

NEWS • INTERVENTIONAL

Isolated Tricuspid Valve Surgery Remains Rare and Risky

Over a decade, only 5,005 such surgeries were performed in the US. In-hospital mortality held steady at 8.8% despite rising experience.



By **Caitlin E. Cox** December 13, 2017



In the midst of exploding interest in aortic and mitral interventions, the tricuspid valve remains relatively uncharted territory. Isolated tricuspid valve (TV) surgery is particularly rare, but a new analysis of administrative claims data is helping to shed light on this high-risk population.

Over a recent 10-year period between 2004 and 2013, only 5,005 isolated TV surgeries were performed across the United States, researchers led by Chad J. Zack, MD (Mayo Clinic, Rochester, MN), found. And while the annual case volume rose from 290 in 2004 to 780 in 2013, this growing experience hasn't translated to lower in-hospital mortality. Across the years, in-hospital mortality held steady at 8.8%, with a higher risk seen for patients having TV replacement versus repair (adjusted OR 1.91; 95% CI 1.18-3.08).

The findings were published online this week ahead of the December 19, 2017, issue of the Journal of the American College of Cardiology.

“The tricuspid valve has been described by many people as the ‘forgotten valve,’” Martin B. Leon, MD (NewYork-Presbyterian/Columbia University Medical Center, New York, NY), who was not involved in the study, told TCTMD. It is in part the high mortality rate and a reluctance to put patients through surgery that the prospect of less invasive options is so attractive, he suggested.

Despite the rarity of isolated TV surgery, an estimated 2.5 million patients have moderate or severe tricuspid regurgitation (TR) in the United States, Leon said, with a yearly incidence of 200,000 to 250,000 new patients.

This study, then, offers a unique perspective, said Leon. Of the approximately 10,000 TV surgeries done each year, “the vast majority—more than 90% of them—are done in conjunction with left-sided surgery” for aortic stenosis or mitral valve disease, he explained. “So the tricuspid has been, to a certain extent, an innocent bystander in patients with left-sided disease and had been treated usually in the context of left-sided disease, only rarely treated by surgery as an isolated operation.”

Operators doing mitral valve surgery should check the right side of the heart to see whether patients show signs of severe TR or significant annular dilatation, Leon advised, because 1-year outcomes are worse if the tricuspid valve isn’t fixed.

What Sets These Cases Apart?

In an editorial accompanying the paper, Thomas M. Bashore, MD, and John D. Serfas, MD (Duke University Medical Center, Durham, NC), point out that the study lacks critical information about the patients included in the analysis.

“Nothing is known about patients’ left or right ventricular function or size, pulmonary artery pressures, or even the specific indication for surgery,” they note.

Indeed, what can’t be drawn from the data is the “acuity” of the patients, Leon agreed. “Unfortunately from this study you couldn’t tell how sick they were.”

While TV surgery has a Class I indication in patients with primary tricuspid valve disease and severe symptoms that are refractory to

