Retrospective Study on Clinical Outcomes Following Transcatheter Aortic Valve Replacement

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Background

- Heart disease is the leading cause of death in the U.S. with aortic stenosis (AS) being present in 1.5 million Americans, and severe symptomatic AS affecting 250,000 Americans.
- Transcatheter Aortic Valve Replacement (TAVR) surgery is a minimally invasive procedure which replaces the aortic valve in the heart using a porcine valve attached to a catheter.
- TAVR is the preferred procedure for patients suffering from aortic stenosis who are high risk patients for surgical aortic valve replacement (SAVR).

Objectives

This study analyzes 1-year mortality as well as clinical outcomes and procedural complications of patients who underwent TAVR surgery in the Lehigh Valley Health Network between 2012-2017.

Methods

- A retrospective review of all TAVR patients was recorded from 2012-2017 at the Lehigh Valley Health Network.
- This study included 624 patients. Using the EPIC database, electronic hospital records of all patients were reviewed and organized into an Excel file.
- The variables that were tested included 7 procedural complications, 2 common outcomes present at discharge, and 1-year mortality rates.
- Due to lack of patient information available on Epic, only 579 patients were used in the final analysis.

Results

- Patients who underwent the TAVR procedure at LVHN had a year mortality of 11.05% (CI 95%, 8.50%-13.60%).
- 8.29% (CI 95%, 6.04%-10.54%) of patients experienced procedural complications.
- New onset stroke and (LBBB) were present in 3.80% (95% CI, 2.24%-5.36%) and 12.95% (95% CI, 10.22%-15.68%) of all patients.
- The relative frequency of patients that experienced procedural complications and then died within one year of TAVR was significantly higher than for patients that died within one year, but did not experience complications (p < 0.05).

Conclusions

- LVHN 1-year mortality frequencies were significantly lower than published values.
- Stroke and LBBB rates at discharge are comparable to published values.
- Procedural complications for patients during TAVR are associated with an increased risk of dying within one year.

References