

Trends, Predictors, and Outcomes of Major Bleeding After Transcatheter Aortic Valve Implantation, From National Inpatient Sample (2011-2018)

[Salman Zahid, et al. Expert Review of Cardiovascular Therapy, DOI: 10.1080/14779072.2021.1924678](#)

PURPOSE

- To evaluate the trends, predictors, and outcomes of major bleeding in patients undergoing transcatheter aortic valve implantation (TAVI).
- **Primary endpoint:** in-patient mortality
- **Secondary endpoints:**
 - in-hospital complications
 - cost and length of stay
 - discharge disposition

METHODS

- Utilized the National Inpatient Sample (NIS) data from 2011-2018 using ICD-9-CM and ICD-10-CM codes.
- A total of 215,938 patients who underwent TAVI were identified during the 7 year time period.

RESULTS

- Of the 215,938 patients identified in this study, 20,102 (9.3%) patients had major bleeding complications post TAVI.
- In-hospital mortality was significantly higher in patients with major bleeding complications when compared to patients without major bleeding (6.5% vs. 1.7%, $p < 0.01$).
- Patients with major bleeding had significantly higher
 - Length of stay (7 vs. 3 days, $p < 0.01$)
 - Cost of hospitalization (\$59,263 vs. \$46,217, $p < 0.01$)
 - Non-home discharge (38.7% vs. 16.9%, $p < 0.01$)
- Local site bleeding was the most frequent cause of bleeding in TAVI (13%), followed by GI bleed (10.9%), hemothorax (3.5%), hemoperitoneum (2.3%), and hemopericardium (2.1%).
- Over the study period, mortality and cost of care remained largely unchanged in patients with major bleeding.

AUTHOR CONCLUSIONS

- Mortality, length of stay, and hospitalization costs were significantly higher in TAVI patients with major bleeding when compared to TAVI patients in the non-bleeding cohort.
- Important predictors of bleeding include comorbidities such as end-stage renal disease (ESRD), liver disease, coagulopathy and colonic malignancy.

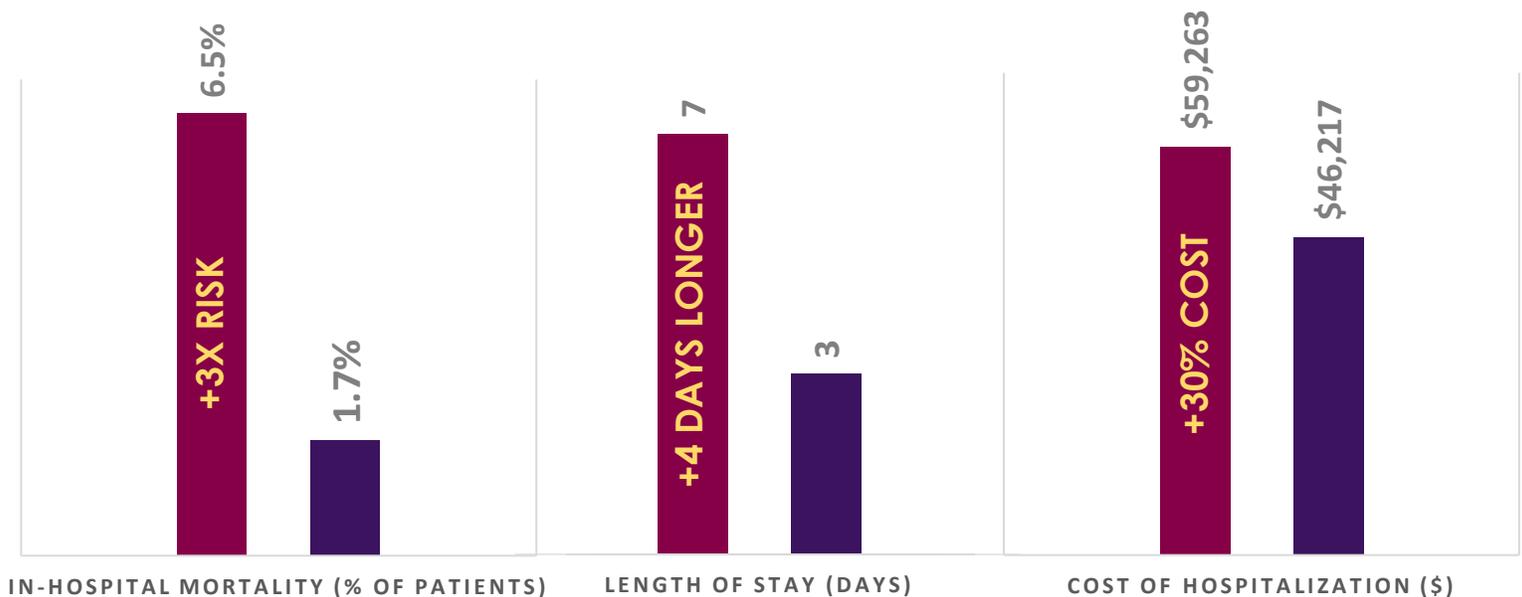
Indications for Use. The Early Bird is indicated for the introduction of catheters, catheter balloons, and other diagnostic and interventional devices into the femoral artery or femoral vein while maintaining hemostasis during diagnostic and interventional endovascular procedures.

Contraindications. There are no known contraindications for Early Bird.

Trends, Predictors, and Outcomes of Major Bleeding After Transcatheter Aortic Valve Implantation, From National Inpatient Sample (2011-2018) (Continued)

CLINICAL OUTCOMES AND HOSPITAL UTILIZATION IN TAVI WITH AND WITHOUT MAJOR BLEEDING

■ WITH MAJOR BLEEDING ■ WITHOUT MAJOR BLEEDING



KEY POINTS

- This study demonstrate that major bleeding in TAVI patients is common (9.3%).
- Compared to patients without bleeding, major bleeding patients undergoing TAVI have >3x risk of mortality, stay an average 3-4 longer days in the hospital leading to ~30% incremental hospitalization costs.
- Detecting bleeding early may reduce mortality risk, length of stay, and hospitalization costs associated with TAVI procedures.

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