12-month Duplex Patency and MRA Following OCT Guided Atherectomy: Single Center Prospective Case Series

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Background

Optical coherence tomography (OCT) guided CTO crossing and atherectomy enable luminal crossing and therapy. OCT allows for extensive plaque removal with efficient cutting precision, minimizing the trauma to the arterial wall. The safety benefits of OCT guidance were recently reported with zero perforations or dissections in the VISION trial, and a 6.5% TLR rate through 6 months.

Results

Average lesion length across entire cohort was 10.3cm. In all patients lesions the clinically driven TLR rate was 5.7% and 12% at 6 and 12-month, respectively. In CTO lesions, the TLR at 6 and 12 month was 8% and 14%. Primary patency (PSVR<2.4) at 6 and 12 month was 89% and 86% for all lesions, and 92% (6 month) and 81% (12 month) for CTO lesions. Ankle Branchial Index (ABI) increased from 0.77 at baseline to 1.05 at 12 month.

Conclusions

Our single center experience demonstrates a quick learning curve with favorable safety and efficacy outcomes at 12-months.

Methods

In this case-series, 30 patients (35 lesions) were treated between July and December 2015 using OCT guided directional atherectomy (Pantheris Catheter). 19 patients (21 lesions) presented as chronic total occlusions (CTOs), crossed using OCT guided CTO crossing (Ocelot Catheter). Patients were followed at baseline, 30 days, 6 and 12 months post revascularization.