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Abstract: 475

Low High-density Lipoprotein Cholesterol (HDL) is Associated with the Risk of Non-AIDS Defining Malignancies

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Objectives: The aim was to investigate the relationship between HDL and the risk of developing any type of malignancy, AIDS-defining malignancies (ADM) or non-AIDS-defining malignancies (NADM) in a cohort of HIV-infected patients.
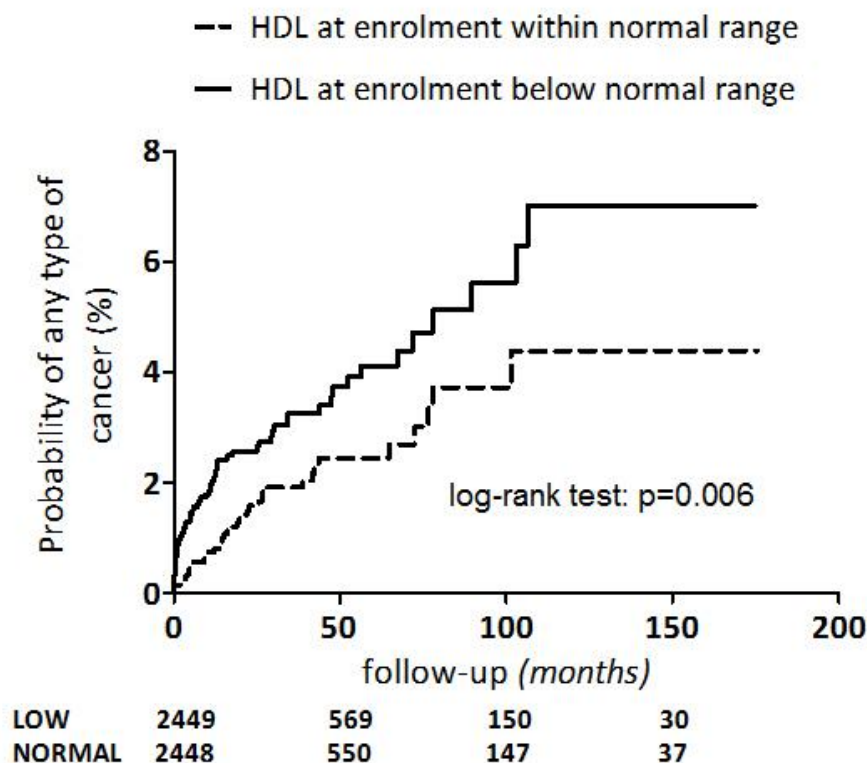**Methods:** Patients from the Icona Foundation Study with at least one HDL value per year since enrolment up to June 2015 were included. HDL values were categorized as low (< 39 mg/dl in males or < 49 mg/dl in females) or normal.
To evaluate factors associated with the risk of any type of malignancy, ADM and NADM, Kaplan Meier curves and Cox proportional hazards regression models were used (models included: age at enrolment, gender, smoking status, HCVAb, HBsAg, nadir CD4+, ART exposure, calendar year of enrolment, current CD4+, current HIV-RNA, current HDL-cholesterol, current triglycerides).
Results: Among 4897 patients [13440 person-years of follow-up (PYFU)], 104 diagnoses of cancer were observed [56 ADM, 48 NADM] with an overall incidence rate of 7.7 (95% confidence interval, 6.3-9.2) per 1000/PYFU.
At enrolment, patients with or without incident cancer showed significant differences in terms of age (years) [median (IQR): 45(37-53) vs 37(31-45), p< 0.0001], nadir CD4+ (cells/mm^3) [179(66-277) vs 324 (190-457), p< 0.0001], CD4+ (cells/mm^3) [220 (85-472) vs 407 (237-580), p< 0.0001], HDL (mg/dl) [35(28-46) vs 40 (33-49), p=0.001] and calendar year of enrolment [2009 (2006-2011) vs 2011 (2008-2013), p< 0.0001].
Low HDL values at enrolment were associated with higher risk of any type of cancer,

LOW	2449	569	150	30
NORMAL	2448	550	147	37

[Risk of any type of cancer according to first HDL]

crude HR: 1.72 (1.16-2.56), p=0.007] and with higher risk of NADM [crude HR: 2.50 (1.35-4.76), p=0.003]. Results from the multivariate analyses are reported in

Characteristic	ADM (number events = 34/56)	
	Hazard ratio (95% confidence interval)	p-value
Age at enrolment (per 5-years older)	1.16 (1.02-1.33)	0.029
Nadir CD4+ (per 100-cells/mm3 higher)	0.68 (0.50-0.92)	0.011
Calendar year of enrolment (per year longer)	1.19 (1.08-1.31)	0.0004
Current CD4+ (per 100-cells/mm3 higher)	0.86 (0.70-1.06)	0.163
Current HIV-RNA (per log10 copies/mL higher)	2.27 (1.70-3.06)	<0.0001
Current HDL-cholesterol (Low vs Normal)	1.28 (0.66-2.49)	0.475

[Multivariate model for ADM]

Characteristic	Any type of malignancy (number events = 91/104)	
	Hazard ratio (95% confidence interval)	p-value
Age at enrolment (per 5-years older)	1.32 (1.20-1.44)	<0.0001
Nadir CD4+ (per 100-cells/mm3 higher)	0.91 (0.74-1.12)	0.381
Calendar year of enrolment (per year longer)	1.10 (1.03-1.17)	0.005
Current CD4+ (per 100-cells/mm3 higher)	0.78 (0.68-0.91)	0.0009
Current HIV-RNA (per log10 copies/mL higher)	1.69 (1.36-2.11)	<0.0001
Current HDL-cholesterol(Low vs Normal)	1.87 (1.18-2.95)	0.007

[Multivariate model for any type of malignancy]

Characteristic	NADM (number events = 47/48)	
	Hazard ratio (95% confidence interval)	p-value
Age at enrolment (per 5-years older)	1.50 (1.31-1.72)	<0.0001
Nadir CD4+ (per 100-cells/mm3 higher)	1.20 (0.91-1.58)	0.199
Calendar year of enrolment (per year longer)	1.00 (0.92-1.09)	0.962
Current CD4+ (per 100-cells/mm3 higher)	0.73 (0.60-0.89)	0.002
Current HIV-RNA (per log10 copies/mL higher)	1.15 (0.80-1.67)	0.448
Current HDL-cholesterol (Low vs Normal)	2.61 (1.40-4.89)	0.003

[Multivariate model for NADM]