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Contrasting the risk for atherosclerotic cardiovascular disease events among individuals with lower extremity peripheral artery disease, coronary heart disease and cerebrovascular disease

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Background: Having more vascular conditions, including coronary heart disease (CHD), cerebrovascular disease and lower extremity artery disease (LEAD), may increase the risk for atherosclerosis cardiovascular disease (ASCVD) events. Specific vascular conditions may increase the ASCVD event rate more than others.

Purpose: To compare the risk for future ASCVD events associated with the number and type of vascular conditions among adults with a history of CHD, cerebrovascular disease and/or LEAD.

Methods: We analyzed data from US adults =19 years of age with commercial or Medicare health insurance who had a history of CHD, cerebrovascular disease and/or LEAD as of December 31, 2014 (N = 901,391). Individuals were followed through December 31, 2016 (median follow-up: 2 years) for ASCVD events, including myocardial infarction, coronary revascularization, stroke, carotid revascularization and lower extremity amputation or revascularization.

Results: Among individuals included in the current analysis (mean age 63 years, 45% female), 70%, 23% and 7% had 1, 2 and 3 vascular conditions, respectively. After adjustment for sociodemographic and cardiovascular risk factors, the hazard ratio for ASCVD among individuals with 2 and 3 versus 1 vascular conditions was 1.88 (1.85, 1.92) and 2.93 (2.86, 3.00), respectively. Among individuals with 1 vascular condition, the rate of ASCVD events per 1,000 person-years was 46.5 (95% CI 44.1, 49.0), 29.6 (95% CI 29.0, 30.1) and 19.9 (95% CI 19.2, 20.8) for those with LEAD, CHD and cerebrovascular disease, respectively. The multivariable-adjusted hazard ratio (95% CI) for ASCVD events comparing individuals with LEAD only and CHD only versus those with cerebrovascular disease only was 1.84 (1.77, 1.92) and 1.12 (1.08, 1.16), respectively. Among individuals with 2 vascular conditions, the ASCVD event rate per 1,000 person-years was higher in those with LEAD and CHD (122.0, 95% CI 112.5, 132.2) and with LEAD and cerebrovascular disease (92.4, 95% CI 79.9, 106.4), versus those with CHD and cerebrovascular disease (59.1, 95% CI 54.8, 63.6). The multivariable-adjusted hazard ratio (95% CI) comparing individuals with LEAD and CHD and those with LEAD and cerebrovascular disease versus those with CHD and cerebrovascular disease was 1.48 (1.44, 1.53) and 1.49 (1.41, 1.58), respectively. Conclusion: Among adults with vascular disease, having LEAD confers a higher risk for future ASCVD events than CHD or cerebrovascular disease and this group may benefit from more intensive risk reduction treatment.
Abstract: compare the risk for atherosclerotic cardiovascular disease events among individuals with lower extremity peripheral artery disease, coronary heart disease, and cerebrovascular disease.


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