Surgical Outcomes of Prohibitive Risk Patients Reconsidered for Surgery After Being Ineligible for Transcatheter Mitral or Tricuspid Valve Therapies

Objective: Transcatheter treatment of advanced mitral and tricuspid valve disease is largely limited to prohibitive surgical risk patients, though many are not candidates for transcatheter treatment. Here, we describe surgical outcomes of prohibitive-risk patients who were ineligible for transcatheter therapies to guide surgeons in management of this unique population.

Methods: Prohibitive risk patients, defined per surgeon or cardiologist discretion, who were initially referred for a transcatheter mitral or tricuspid intervention, were identified at a single Mitral Foundation reference center from 2019 to 2022. Preoperative risk and outcomes, including major morbidity and short and long-term mortality were evaluated. Major morbidity was defined as a composite outcome of renal failure, sternal wound infection, stroke, reoperation, and prolonged ventilation/intubation.

Results: A total of 337 prohibitive risk patients were referred for transcatheter mitral or tricuspid evaluation. Of those, 161 underwent transcatheter therapy, 130 patients underwent continued medical management, and 46 were re-evaluated and had high-risk surgery. Among surgical patients, 54% were females with a median age of 75 (Q1-Q3, 64-81) years. Most patients (42/46, 91%) had a mitral valve intervention, of whom 48% (20/42) had a mitral valve replacement. Major morbidity occurred in 35% (16/46). Operative mortality was 4.3% (2/46), which among patients with an STS PROM procedure (43/46, 93%), was lower than the predicted mortality of 6.5%. By Kaplan Meier analysis, one year survival was 86% ± 9% (Figure).

Conclusions: Select prohibitive risk patients who were ineligible for transcatheter mitral or tricuspid valve intervention underwent surgery with overall low operative mortality and excellent one year survival. Prohibitive-risk patients whose anatomy is not amenable to transcatheter devices should be re-considered for surgery.

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