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Commentary: Frailty studies are frail

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Frailty is an increasingly recognized yet poorly defined concept. It can be generally described as a reduced functional reserve when the body is confronted with acute stress.¹⁻³ Such a nebulous definition has led to myriad efforts of quantification, with little consistency.⁴ Frailty is something we, as surgeons, “eyeball.”

In this issue of the *Journal*, Goel and colleagues⁵ analyze a large national administrative database and show that the surgical volume of frail patients, but not the overall surgical volume, is an independent predictor of in-hospital mortality and failure-to-rescue of frail patients undergoing coronary artery bypass grafting or valve surgery. The incidence of postoperative complications was similar across all frail volume quartiles. Notably, minimal correlation was observed between frailty high-volume centers and overall high-volume centers. Together, it is speculated that centers with a higher frailty volume practice have better acute postoperative management and are able to save frail patients. Granular inspection of the data further emphasizes the relevance of this study to our specialty, because frail patients represent 4% to 6% of our practice with a high mortality rate of 9% to 11%.⁵

How to introduce a frailty metric in clinical practice, however, is not straightforward. The present study used the Johns Hopkins Adjusted Clinical Groups frailty-defining diagnosis indicator, which is a validated means of analyzing frailty in administrative databases.⁶ The system uses clusters of frailty-defining diagnoses to assign a

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CENTRAL MESSAGE

Lack of a standard definition for frailty in cardiac surgery makes implementation of the results of studies of frailty difficult and problematic.

binary designation to each patient: frail or not frail.⁷⁻⁹ In this study, the most common frailty-defining conditions were rather subjective: malnutrition (67%), decubitus ulcer (16%), and difficulty walking (11%). Furthermore, less common conditions among 10 categories include fecal incontinence and dementia. Surgeons are extremely unlikely to operate on patients with these conditions and frequently are not even consulted, suggesting the lack of relevance of this particular metric for our specialty. A systematic review on this topic showed that objective data, such as stair climbing or gait speed, have been investigated to define frailty in a number of studies, but the definitions remained inconsistent.² Transcatheter aortic valve replacement (TAVR) trials on prohibitive or high surgical risk patients added contemporary knowledge on this topic. Two large studies analyzed objective measures of frailty and found gait speed and low albumin to be independent predictors of mortality after TAVR.^{10,11} The Frailty-AVR study prospectively evaluated patients undergoing TAVR and surgical aortic valve replacement and compared the predictive value of 7 different frailty assessment tools.¹² They found that although all assessment tools successfully predicted mortality at 1 year, there was significant variability among them.¹²

The present study is another reminder to develop a universal definition of frailty tailored for cardiac surgery and its incorporation into risk assessment models. Until then, clinical practice and research related to frailty may be considered...*frail*.

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