

# Men with certain cardiovascular risk factors may be at increased risk of peripheral artery disease

October 23 2012

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Among nearly 45,000 men who were followed up for more than two decades, those with the risk factors of smoking, hypertension, high cholesterol, and type 2 diabetes had an associated greater risk of developing PAD, according to a study in the October 24/31 issue of *JAMA*.

"[Peripheral artery disease](#) (PAD) is a distinct atherosclerotic syndrome marked by stenosis or occlusion [blockage] of the arteries, particularly of the lower extremities. PAD affects 8 to 10 million individuals in the United States, and is associated with reduced functional capacity and increased risk for [cardiovascular morbidity](#) and mortality. Despite its widespread prevalence and negative associations with quality of life, morbidity, and mortality, PAD remains underdiagnosed and undertreated," according to background information in the article. Preventable or treatable risk factors for PAD are generally thought to be similar to other forms of cardiovascular disease, however their respective associations with risk of PAD and the extent to which they are jointly associated with the incidence of PAD are not well established.

Michel M. Joosten, Ph.D., of Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, and colleagues conducted a study to estimate the individual and cumulative associations of the 4 conventional [cardiovascular risk factors](#) of smoking, hypertension, [hypercholesterolemia](#), and type 2 diabetes with the risk of PAD among

[men](#). The study included 44,985 men in the United States without a history of cardiovascular disease at the beginning of the study in 1986; participants in the Health Professionals Follow-up Study were followed up for 25 years until January 2011. The presence of risk factors was updated biennially during follow-up.

During a median (midpoint) follow-up of 24.2 years, there were 537 cases of incident PAD. The researchers found that each risk factor was significantly and independently associated with a higher risk of PAD after adjustment for the other 3 risk factors and confounders. Regardless of duration category, all men with a risk factor had higher risks of developing PAD compared with men without risk factors. Each additional risk factor approximately doubled the risk for PAD. Men who did not have any of the 4 risk factors had a 77 percent lower risk for developing PAD compared with all other men in the group. In 96 percent of PAD cases, at least 1 of the 4 risk factors was present at the time of PAD diagnosis.

Risk of PAD tended to increase with duration of both type 2 diabetes and hypercholesterolemia. Among men with a positive history of hypertension, risk of PAD was higher among men who reported use of 1 antihypertensive drug or 2 or more antihypertensive drugs compared with men with hypertension who did not report current use of antihypertensive drugs. Cumulative intensity of smoking demonstrated a graded relationship with risk.

"In conclusion, in this well-characterized cohort of U.S. men followed up for longer than 2 decades, smoking, hypertension, hypercholesterolemia, and [type 2 diabetes](#) each demonstrated strong, graded, and independent associations with risk of clinically significant PAD," the authors write.

**More information:** *JAMA*. 2012;308[16]:1660-1667

Provided by JAMA and Archives Journals

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