Conquering CLI

For the vascular specialist, there is no greater challenge than the care of the patient with critical limb ischemia (CLI). CLI results from multilevel, peripheral arterial occlusive disease and is a marker of severe, systemic atherosclerosis. Despite all the advances in medical care and vascular reconstruction, CLI is still associated with a very high risk of limb loss and cardiovascular complications leading to premature death. The CLI patient is often elderly, diabetic, and frequently suffers from chronic renal insufficiency or end-stage renal disease. As Michael Jaff, DO, and Giancarlo Biamino, MD, point out in their excellent review in this issue of *Endovascular Today*, CLI is associated with a 1-year mortality rate of 25% and a 3-year mortality rate in excess of 60%. Survival for CLI patients is often worse than for patients with common malignancies such as breast and colon carcinoma!

Once the diagnosis of CLI is made, arterial reconstruction is often necessary to avoid limb loss. Surgical revascularization with femoropopliteal or distal bypass remains the "gold standard" therapy. The ultimate goal is to restore straight line, pulsatile flow to the foot. Although results vary according to center, for the surgeon skilled in distal bypass techniques, excellent limb salvage rates can be achieved. In the current issue of *Endovascular Today*, two talented vascular surgeons will review some of the difficult issues regarding the surgical management of CLI. Cameron Akbari, MD, will provide some insights into the challenges associated with the diagnosis and treatment of the diabetic patient with CLI. Richard Neville, MD, will review some of the innovative techniques now being employed in lower extremity arterial reconstruction, to include methods for dealing with the patient with no autologous vein.

Despite the good results that have been demonstrated for surgical bypass, this procedure is associated with significant morbidity and mortality. In addition, many patients are not good candidates for surgery due to absent or poor distal targets, lack of venous conduit, or significant medical or cardiac comorbidity, rendering them high risk for surgery. For this reason, there continues to be considerable interest in less-invasive, endovascular approaches to the treatment of CLI. Percutaneous transluminal angioplasty (PTA) has been shown to work well for focal stenoses or occlusions in the tibial arteries, but the results have been disappointing when this technique is applied to long-segment stenoses/occlusions or diffuse disease. There is renewed interest in alternative modalities such as cutting balloon, atherectomy, excimer laser, and stents for these more complex lesion subsets. Thomas Zeller, MD, and Dierk Scheinert, MD, from Germany, participated in the Laser Angioplasty for Critical Limb Ischemia (LACI) trial. They will review the results of the LACI trial and provide their perspective on the role of excimer laser for the treatment of CLI. Once taboo, stents are now being used with greater frequency in tibial arteries as a primary modality and for suboptimal results after balloon angioplasty. Dr. Biamino will also present some provocative data from Europe with regard to tibialperoneal stenting.

Despite all of this talk about lower-extremity revascularization, if we are to have an impact on the long-term survival our patients with CLI, greater effort will need to be focused on the root cause. Aggressive risk factor modification including smoking cessation, lipid lowering, hypertension control, strict glycemic control, weight loss, and exercise must be the cornerstone of our therapy. Clearly, we have our work cut out for us. ■

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