Medical Xpress

Lower limb muscle limitations hamper walking in diabetes

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(HealthDay) -- In older adults, diabetes correlates with slower walking speed, and diabetes-linked reductions in muscle strength and worse muscle quality contribute to these walking limitations, according to a study published online May 17 in *Diabetes Care*.

Stefano Volpato, M.D., M.P.H., from the University of Ferrara in Italy, and colleagues conducted a cross-sectional analysis of 835 participants (aged 65 years old and older; diabetes prevalence, 11.4 percent) enrolled in a population-based study. Peripheral quantitative computerized tomography was used to assess total, muscular, and fat cross-sectional areas of the calf and relative muscle density. Knee extension torque, ankle plantar flexion and dorsiflexion strength, lower extremity muscle power, and ankle muscle quality were used as indicators of muscle performance. Gait was measured by the 4-m and 400-m walking speed

tests.

The researchers found that participants with diabetes had significantly lower muscle density, knee and ankle strength, and muscle power, as well as worse muscle quality, after adjustment for age and gender. Participants with diabetes were significantly slower on both the 4-m and 400-m walking tests. In the 4-m and 400-m tests, lower limb muscle characteristics accounted for 24.3 and 15.1 percent, respectively, of the difference in the walking speed between individuals with and without diabetes.

"In older persons, diabetes is associated with reduced muscle strength and worse muscle quality," the authors write.

More information: Abstract
Full Text (subscription or payment may be required)