Medical Xpress

Walking ability predictor of adverse outcomes following cardiac surgery

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Among more than 15,000 patients who underwent cardiac surgery, slow gait speed before surgery was associated an increased risk of death following surgery, according to a study published online by *JAMA Cardiology*.

Gait speed, measured as the time required to walk a short distance (usually 5 meters [16.4 feet]) at a comfortable pace, is one of the most commonly used tests to screen for frailty. The gait speed test reflects impairments in lower-extremity muscle function and, to a lesser extent, neurosensory and cardiopulmonary function. The utility of gait speed is especially promising in cardiac surgery, where an increasingly aged and complex geriatric population is subject to the inherent stress of surgery. Prediction of operative risk is a critical step in decision making for cardiac surgery.

Jonathan Afilalo, M.D., M.Sc., of McGill University, Montreal, and colleagues examined the association of 5-m gait speed with 30-day mortality and illness after cardiac surgery. The study was conducted at 109 centers participating in the Society of Thoracic Surgeons Adult Cardiac Surgery Database. The 5-m gait speed test was performed in 15,171 patients (median age was 71 years) undergoing coronary artery bypass graft, aortic valve surgery, mitral valve surgery, or combined procedures.

The researchers found that slow gait speed was independently predictive of operative mortality and, to a lesser extent, a composite outcome of

mortality or major morbidity. This result was observed across a spectrum of the most commonly performed cardiac surgical procedures used to treat ischemic and valvular heart disease. Overall, for each 0.1 meter/second decrease in gait speed (e.g., taking 6 seconds as opposed to 7 seconds to walk the 5-m course at a comfortable pace), there was an 11 percent relative increase in operative mortality.

"Gait speed can be used to refine estimates of operative risk, to support decision-making and, since incremental value is modest when used as a sole criterion for frailty, to screen older adults who could benefit from further assessment," the authors write.

"Additional research is needed to examine the effect of gait speed on long-term hazards and patient¬ centered outcomes, and to develop targeted interventions that can offset the negative impact of frailty."

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