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Association between Physical Activity and Mortality in Patients with Claudication

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Purpose: To determine the association between light intensity physical activity and the incidence of all-cause and cardiovascular mortality in patients with peripheral artery disease (PAD) limited by claudication followed for up to 18.7 years. **Methods:** A total of 528 patients with PAD and claudication were screened in Baltimore between 1994 and 2002, and 386 were deemed eligible for the study. At baseline, patients were classified into three physical activity groups: 1) physically sedentary, 2) light intensity, and 3) moderate-to-vigorous intensity based on a questionnaire. All-cause and cardiovascular mortality of patients through December 2014 was determined using the National Death Index and the U.S. Department of Veterans Affairs and the U.S. Department of Defense Suicide Data Repository. **Results:** Median survival time was 9.9 years (IQR 4.9-15.7 years, range 0.38-18.7 years). During follow-up, 257 patients (66.6%) died, consisting of 40/48 (83.3%) from the sedentary group, 135/210 (64.3%) from the light intensity group, and 82/128 (64.0%) from the moderate-to-vigorous intensity group. For all-cause mortality, light intensity activity status (hazard ratio [HR]=0.523, $p=0.0007$) and moderate-to-vigorous intensity status (HR=0.425, $p<0.0001$) were significant predictors. During follow-up, 125 patients died due to cardiovascular causes (32.4%), in which light intensity activity status (HR=0.511, $p=0.0113$) and moderate-to-vigorous intensity activity status (HR=0.341, $p=0.0003$) were significant predictors. **Conclusions:** Light intensity physical activity is associated with nearly 50% lower risk of all-cause and cardiovascular mortality in high-risk patients with PAD and claudication. Furthermore, moderate-to-vigorous intensity physical activity performed regularly is associated with 58% and 66% lower risk of all-cause and cardiovascular mortality, respectively. The survival benefits associated with light intensity physical activity makes it a compelling behavioral intervention that extends beyond improving ambulation. Supported by NIA (R01-AG-16685, K01) and (P60-AG-12583 and P60-AG-28747).