Dr Kaufman. Did you look at the influence of obesity? In the United States we have a problem with higher weight in our patients than you probably have in Austria and that would lead to parallax error. Have you had that problem?

Dr Linni. The body mass index was similar in both groups. And you are right, our patients seem to have less of a weight problem than yours.

Dr Munier Nazzal (*Toledo, Ohio*). You mentioned that there was no difference between both groups when it comes to surgical time. How do you explain that there was no difference in the surgical time between both cases although you were searching for a vein?

Dr Linni. Same time in both groups, indeed.

Dr Nazzal. Well, how do you explain that if you spent time searching for a vein . . .

Dr Linni. We cannot explain this finding. But we also expected a longer operative time in patients without preoperative DVM. In the end, we were surprised about the result, but it is consistent with the findings of other authors.

Dr Manikyam Mutyala (*Brooklyn, NY*). I agree with you regarding getting the duplex examination preoperatively. You also have to do it in the operating room, because after general anesthesia the vein spasm will be gone, and the vein that was reported as thrombophlebitic vein may not be thrombophlebitic. And sometimes if you have no choice of other conduit, you have to explore and see whether the vein is actually good or not. If needed, you can actually do angioscope and see inside also and have extra information.

Dr Linni. You are right, but in the preoperative setting you do not usually have the problem of venous spasm. So DVM at the day before surgery with a relaxed patient should usually detect a thrombophlebitic great saphenous vein.

INVITED COMMENTARY

Joseph L. Mills, MD, *Tucson, Ariz*

The authors should be complimented for their provocative research. Their article raises several points worthy of emphasis, although I am skeptical of its final conclusions. In the endovascular era, it is worth emphasizing that the following truths remain self-evident: leg bypass still plays an important role in lower extremity revascularization, especially for patients on the more severe end of the peripheral artery disease spectrum; best results are obtained with vein grafts; and identifying the best available vein conduit is important because it is the component of lower extremity bypass that is most critical to early and long-term success.

As with much of our infrainguinal revascularization database, high-level evidence is sadly deficient. To their credit, the authors conducted a single-institution, prospective, randomized study of 103 patients undergoing first-time, infrainguinal bypass with ipsilateral great saphenous vein (GSV). Enrolled patients were randomized to duplex vein mapping (DVM) with skin marking (n = 51) vs unmapped and unmarked (n = 52) groups.

The authors detected no differences in mean operative time, incision length, bypass length, minor wound or infection complications, initial hospital length of stay, and graft patency. However, they reported a 10-fold reduction in major surgical site infections (SSIs; ie, those requiring intravenous antibiotics or surgical debridement, or both) and a five-fold reduction in the readmission rate. These would be landmark findings if they could be replicated by larger, multicenter trials.

Several of the reported findings seem peculiar and warrant further discussion. One would have expected DVM to reduce operative time and perhaps incision length. In addition, there were no instances of inadequate vein in the DVM group, and no changes in intraoperative planning resulted from DVM. In contrast, six patients in the no-DVM group had inadequate vein or vein segments requiring changes in intraoperative planning, use of alternative conduits, and presumably, vein splicing. These six patients accounted for most of the major SSI complications. One could argue that poor vein conduit increased the complication rate rather than lack of DVM, and for uncertain reasons, all of the patients with poor conduit were randomized to the no-DVM group.

I certainly support preoperative vein mapping, especially in patients who have had previous operations using GSV. When performing an operation where conduit quality is the major determinant of success, it would seem worthwhile to identify and use the best available conduit before proceeding. Identifying unusable segments (sclerotic and occluded segments, prohibitively small segments) and avoiding their needless exposure seem prudent. Marking the course of the vein on the skin also will likely help avoid undermining and the creation of skin flaps during vein harvest should reduce wound complications. It seems unlikely, however, that DVM will reduce the major SSI complication rate by 10-fold. In fact, it is more likely that poor vein conduit and altering the operative plan increase the frequency of SSI. Nonetheless, there are sufficient data in this provocative report to encourage more widespread use of DVM as an adjunct to leg bypass, but I would doubt larger studies will be able to replicate the dramatic reduction in major SSI and hospital readmission rates identified in this study.