

Vessel Preparation of Femoropopliteal Lesions Prior to Drug-Coated Balloon Angioplasty with the FLEX Dynamic Scoring Catheter.

Richard Kovach, MD, Department of Cardiovascular Diseases, Deborah Heart and Lung Center, Browns Mills, New Jersey.
Nicolas J. Mouawad, MD, Chief and Medical Director, Vascular and Endovascular Surgery, McLaren Bay Region, Bay City, Michigan.
Daniel Leung, MD, Christiana Care Health Services, Newark, Delaware.



Purpose: Vessel preparation (VP) prior to application of drug coated balloons (DCB) is increasing in clinical importance. VP should improve acute results of DCB, decreasing dissections and limiting stenting. VP should also provide an optimal environment for drug-uptake which could potentially lead to better long-term outcomes.

Materials and Methods: FLEX Dynamic Scoring Catheter, a non-balloon-based scoring device, was studied as VP prior to DCB. FLEX creates continuous, controlled-depth, longitudinal micro-incisions regardless of lesion length. Retrospective review of 263 real world cases (50 institutes, 74 physicians) was performed. Lesions were prepped by the FLEX, followed by a DCB. Pre-dilation with a plain old balloon angioplasty (POBA) was at operator’s discretion. Angiograms were visually analyzed. Dissection, luminal gain, and opening balloon pressures (lowest pressure required to fully efface the lesion) were the focus of this review.

Conclusion: FLEX Dynamic Scoring Catheter is utilized by interventionalist as VP prior to DCB. A significant luminal gain was achieved observing adequate vessel compliance, measured by low balloon opening pressures. Low rates of dissection were observed, suggesting VP can optimize results compared to angioplasty alone. Further studies are warranted to determine longer-term outcomes and demonstration of improving drug-uptake.

Results	
Number of Lesions	263
Lesion Length (mm)	135
Moderate/Severe Calcium (%)	53
Pre Stenosis (%)	91.7
CTO (%)	45
Luminal Gain Post FLEX (%)	26.6
Opening Pressure (atm)	4.4
Minor Dissections: A (%)	4
Minor Dissections: B (%)	1
Flow Limiting Dissection (%)	0
Residual Stenosis (%)	9.3

****Poster at CVI 2018****

Data on File

