

Dierk Scheinert, MD

The LINC course director and dedicated trial investigator discusses the evolution of the LINC meeting, therapies for difficult peripheral cases, and some of the novel technologies currently being studied.



In terms of treating lower extremity disease, is the pendulum of popular practice swinging more toward one particular gold standard therapy, or does treatment remain based on a device-by-device or case-by-case basis?

Over the last few years, we've certainly seen tremendous developments in terms of interventional techniques and devices for endovascular applications. There has been an evolution of stent devices, which are now considered to be an established tool for endovascular procedures. We've seen drug-eluting stents become available for treatment of the peripheral arteries and most recently, particularly in Europe, the use of drug-eluting balloons. I think the latter has the potential to bring endovascular procedures a step forward because they allow a biologic treatment for reducing restenotic processes. This tool has changed peripheral artery treatment to a large extent and has a growing utilization rate.

Generally speaking, the treatment decisions for peripheral arteries will remain patient specific and lesion specific, as each presents different disease states (eg, claudication vs critical limb ischemia) and different vascular beds that have unique requirements and specific needs. Therefore, I believe that physicians will continue to make meaningful choices for each individual patient in order to provide optimal treatment.

What are the best options available for treating heavily calcified lesions or recurrent fibrotic lesions?

The challenge of treating heavily calcified lesions has recently been discussed, as we become more and more aware of this specific situation, which presents certain challenges for therapy. There have been attempts at finding treatment algorithms to tackle this issue. Atherectomy is one example that is evolving and seems to be effective in removing calcified plaque.

Personally, I still believe that stenting is a straightforward, easy solution to this problem and has great potential for this use. Specialized stent designs have become available, such as an interwoven nitinol mesh stent (Supera, Idev Technologies, Inc., Webster, TX), which we have used extensively in our clinical setting for very tough calcific lesions.

Can you tell us about your experience in using endovascular brachytherapy with liquid beta-emitting rhenium-188? What has been its optimal application?

We had the chance to set up a clinical program using rhenium-188 as a source of brachytherapy, specifically for the peripheral arteries. The advantage of this technique is that, by filling a balloon with this liquid rhenium, which is a good emitter, there was a possibility of overcoming some of the historic challenges of brachytherapy use in the peripheral arteries. These include centering of the source and delivering a high dose density to the vessel wall in a relatively short amount of time.

We've seen that these treatments, which we have used specifically in patients with high restenosis risk (eg, those treated for in-stent restenosis or with long femoral lesions), have provided very encouraging results. We published our findings of very low restenosis rates at 1 year. All of our late follow-up, which we are currently in the process of conducting, indicate that the results remain very positive.

The problem is that the therapy has not gained traction in a sufficient number of centers due to approval challenges and, maybe, reimbursement challenges. This is why, at the moment, the therapy is no longer available in Germany. Perhaps it will resurface at a later time.

As more data are revealed about the amount of thrombus released during lower limb procedures, do you think that protective precautions will become standard practice in high-risk settings (eg, complex lesions with calcified or thrombotic material and/or lesions with high plaque burden)?

I think the release of thrombus or small particulate emboli during procedures is probably an under-reported problem. This is particularly true for patients with more challenging lesion subsets and with the use of more advanced technologies like atherectomy devices. I think that for selected patients, distal protection may indeed become a therapeutic standard. However, the challenge is to always make sure that you can identify the patients who will need this extra precaution up front. I believe we are making progress in that area, though.

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In light of recent data, what is the next hurdle that renal artery denervation must overcome to remain a viable option for the treatment of hypertension?

Renal denervation therapy is certainly an exciting new therapy modality, particularly because it enables us to treat a new type of disease state with a catheter-based approach. As physicians, our patients, and certainly our industry partners, are highly excited about this treatment. There are a lot of different technologies evolving and becoming commercially available in Europe. At the same time, I have to say that, currently, clinical evidence is only available regarding a small subset of patients, which are those with therapy-refractory hypertension, and with the recent announcement of the unfavorable SYMPPLICITY HTN-3 results, even that indication may need more data to prove its validity.

Even with this indication, we are currently focused on a relatively narrow subset of patients, and it can become somewhat crowded in that space in terms of different technologies. I think that the major challenge going forward will be performing meaningful clinical trials in order to identify the potential role of renal denervation in a broader spectrum of patients.

Finally, there is also the remaining uncertainty about the long-term effects or side effects of this treatment on the vascular level, but also on a systemic level. So, if we carefully watch those long-term data, we can gain acceptance of the therapy among referring physicians and patients.

Have you used baroreflex sensitivity testing for renal denervation patient selection?

No, I have not personally used this tool, but I think it's important to improve the quality of data we collect from the patient on the sympathetic nervous system activation state. This is important for patient screening, as well as to measure the effect of therapy during the procedures. We need more insight into how we can get better feedback to help identify the best candidates for this procedure and to make sure we can evaluate the quality of the treatment.

How has LINC evolved over the years since its inception in 2005?

Our 2014 LINC meeting marks the 10-year anniversary of its inception. So, we are looking back on the very positive development and success of our concept to establish a practical multidisciplinary platform for vascular specialists. We've seen a yearly growth in attendance, and this year, we welcomed more than 4,500 attendees. The core format of the LINC course is live, case-based education, so the increasing size of the meeting can begin to have drawbacks, as the lecture halls can get crowded. However, we have tried to address this issue with differentiated session topics and styles to make sure that we provide enough room to hold these activities and encourage audience interaction. Specifically, we have set up discussion forum-type arenas where controversial topics can be discussed.

Because we have extended our activities beyond Europe to educational activities in other parts of the world, we also see more international attendees coming to LINC. We have set up a Global Experts Exchange Forum, which, over the course of the meeting, allows experts from all over the world to discuss their research and challenging cases with fellow international experts. We believe this will enhance the international experience of the meeting.

What are some of the unique aspects of designing courses for the LINC Asia-Pacific meeting?

I think the basis for these activities was that our team became involved in a number of activities, particularly in the Asian region, where we helped dedicated centers build up their peripheral programs through proctoring activities. Based on these experiences, we got the impression that there was an obvious need for education, specifically in terms of peripheral intervention, and we wanted to help physicians set up and grow these programs. These countries have a high demand for endovascular therapies due to the increasing prevalence of peripheral artery disease, diabetes, and related conditions.

I think we also understood that the need for education is at least in part different from what is needed in other countries where this therapy is more established (ie, Europe and the United States).

The idea was to create a local platform to discuss challenges on a regional level. This allows easier access for attendees and faculty to the meeting from a travel perspective. We see the value of this type of international exchange platform in the Asian region, with more and more local experts getting involved to share their research results and evolving endovascular intervention skills.

At first, I think the Asian physicians needed some time to understand why an international platform would be useful. A lot of the previous activities were more locally based (in-hospital teaching, etc). With the increasing development in the field and the growing experience of the practitioners, there are more research data available to share. They are now becoming interested in this type of forum, and there has been more demand for an exchange of ideas with other neighboring Asian countries, as well as with international experts. ■

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