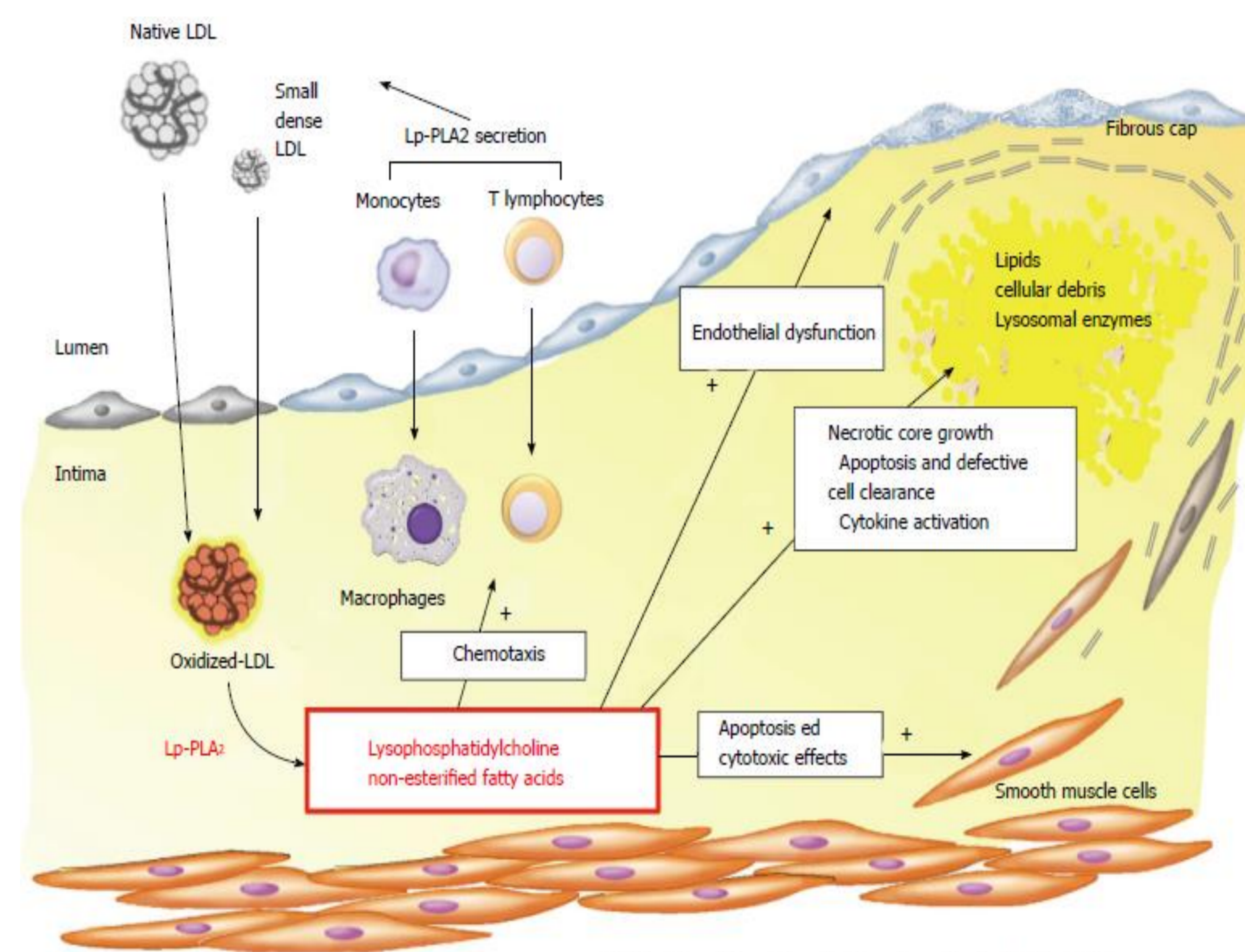
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INTRODUCTION

Cardiovascular (CV) disease is the leading cause of morbidity and mortality in Hemodialyzed Patients (HDP), because of atherosclerosis, inflammation and impaired lipoprotein profile.

Lipoprotein-associated phospholipase A2 (Lp-PLA2) is a serine lipase associated with LDL, that triggers the inflammation cascade into the vessel wall and makes the plaque instable.

In general population Lp-PLA2 is correlated with the risk of acute coronary, peripheral and cerebral artery disease



Modified from Steen DL and O'Donoghue ML, *Cardiol Ther* 2013.

AIM

The aim of our study is to evaluate the relationship between Lp-PLA2 and acute CV events and death among HDP.

PATIENTS AND METHODS

ENROLMENT:

- June 2013 to June 2016
- 102 prevalent HDP
- occurrence of acute CV events and deaths

RESULTS

	HDP
Number	102
Gender	
Male N (%)	63 (62%)
Female N (%)	39 (38%)
Age (years)	68 ± 15
Time of Dialytic (months)	47 ± 58
Diabetes Mellitus N (%)	36 (35%)
Coronary Artery Disease N (%)	41 (40%)

Parameters	HDP (n = 102)
Total Cholesterol (mmol/L)	4.1 ± 1*
LDL cholesterol (mmol/L)	2.2 ± 0.8
HDL cholesterol (mmol/L)	1.1 ± 0.4
Apoprotein A1 (g/L)	1.04 ± 0.21
Apoprotein B (g/L)	0.74 ± 0.20
ApoB/ApoA1 (ratio)	0.7 ± 0.2
CRP (mg/L)	8.4 ± 15
Lp-PLA ₂ activity (nmol/min/mL)	187 ± 44

Predictor of CV events	Univariate Logistic Regression		Multivariate Logistic Regression	
	OR (95% CI)	p	OR (95% CI)	p
Sex (M vs F)	0.57 (0.25-1.27)	0.169		
Age (ys)	1.06 (1.02-1.09)	0.001*	1.06 (1.01-1.10)	0.017*
BMI	1.02 (0.94-1.11)	0.624		
Dialytic age	1.00 (0.99-1.00)	0.421		
Lp-PLA2	1.02 (1.01-1.03)	0.004*	1.02 (1.01-1.04)	0.008*
PCR	1.46 (0.86-2.45)	0.159		
Total Cholesterol	1.00 (0.99-1.01)			
HDL-Cholesterol	0.98 (0.95-1.01)	0.171		
LDL-Cholesterol	1.01 (1.00-1.03)	0.044*	1.00 (0.97-1.03)	0.985
Triglycerides	1.00 (0.99-1.00)	0.423		
apoB/apoA-I ratio	27.63 (3.18-240.36)	0.003*	6.90 (0.14-342.06)	0.332
Diabetes	13.29 (4.52-39.02)	<0.001*	27.67 (5.58-137.29)	<0.001*
CAD	3.32 (1.44-7.65)	0.005*	1.30 (0.38-4.51)	0.675
Hypertension	3.67 (1.62-8.34)	0.002*	3.77 (1.19-12.00)	0.025*

CONCLUSIONS

Our study demonstrates that Lp-PLA2 is correlated with acute cardiovascular events among dialyzed patients. As Lp-PLA2 Inhibitors are available, further studies are required to confirm our findings and eventually to extend these therapies to renal patients.

