6-11-2020

Superior Short-Term Patency of Stents Over Balloons in Infrapopliteal Artery Disease

Supraja Thunuguntla  
*The University of Texas, Rio Grande Valley*, supraja.thunuguntla@utrgv.edu

Obinna Echeruo  
*The University of Texas Rio Grande Valley*

Charles Mild  
*The University of Texas Rio Grande Valley*

Follow this and additional works at: [https://scholarworks.utrgv.edu/som_pub](https://scholarworks.utrgv.edu/som_pub)

Part of the Medicine and Health Sciences Commons

**Recommended Citation**

Thunuguntla, Supraja; Echeruo, Obinna; and Mild, Charles, "Superior Short-Term Patency of Stents Over Balloons in Infrapopliteal Artery Disease" (2020). *School of Medicine Publications and Presentations*. 81. [https://scholarworks.utrgv.edu/som_pub/81](https://scholarworks.utrgv.edu/som_pub/81)

This Article is brought to you for free and open access by the School of Medicine at ScholarWorks @ UTRGV. It has been accepted for inclusion in School of Medicine Publications and Presentations by an authorized administrator of ScholarWorks @ UTRGV. For more information, please contact justin.white@utrgv.edu, william.flores01@utrgv.edu.
Superior Short-Term Patency of Stents Over Balloons in Infrapopliteal Artery Disease

Supraja Thunuguntla, Obinna Echeruo, Charles Mild

Internal Medicine Residency Department, The University of Texas Rio Grande Valley

Purpose

The optimal strategy for revascularization in below-the-knee (BTK) chronic limb-threatening ischemia (CLTI) remains debatable. High restenosis rates of percutaneous transluminal angioplasty (PTA) often warrants re-intervention or amputations. Novel devices such as drug-eluting (paclitaxel) balloons (DEB), stents, and atherectomy devices- directional (HawkOne, SilverHawk, TurboHawk)™ or orbital (DiamondBack 360)™ are used infrequently as therapy when BTK. We aim to compare the rate of total re-occlusion between these interventions.

Material & Methods

A retrospective chart review of 97 patients who underwent BTK percutaneous intervention in 2015-2020 at our hospital. Descriptive statistics were used to assess the distribution of variables; continuous variables (time to readmissions) were summarized as mean values with standard deviations, and categorical variables were summarized as counts and percentages.

Results

Out of the 97 patients, 73.4% met documented Rutherford category V-VI on initial admission, 53.6% patients were readmitted to our facility with Rutherford category IV-VI at 8 +/- 8 months from initial intervention, 79.7% were diabetic and 62.5% were hypertensive. Interventions performed on the 208 arteries were plain balloon angioplasty 57.7%, DEB 2.9%, atherectomy with adjunctive PTA (A+PTA) 28.8%, stent 8.7% and atherectomy with adjunctive stent (A+S) 2.9%. Of the stents placed, 13 were bare-metal stent (BMS) and 11 drug-eluting (everolimus) stent (DES).

Within 12 months from initial intervention, total re-occlusion post PTA occurred at 4 (+/-3) months, A+PTA 3.7 (+/-2) months, and stents 8 (+/-3) months (p= 0.015, F= 4.6). Comparing stents, restenosis was 53.8% in BMS versus 18.2% in DES (p= 0.09) at 6 (+/-3) months readmission. Re-occlusion rates 30 months from initial intervention were 58.1% for uncoated balloons, 33.3% A+PTA, 60% DEB, 50% stents and 50% A+S (p= 0.27). 22 patients were not readmitted again for any reason. Of the 17 patients who underwent major amputation (below or above the knee), 10 had triple-vessel involvement below the knee, 4 had osteomyelitis. Restoring straight-line flow in angioplasty was unsuccessful in 10 cases.
Conclusion

These preliminary data suggest superior short term (< 1-year) patency of stents over PTA and A+PTA, BTK. Re-occlusion in A+PTA may be lower than PTA alone. DES seems to have better patency than BMS. Further studies needed to compare clinical outcomes.