Impact of Infra-inguinal Percutaneous Vascular Stenting on In-Hospital Mortality and Complications: 6 Years U.S. Perspective

Category: Endovascular and Peripheral Interventions (Including Neurovascular and Carotid)

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Background: Contemporary data regarding outcomes following infra-inguinal percutaneous vascular stenting is lacking.

Methods: We queried HCUP’s Nationwide Inpatient Sample (NIS) between 2006 and 2011 using the ICD 9-CM code for lower extremity peripheral vascular disease and procedural codes 39.90 (bare metal stent – BMS), 00.55 (drug eluting stent – DES) and 39.50 for angioplasty. Only infra-inguinal procedures performed in patients >= 18 years were included. Hierarchical mixed effects logistic regression models were generated to evaluate multivariate predictors of outcomes. The primary outcome was in-hospital mortality; secondary outcome was composite of mortality and post-procedural complications.

Results: In total 88,324 (weighted: 432,718) infra-inguinal vascular interventions were analyzed (54.8% male & 59% white). DES (8.1%) & BMS (7.3%) utilisations were associated with significant reduction in amputation compared to angioplasty only (13.6%) (p < 0.001). Multivariate analysis showed similar primary outcome (OR, 95% CI; p-value) (DES: 0.94, 0.73 – 1.19; p = 0.597 & BMS: 0.97, 0.91 – 1.03; p = 0.274) but significant reduction in secondary outcomes (DES: 0.89, 0.83 – 0.96; p = 0.004 & BMS: 0.88, 0.86 – 0.89; p < 0.001) and amputation (DES: 0.60, 0.55 – 0.66, p < 0.001 & BMS: 0.56, 0.55 – 0.58, p < 0.001) with stent utilization. Subgroup analysis for stent utilization also showed similar results (Figure below).

Conclusions: Infra-inguinal percutaneous vascular stenting was associated with decrease in secondary outcomes and amputation as compare to angioplasty alone. No difference was observed in primary outcome.

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