Analysis of Outcomes of Drug Coated Balloon Use for Symptomatic Femoropopliteal Arterial Disease Treatment

Mohammad M. Ansari MD 1, Daniel C. Garcia MD 2

1Texas Tech University Health Science Center
Division of Cardiology
Lubbock, TX
2John Ochsner Heart and Vascular Institute
Ochsner Medical Center
New Orleans, LA

Introduction
The use of balloon angioplasty for femoropopliteal arterial disease treatment is limited by the restenosis events and need of lesion revascularization. Paclitaxel drug can add the benefit of improving vessel patency and restenosis. We did a meta-analysis comparing paclitaxel drug coated balloons (DCB) to uncoated balloon for the treatment of symptomatic femoropopliteal arterial disease.

Methods
We searched Pub Med and Cochrane for all clinical studies that directly compared paclitaxel DCB to uncoated balloon for the treatment of symptomatic femoropopliteal arterial disease. Primary outcome included clinically-driven target lesion revascularization (CD-TLR) and primary vessel patency at 12 months. Secondary endpoints included death, amputations and binary restenosis at 6 months. We used Fixed or Random Effect analysis using the Cochrane Handbook of Systematic Reviews and RevMan 5.2 for statistical analysis.

Results
A total of 9 RCTs provided a total of 1510 patients (DCB: 883 patients; uncoated balloon: 627 patients).

CD-TLR
There was a significant lower CD-TLR in the DCB compared to PTA (9% vs. 29.8%, p< 0.01).

Primary vessel patency
There was significantly more patent vessels in the DCB (71% vs. 47%, p<0.01).

Secondary outcomes analysis disclosed no difference in amputation or mortality rates between both groups.

There was significant less binary restenosis in the DCB group (15% vs. 48%, p<0.01).

Conclusions
Our analysis suggests that DCB’s are beneficial and efficacious in the treatment of symptomatic femoropopliteal arterial disease. Still there was no proven benefit in the reduction of amputation or mortality rates. In-depth analysis through RCT’s is necessary to determine the origin of these discrepancies.

Disclosures
All the authors have no disclosure.