Utilization and Mortality Trends for Balloon Aortic Valvuloplasty in the United States: A 8 Year Perspective

Poster Contributions
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Background: Balloon aortic valvuloplasty (BAV) was initially used for the treatment of aortic stenosis, but was shortly abandoned after realizing the palliative nature of the procedure. With the advent of transcatheter aortic valve replacement (TAVR), the use of BAV has been increasing. We decided to assess trends of BAV use in recent years.

Methods: We queried the Healthcare Cost and Utilization Project's Nationwide Inpatient Sample (NIS) between 2003 and 2010 using the ICD9 procedure code of 35.96 for valvuloplasty. Only patients >=60 years of age with aortic stenosis were included. The NIS represents 20% of all hospitals in the US. Census data were used for population estimates to calculate time trends in utilization rate. We defined severity of comorbidities using the Charlson comorbidity index (CCI), where higher scores (0-33) represent increasing burden.

Results: A total of 1,538 BAV were available for analysis. The utilization rates of BAV have significantly increased from 72 BAV/1 million elderly in 2003-2004 to 158 BAV/million elderly in 2009-2010 (p<0.001). There was also a significant decline in hospital mortality associated with BAV from 16% in 2003-2004 to 8.8% in 2009-2010 (p<0.001%). Increasing CCI was associated with higher in-hospital mortality (HR 1.06, 95% CI 1.02-1.11, p=0.005).

Conclusions: Our results indicate substantial increase in use and safety of BAV in the US after the inception of TAVR. This is the first study to evaluate utilization and mortality trends for BAV in the US.