The comparative outcomes of transcatheter aortic valve replacement (TAVR) versus surgical aortic valve replacement (SAVR) in diabetes mellitus (DM) patients are scarce. We aimed to assess and compare the outcomes of TAVR versus SAVR in DM patients using the nationwide inpatient sample (NIS) database from 2011 to 2013.

**Methods**

A complete case analysis was performed for the multivariate analysis and excluded cases with missing data. The primary endpoint was in-patient all-cause mortality and secondary outcomes were perioperative complications.

**Results**

An estimated 5,719 TAVR procedures and 65,096 SAVR procedures were performed among DM patients in the U.S between 2011 and 2013. TAVR patients were older (80±8.1 vs 70±10, p<0.001), more female (45% vs 38%, p<0.001) and predominantly white race (total of 80%). The adjusted odds ratio (OR) for the primary outcome was significantly lower in TAVR patients (2.8% vs. 3.6%, OR 0.63, p=0.02). TAVR patients also were at lower risk for bleeding requiring transfusions (13% vs. 20%, OR 0.43, p<0.01), cardiac complications (6.1% vs. 14%, OR 0.34, p<0.01), respiratory complications (1.2% vs. 3.7%, OR 0.26, p<0.01), post-op sepsis (1.7% vs 3.6%, OR 0.45, p=0.03), and acute myocardial infarction (2.5% vs 2.9%, OR 0.62, p<0.01) than SAVR patients. Conversely, TAVR patients were at increased risk for vascular complications (5.7% vs 3.9%, OR 1.5, p<0.01) and new pacemaker implantation (10% vs. 5.7%, OR 1.5, p<0.01). The mean hospitalization cost was lower for TAVR than SAVR ($58,878 vs. $63,869, p=0.003). Lengths of stay (median 6 days vs 8 days, p<0.001) was shorter in TAVR patients.

**Conclusion**

TAVR may result in better in-hospital outcome, less hospital stay and less economic burden than SAVR in DM patients.