



Atherectomy for Peripheral Interventions: Evidence and Clinical Considerations

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Dr Secemsky and coauthors, in their paper “Outcomes in Patients With and Without Chronic Limb-Threatening Ischemia: A Systematic Literature Review on Atherectomy for Peripheral Interventions”, must be commended for providing an extensive literature review on the results of atherectomy for peripheral interventions. A review of the document leads to several observations. Definitive conclusions remain elusive as most of the publications in the review (89%) were observational, with only 8.3% from randomized studies. Many of the included publications and meta-analyses that showed favorable results came largely from heterogeneous datasets, frequently of a non-randomized design, and oftentimes with manufacturer involvement. These are all factors that introduce potential bias. The high use of atherectomy in the outpatient setting in some geographies for claudication remains a matter of concern.

The review points out the lower 12-month patency of atherectomy for claudication (68.4%) as compared to chronic limb-threatening ischemia (CLTI) (76% to 82.8%). In light of current guidelines from the Society for Vascular Surgery, the American Heart Association, and the Society for Interventional Radiology, which do not recommend atherectomy as routine therapy for claudication, the current review adds additional uncertainty regarding the benefit relative to risk, cost, and alternative therapies for claudication. Additionally, an updated Cochrane review concluded that atherectomy shows no clear improvement in primary patency, mortality, cardiovascular events, or reintervention compared to angioplasty.¹ This Cochrane review is a rigorous, unbiased analysis that also does not support a strong clinical advantage for use of atherectomy in claudication. In summary, for patients presenting with intermittent claudication, atherectomy should not be considered initial, routine therapy. We believe that atherectomy should be used in carefully selected cases with specific anatomic challenges after structured exercise and medical therapy have failed.

The review does support justifiable use of atherectomy in patients presenting with CLTI, especially in the clinical settings of long, heavily calcified lesions, balloon uncrossable occlusions, and some cases of in-stent restenosis. Even in these cases, alternatives such as intravascular lithotripsy (IVL) may be less traumatic to the vessel, but also for the use of IVL in the setting of CLTI evidence from randomized controlled trials is missing. In the matter of routine vessel prep with atherectomy followed by drug-coated balloon angioplasty or stenting, the evidence of improved outcomes remains less convincing. By the authors' own admission, “more data is needed on the use of atherectomy in patients with CLTI, particularly real-world evidence that reflects a diverse range of patients, lesions, and operator experience”.

Decision-making in peripheral vascular interventions can be a complex process requiring careful consideration of patient and lesion characteristics. Atherectomy is only one tool in the toolbox of the endovascular specialist, and judicious use of this technology holds the promise of improved outcomes. More well-controlled studies are necessary to truly define the precise role of atherectomy in the treatment of peripheral arterial disease.

Reference

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