

A Peripheral Blood Gene Expression Score for Coronary Artery Disease in Non-Diabetic Patients Identifies Patients at Low Risk for Major Cardiovascular Events and Interventional Procedures in the next 12 months

Meeting:

ACC Scientific Sessions 2012

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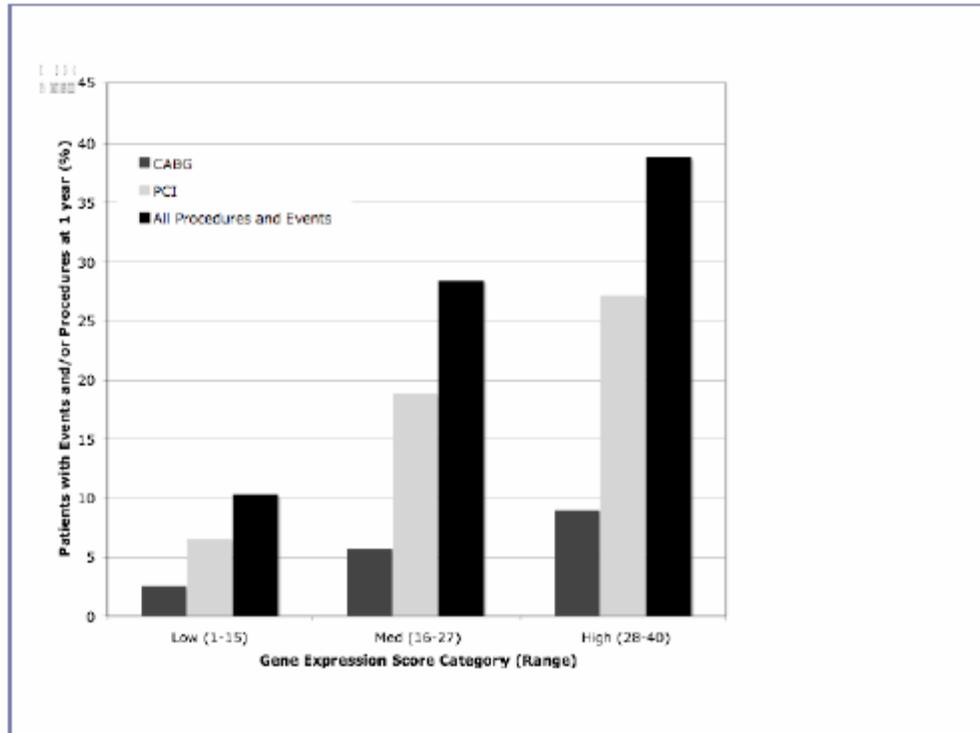
Abstract:

Background: The vast majority of first-time coronary angiography patients do not have obstructive CAD. We previously validated a peripheral blood gene expression score (GES), consisting of 23 genes, age, and sex, which can assess obstructive CAD likelihood in non-diabetic patients, but the subsequent clinical course is largely unknown.

Methods: Patients from the PREDICT trial (NCT00500617), clinically indicated for invasive angiography, were followed for 1 year from index procedure and associated GES. The primary endpoint was MACE (myocardial infarction, stroke/TIAs, death) and revascularization at 30 days and 12 months. The relations between GES and these endpoints were assessed.

Results: From 1160 patients with angiographic and GES results, 1116 (96%) completed follow-up. The primary endpoint rate was 23% at 30 days and an additional 2.2% at 12 months. GES was positively associated with the primary endpoint ($p < 0.001$; OR=5.5 for $GES > 28$ vs. ≤ 15) and added to clinical risk scores (Framingham and Diamond-Forrester) by logistic regression. MACE incidence was 1.5% (17/1116) and only 3/17 had $GES \leq 15$. The 396 patients with $GES \leq 15$, had a primary endpoint negative predictive value of 90% and >99% for MACE alone.

Conclusion: The GES identified patients who were free of obstructive CAD, and were highly unlikely to suffer an adverse cardiovascular event or procedure within 12 months. This non-invasive method is useful for CAD patient risk stratification, especially in identifying low risk individuals.



Reference:

Kraus WE, Voros S, Schwartz RS, et al. A peripheral blood gene expression score for coronary artery disease in non-diabetic patients identifies patients at low risk for major cardiovascular events and interventional procedures in the next 12 months. *J Am Coll Cardiol.* 2012;59:E1383.

Abstract Highlights:

- The PREDICT Trial is a prospective multi-center study designed to develop and validate a blood-based gene expression test (Corus CAD) for the detection of obstructive CAD in non-diabetic stable symptomatic and high risk asymptomatic patients clinically referred for invasive coronary angiography. (Rosenberg S et al. *Ann Intern Med* 2010;153:425-434)
- The primary endpoint was MACE (myocardial infarction, stroke/TIAs, death) and revascularization at 30 days and 12 months. The relations between GES and these endpoints were assessed
- One-year follow-up findings on 1160 PREDICT patients showed that those who received low Corus CAD scores (15 or below) were highly unlikely to suffer an adverse cardiovascular event (stroke, heart attack, or death) or procedure within 12 months.

In addition to these data being presented at the American College of Cardiology 2012 Scientific Sessions, the PREDICT one-year follow-up results are now published in the *Journal of Cardiovascular Translation Research*.*

Should you have any questions related to this study or abstract, please contact CardioDx Medical Affairs at medicalaffairs@cardiodx.com or 866-941-4996.

*Rosenberg S, Elashoff MR, Lieu HD, et al. Whole Blood Gene Expression Testing for Coronary Artery Disease in Nondiabetic Patients: Major Adverse Cardiovascular Events and Interventions in the PREDICT Trial. *J Cardiovasc Transl Res*. 2012 [epub ahead of print].