

Pulmonary Hypertension Outcomes

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PLASMA LEVELS OF HIGH-DENSITY LIPOPROTEIN CHOLESTEROL AND OUTCOMES IN PULMONARY HYPERTENSION**Gustavo A. Heresi, MD***, **Metin Aytekin, PhD**, **Stanley L. Hazen, MD** and **Raed A. Dweik, MD**

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PURPOSE: There is interest in the role of the metabolic syndrome in pulmonary hypertension (PH). We sought to determine if plasma high-density lipoprotein cholesterol (HDL-C) was associated to clinical outcomes in PH.

METHODS: Plasma HDL-C concentration was measured by conventional methods. Hospitalization for PH, lung transplantation and death were recorded by review of medical records. Data are presented as medians and interquartile range. Receiver operating characteristic (ROC) curve analysis was used to identify the best HDL-C cutoff associated with outcomes. Survival and time to clinical worsening curves were derived by the Kaplan-Meier method and compared by the log-rank test. Multivariate Cox regression modeling of outcome versus HDL-C with individual covariate adjustments was performed.

RESULTS: We studied 75 PH patients: age 48 years (39–57), female 65, idiopathic PH 40, associated PH 27. Compared to 29 controls (age 33 years [31–40], female 21), plasma HDL-C was lower in PH, glucose was higher, and insulin and triglycerides levels were similar (Table). Body mass index (BMI) was elevated at 30 (26–35) in the 60 PH patients available. An HDL-C level of 35 mg/dL discriminated survivors from non-survivors with a sensitivity of 80% and specificity of 62% (area under the curve 0.72). After a median follow up 532 days (range 1 to 1608), high HDL-C levels were associated with decreased mortality (Figure) and less clinical worsening (HR 0.39, 95% CI 0.18–0.87, p=0.02). HDL-C remained a significant predictor of survival after adjusting for age, BMI, known coronary artery disease, smoking status, glucose and triglyceride concentrations, functional class, presence of pericardial effusion, right atrial pressure, cardiac index and

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prostacyclin therapy (all $p < 0.05$).

CONCLUSION: Low plasma HDL-C levels are associated with higher mortality and clinical worsening in PH. This association does not appear to be explained by underlying cardiovascular risk factors or by the severity of PH.

CLINICAL IMPLICATIONS: Low HDL may add in risk stratification in PH and may be specifically targeted to improve outcomes. Further research is warranted.

DISCLOSURE: Gustavo Heresi, No Financial Disclosure Information; No Product/Research Disclosure Information

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