VDM VASCULAR DISEASE MANAGEMENT

INTERVIEW

A Literature Review of Atherectomy for Peripheral Interventions

An Interview With Eric Secemksy, MD

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September 2025
ISSN 2152-4343

VASCULAR DISEASE MANAGEMENT. 2025;22(9):E70-E71

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At the 2025 Amputation Prevention Symposium, *Vascular Disease Management* spoke with Eric Secemsky, MD, from Beth Israel Deaconess Medical Center in Boston, Massachusetts, to talk about his presentation entitled “Outcomes in Patients With and Without CLTI: A Systematic Literature Review on Atherectomy for Peripheral Interventions”. Below, Dr Secemsky discusses the content of his literature review, what the data reveal about atherectomy for patients with and without chronic limb-threatening ischemia (CLTI), and how clinicians can use this information in practice.

Could you walk us through your inclusion and exclusion criteria for the literature review and how that affected the overall quality and size of the evidence base you analyzed?

Our original meta-analysis included more than 300 studies; we were trying to be inclusive, so the goal was to capture original investigations with any type of study design (cohort studies, observational studies, and randomized trials, while avoiding single-case series), but really any English language study that was published within the last 30 years and is a thorough investigation of atherectomy-based treatment for peripheral vascular disease was included. So that was the foundation of studies that we worked with. For the late-breaking study that we presented here at AMP 2025, we focused on separating those studies based on whether they clearly defined patients with CLTI vs claudication. With these criteria, we narrowed down the articles to just under 200 studies that really focused on CLTI.

In your literature review, did you find significant differences in procedural success, limb salvage, or restenosis rates between CLTI and non-CLTI cohorts treated with atherectomy?

I think what was most impressive was that CLTI patency rates and target lesion revascularization rates approximated claudication rates; in some sense, you can think that atherectomy is helping make the CLTI population look more like the common peripheral vascular population. Overall, the 2 populations had very similar outcomes across studies. The only difference, which we expected to see, was a slightly higher rate of amputation and death in the CLTI-based cohorts.

Were there notable variations in outcomes based on the type of atherectomy device used or the lesion characteristics common to the CLTI population?

That’s a great question. Currently, we have not done a device-based assessment yet; that’s on the docket. We did this for the full meta-analyses of all studies, and we did see some device variation by different classifications of atherectomy platforms. For CLTI, we really were focusing on understanding how atherectomy was being used, and how the available evidence supports its use, in this important population. We did report both the frequency of below-the-knee (BTK) and above-the-knee lesions. Obviously, more BTK lesions are present in the CLTI population. We also noted that lesion length, TASC criteria, and classification of total occlusions were all markedly higher in the CLTI population, as expected.

What are the key takeaways for clinicians when deciding whether to use atherectomy in patients with vs without CLTI, based on your findings?

I think our data help support that, first, there is evidence for using atherectomy, despite peoples' commentary that the evidence does not exist. It may not be the evidence that everyone is looking for, ie, a large-scale randomized trial, but there are a lot of data out there that can be used to support clinical practice. Second, I think our data indicate that atherectomy safely improves patency outcomes. We did not find any evidence of increased safety events, and actually saw a pretty reasonable bailout stenting rate of less than 5%, which is, on average, lower than what we would see in a more claudicant population (typically 10%, or even higher in some trials). Our overall take-home is that there are data for atherectomy; the data uphold the safety and efficacy of this device; and if you think atherectomy is the best option for your patient because they have very calcified lesions and your goal is to avoid stenting if possible, then this is the right device to use as an adjunct for revascularization. ■