



## Chronic CAD/Stable Ischemic Heart Disease

### LOW CHOLESTEROL AND PHOSPHATIDYLCHOLINE PLASMA CONCENTRATIONS OF HIGH-DENSITY LIPOPROTEINS SUBCLASSES IN SUBJECTS WITH CORONARY CALCIUM SCORE ABOVE THE 75TH PERCENTILE FOR AGE AND GENDER

Poster Contributions

Poster Sessions, Expo North

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Authors: *Oscar Pérez-Méndez, Cynthia García-Sánchez, Carlos Posadas Romero, Gilberto Vargas-Alarcón, Instituto Nacional de Cardiología "Ignacio Chávez", Mexico City, Mexico*

**Background:** HDL-lipids have are impaired in patients with metabolic syndrome and type 2 diabetes; however, the usefulness of this parameter in subclinical coronary artery disease is not well known.

**Methods:** We recruited 40 patients with non-symptomatic atherosclerosis diagnosed by Agatston score of coronary artery calcification (CAC)  $\geq$  75th percentile for sex and age, and 40 matched controls (CAC=0). HDL were separated by PAGE, enzymatically stained and densitometrically analyzed to determine the triglycerides (Tg), phosphatidylcholine (Ph), and cholesterol (C) plasma concentrations corresponding to 5 HDL subclasses. For correlation analysis we included a third group of 40 patients with a  $0 < \text{CAC} \leq 25$ th percentile for sex and age.

**Results:** Decreased plasma levels of HDL2b-C and 2a-C explained low total HDL-C in patients (Table). Ph plasma levels of most HDL subclasses were diminished in patients. Surprisingly, other lipidic and non-lipidic risk factors were not different between patients and controls. Ph-to-Tg and Ph-to-C ratios were comparable between groups, suggesting a normal structure of HDL subclasses. Phosphatidylcholine of HDL2a, 3a and 3b as well as creatinine and HDL-C plasma concentrations correlated significantly with CAC.

**Conclusions:** Our results suggest that CAC and traditional lipid profile are two independent aspects of atherosclerosis and that only lipids of HDL subclasses may partially reflect the degree of coronary calcification in asymptomatic stages of the disease.

Plasma concentrations (mg/dL)

	Patients	Controls	P
Total HDL-C	40.5 $\pm$ 10.1	47.4 $\pm$ 13.4	0.010
HDL2b-C	9.1 $\pm$ 4.5	11.7 $\pm$ 5.5	0.035
HDL2a-C	4.4 $\pm$ 1.8	5.6 $\pm$ 2.3	0.017
Total HDL-Ph	111.0 $\pm$ 32.5	131.9 $\pm$ 31.7	0.005
HDL2b-Ph	27.0 $\pm$ 13.2	33.9 $\pm$ 10.3	0.020
HDL2a-Ph	12.9 $\pm$ 5.1	15.6 $\pm$ 4.0	0.021
HDL3a-Ph	28.7 $\pm$ 9.7	35.9 $\pm$ 10.8	0.006
HDL3b-Ph	18.3 $\pm$ 5.3	22.9 $\pm$ 6.9	0.004