Healthy Vascular Aging Rare but Not Impossible for Elderly

By Lisa Rapaport May 30 2017

(Reuters Health) - Some people who avoid risk factors for heart disease like obesity and diabetes may be able to maintain the blood vessels of a healthy 29-year-old well into old age, a U.S. study suggests.

"Hypertension and increased vascular stiffness are viewed as inevitable parts of aging," the researchers note. They set out to see whether the age-related decrease in vascular function is avoidable.

They examined data on 3,196 adults age 50 and older to see how their odds of vascular aging (reduced elasticity in blood vessels) was influenced by seven risk factors for heart disease: hypertension, elevated cholesterol, high blood sugar, inactivity, poor diet, obesity and smoking.

Older adults who avoided at least six of these risk factors were 10 times more likely to have flexible, properly functioning blood vessels than their peers who managed to avoid no more than one of these risk factors, the study found.

"Especially staying lean and avoiding diabetes seemed to be very important," lead study author Teemu Niiranen of Boston University School of Medicine said by email. "This association is thought to be mainly caused by the excess inflammation and neurohormonal imbalances associated with obesity and diabetes."

None of the participants had cardiovascular disease when they joined the study, but after researchers followed half of them for at least 9.6 years, 391 people developed heart disease. People with healthy arteries were about 55 percent less likely to develop heart disease compared to the rest.

Overall, 566 participants, or almost 18 percent, had evidence of healthy vascular aging. This included about 30 percent of people in their 50s, and 7 percent of individuals in their 60s but just 1 percent of people 70 and older.

In addition to avoiding diabetes and obesity, maintaining healthy cholesterol levels was also a main contributor to healthy vascular aging, researchers report May 30 in the journal Hypertension.

Some other risk factors for heart disease, including smoking, diet and exercise, weren't independently associated with healthy vascular aging.

The study isn't a controlled experiment designed to prove how individual risk factors for heart disease directly influence vascular aging.



Suite 1 Level 1 Grace Hotel Building 77 York Street Sydney NSW 2000 P 02 9290 3259 F 02 9279 0249 www.executivemedicine.com.au Limitations of the study include the predominantly white participants, which may mean the results don't apply to other racial and ethnic groups, the authors note. Researchers also lacked complete data on nutrition and physical activity for all of the participants.

Still, the findings suggest the combined effect of many lifestyle decisions may be able to help some people maintain healthy arteries even with advanced age, the authors conclude. Increased vascular stiffness, however, is just one aspect of the progression of cardiovascular disease, noted Dr. Christian Delles of the Institute of Cardiovascular and Medical Sciences at the University of Glasgow in the UK.

Other aspects, such as narrowing of the vessels in certain places or the presence of plaque can't be assessed by tests of vascular stiffness, Delles, who coauthored an editorial accompanying the study, said by email.

But patients who still have healthy arteries may take the study finding as a road map to try to maintain that health as they age, Delles added.

"Controlling risk factors can keep your arteries healthy and it is worth addressing the well known risk factors," Delles said. "This includes lifestyle measure such as weight reduction, physical exercise and smoking cessation but in most cases also medication such as blood pressure lowering drugs and lipid lowering drugs."

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