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News

For Immediate Release

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Frailty May Be Highly Predictive of Complications, Death in Patients with Mitral Valve Disease *Screening identified as key factor in preoperative assessment and shared decision-making*

CHICAGO (March 19, 2020) — Frailty measurements have become increasingly important in assessing surgical risk in patients with mitral valve disease, and research published online today in *The Annals of Thoracic Surgery* shows that frailty plays a significant role in outcomes following mitral valve procedures.

“Frailty correlates with mortality and length of hospital stay, as well as with more readmissions after mitral valve surgery. Underappreciated is the effect that frailty has on readmission burden after surgical interventions,” said Amit Iyengar, MD, MSE, from Penn Medicine in Philadelphia.

Dr. Iyengar and colleagues from Penn Medicine, examined data from the National Readmissions Database (NRD)—an archive that includes discharge information from hospitals across more than 20 states and is helpful in estimating immediate outcomes after surgery. The researchers identified 102,114 adult patients who underwent mitral valve replacement surgery between 2010 and 2014. After various exclusion criteria were applied, 50,410 patients composed the final study group. Among these patients, frailty was present in 7.9%.

The researchers found that frail patients were more likely to experience complications after surgery (76.7% vs. 46.6%), be discharged to a destination other than home (49.8% vs. 20.5%), be readmitted to the hospital within 30 days (27% vs. 19.8%), and experience in-hospital mortality (11.6% vs. 3.9%). In addition, the length of initial hospital stay was significantly longer among frail patients, with 23 days for frail patients vs. 9 days for non-frail patients.

Overall, the study showed that readmission was approximately 30% for frail patients (most often for heart failure) and 20% for non-frail patients, and the cost of hospitalization was nearly double for frail patients—\$91,081 vs. \$47,899.

KEY POINTS

- Patients with mitral valve disease who are frail may be at greater risk for postsurgical complications.
- Frailty screening is a promising risk stratification tool that may help guide recommendations for treatments and surgical options.
- A standardized test for and definition of frailty are needed to help health care professionals properly assess patients.

He said this study suggests that frailty screening may help better risk-stratify patients before mitral valve surgery because frailty compromises the body's ability to cope with stressors such as surgery; yet clear/definitive standards for evaluating and treating frailty before surgery do not exist. Frailty sometimes is measured by a patient's grip strength, weight, activity level, and walking test results.

"Frailty is a hot topic and we feel confident that with further study and discussion among surgeons, we as a community can arrive at a consensus method for assessing frailty that could then be adopted widely," said Dr. Iyengar.

In the meantime, surgeons have done an "excellent job" of incorporating this relatively new concept of frailty into their work-ups and discussions with patients before surgery, noted Dr. Iyengar. "Careful consideration of frailty is an important step in preoperative risk assessment and shared decision-making for patients with mitral valve disease. Frailty should be part of the discussions between patients, cardiologists, and surgeons regarding what to expect from mitral valve surgery, what the risks of surgery might be, and how to counsel patients and families before and after surgery," he said.

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Iyengar A, Goel N, Kelly JJ, Han J, Brown CR, Khurshan F, Chen Z, and Desai N. Effects of Frailty on Outcomes and 30-day Readmissions After Surgical Mitral Valve Replacement. DOI: 10.1016/j.athoracsur.2019.10.087.

Find comprehensive medical information presented for patients by leading experts in cardiothoracic surgery on the STS Patient Website (ctsurgerypatients.org). For a copy of *The Annals* article, contact Jennifer Bagley at 312-202-5865 or jbagley@sts.org.

Founded in 1964, The Society of Thoracic Surgeons is a not-for-profit organization representing 7,500 cardiothoracic surgeons, researchers, and allied health care professionals worldwide who are dedicated to ensuring the best possible outcomes for surgeries of the heart, lung, and esophagus, as well as other surgical procedures within the chest. The Society's mission is to enhance the ability of cardiothoracic surgeons to provide the highest quality patient care through education, research, and advocacy.

The Annals of Thoracic Surgery is the official journal of STS and the Southern Thoracic Surgical Association. It has an impact factor of 3.919.