

Frailty may be highly predictive of complications, death in patients with mitral valve disease

19 March 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.

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.

More information: Amit Iyengar et al, Effects of Frailty on Outcomes and 30-day Readmissions After Surgical Mitral Valve Replacement, *The Annals of Thoracic Surgery* (2020). [DOI: 10.1016/j.athoracsur.2019.10.087](#)

Provided by The Society of Thoracic Surgeons

APA citation: Frailty may be highly predictive of complications, death in patients with mitral valve disease (2020, March 19) retrieved 13 June 2022 from <https://medicalxpress.com/news/2020-03-frailty-highly-complications-death-patients.html>

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