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Blood test could identify smokers at higher risk for heart disease, UT Southwestern researchers find

DALLAS – Oct. 25, 2011 – A simple blood test could someday quantify a smoker's lung toxicity and danger of heart disease, researchers at UT Southwestern Medical Center have found.

Nearly one in five adults in the U.S. smoke, and smoking-related medical expenses and loss of productivity exceeds \$167 billion annually, according to the Centers for Disease Control and Prevention. Levels of a lung protein found in the blood of smokers could indicate their risk of dangerous plaque buildup in blood vessels, said Dr. Anand Rohatgi, assistant professor of internal medicine at UT Southwestern and co-lead author of the study available in *Arteriosclerosis, Thrombosis, and Vascular Biology*, a publication of the American Heart Association.

"We now are close to having a blood test to help measure the smoking-related effects that contribute to atherosclerotic heart disease," Dr. Rohatgi said. "Smoking is one of the biggest contributors to the development of heart disease."

Smokers are at an increased risk of heart attack, stroke and dying from heart disease, but the risk varies among individuals. Until this study, there had been no simple blood test to measure the varied effects of smoking on heart disease.

Researchers determined the amount of circulating pulmonary surfactant B (SP-B), a protein found in damaged lung cells, in more than 3,200 Dallas Heart Study participants ages 30 to 65. The Dallas Heart Study was a groundbreaking investigation of cardiovascular disease that first involved more than 6,100 Dallas County residents who provided blood samples and underwent blood vessel scans with magnetic resonance imaging and computerized tomography.

The researchers found that smokers who had higher levels of SP-B also had more buildup of dangerous plaque in the aorta – the largest artery in the body, with branches leading to the abdomen, pelvis and legs.

The test is still being evaluated and is not available for commercial use. The next step, said Dr. Rohatgi, is to investigate whether SP-B causes atherosclerosis or is simply a marker of the disease, and to determine whether decreasing levels of SP-B will improve heart disease outcomes.

(MORE)

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Other UT Southwestern researchers involved in the study were co-lead author Dr. Ann Nguyen, resident in internal medicine; Dr. Christine Garcia, assistant professor in the Eugene McDermott Center for Human Growth and Development and in internal medicine; Colby Ayers, faculty associate in clinical sciences; Dr. Sandeep Das, assistant professor of internal medicine; Dr. Susan Lakoski, assistant professor of internal medicine; Dr. Jarett Berry, assistant professor of internal medicine; Dr. Amit Khera, associate professor of internal medicine; Dr. Darren McGuire, associate professor of internal medicine; and Dr. James de Lemos, professor of internal medicine.

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