

Study identifies risk factors for cardiovascular events in patients with atherothrombosis

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Clinical descriptors can assist clinicians in identifying patients with various stages of atherothrombosis (abnormal fatty deposits in an artery) who are at high-risk of future cardiovascular events, according to a study that will appear in the September 22 issue of *JAMA*. The study is being released early online to coincide with its presentation at the European Society of Cardiology meeting in Stockholm.

"Patients with atherothrombosis are at elevated risk of ischemic events [such as heart attack or stroke] but, depending on their specific manifestations of atherothrombosis, may have varying degrees of future risk for ischemic events," the authors write as background in the article. "For clinicians, the ability to identify rapidly the major determinants of risk among patients with atherosclerosis would be useful to triage novel preventive therapies toward those at the higher end of the spectrum."

Deepak L. Bhatt, M.D., M.P.H., of the VA Boston [Healthcare System](#), Brigham and Women's Hospital and Harvard Medical School, Boston, and colleagues studied 45,227 patients who were enrolled in the global Reduction of Atherothrombosis for Continued Health (REACH) study. Detailed information was gathered at baseline, with additional annual follow-up at one, two, three and four years. Patients were enrolled between 2003 and 2004 and follow-up continued until 2008. [Hypertension](#) and hypercholesterolemia (high cholesterol levels in the blood) were common, present in 81.3 percent and 70.4 percent of

patients, respectively. Additionally, polyvascular disease (atherosclerotic disease in multiple arterial territories) was present in 15.9 percent of patients and 48.4 percent had prior ischemic events, with 28.1 percent of those having an ischemic event within the previous year.

During the follow-up period, 5,481 patients experienced cardiovascular events including 2,315 with cardiovascular death, 1,228 with [myocardial infarction](#) ([heart attack](#)), 1,898 with stroke and 40 with both a myocardial infarction and stroke occurring on the same day.

Additionally, among patients with atherothrombosis, those with a prior history of ischemic events at baseline had the highest rate of subsequent ischemic events, while patients with stable coronary, cerebrovascular or peripheral artery disease had a lower risk. Patients without established atherothrombosis but with risk factors only had the lowest risk of subsequent ischemic events.

"Among all categories of patients, diabetes substantially increased the risk of future ischemic events," the authors write. "In those with established atherothrombosis, polyvascular disease was a particularly strong independent risk factor, even stronger than diabetes."

Additionally, the authors conclude that, "this analysis of a contemporary, international cohort of patients at various stages of atherothrombosis shows that there is a whole spectrum of ischemic risk in patients with risk factors or with established cardiovascular disease and that easily ascertainable clinical characteristics are the prominent factors associated with a high risk of future ischemic events."

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