



Vascular Disease

HISTOPATHOLOGIC EVIDENCE OF ADVENTITIAL CUTS PREDICTS RESTENOSIS AFTER DIRECTIONAL ATHERECTOMY OF LOWER EXTREMITY PERIPHERAL ARTERIAL DISEASE: RESULTS FROM A RANDOMIZED, OPEN LABEL, INVESTIGATOR-INITIATED TRIAL COMPARING INTRAVASCULAR ULTRASOUND-GUIDED ATHERECTOMY TO ANGIOGRAPHY GUIDED ATHERECTOMY IN PERIPHERAL VASCULAR INTERVENTIONS FOR TASC'S A, B LESIONS (UTOPIA) PILOT STUDY

ACC Moderated Poster Contributions

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Background: Although effective, directional atherectomy of lower extremity peripheral arterial disease (PAD) is limited by frequent restenosis. Histopathologic correlates of restenosis and the impact of deep cuts into the adventitial layer of the vessel wall on risk for restenosis is not known.

Methods: We conducted a prospective study of 102 patients with lower extremity peripheral arterial disease (PAD) undergoing directional atherectomy. The presence of adventitial cuts was determined by histopathologic analysis of atherectomy specimens. Restenosis was defined as greater than 60% stenosis by duplex ultrasound. Clinical follow-up with ultrasound was performed at 3, 9 and 12 months in all patients.

Results: Adventitial cuts were identified in 55 (54%) of patients. Baseline demographic and clinical features were similar between groups. There were no differences in lesion length (59.6 ± 15.0 mm vs. 57.4 ± 16.9 mm, $p=0.49$) or vessel run-off (1.9 ± 0.65 vs. 1.9 ± 0.62 , $p=0.81$) between patients with and without adventitial cuts, respectively. The overall one-year incidence of restenosis was 62% and was significantly higher in those with vs. without adventitial cuts (96.4% vs. 14.9%, $p<0.001$, Figure). Final results after independent vascular lab adjudication will also be presented.

Conclusions: Vascular injury as assessed by adventitial cuts seen on at the time of atherectomy for lower extremity PAD is strongly related to risk for restenosis at one year.

