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<http://dx.doi.org/10.1016/j.jtcvs.2012.09.077>

EXTENSIVE LEFT ANTERIOR DESCENDING ARTERY ENDARTERECTOMY AND RECONSTRUCTION

To the Editor:

We congratulate Myers and colleagues¹ for their recent article regarding extensive endarterectomy and reconstruction of the left anterior descending coronary artery (LAD). Our group² previously reported the technique of using the internal thoracic artery (ITA) as an onlay patch after an extensive LAD endarterectomy, and we consistently use this technique whenever we encounter diffuse LAD disease that cannot be treated by conventional revascularization techniques. In cases where the left ITA is not adequate because of the extent of the endarterectomy, we use a saphenous vein onlay patch over the endarterectomized vessel and then graft the left ITA onto the hood of the vein patch.

Of 1571 patients undergoing coronary endarterectomy, 368 patients underwent endarterectomy of the LAD (23.4%). Of these, 212 patients received a left ITA graft: 184 patients with a left ITA onlay patch and 28 with the left ITA anastomosed onto the hood of a saphenous vein onlay patch. We have had excellent results with both of these techniques. Among the 89 patients who underwent angiography, the LAD was patent in 81%.

We have used another option in patients with diffuse coronary artery disease and small vessels. Twenty-four patients underwent transmyocardial laser revascularization with a high-energy carbon dioxide laser³ in addition to bypass grafting and

endarterectomy of the LAD. They received 8 to 24 channels, with a mean of 10.8 channels per patient. We have found transmyocardial laser revascularization to be a useful adjunct to bypass grafting and endarterectomy in patients with diffuse and small vessel disease,^{4,5} with an 80% reduction in angina. Of late, in addition to extensive endarterectomy and left ITA onlay patch, 3 patients have received stem cell implants on either side of the LAD segment that was grafted.

We commend Myers and colleagues¹ for their results, and we take this opportunity to emphasize the option of endarterectomy for tackling diffuse coronary artery disease.

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<http://dx.doi.org/10.1016/j.jtcvs.2012.09.082>

Reply to the Editor:

We thank Keshavamurthy and colleagues for their positive and interesting comments on our report on extensive endarterectomy and reconstruction of the left anterior descending coronary artery.¹ We are aware of their earlier study,² which provided excellent angiographic data (81% patent left anterior descending coronary artery in 89 patients) in a subset of their extensive patient population.

We also thank Kato and colleagues for their comments on our report and for providing us with the opportunity to address key issues relevant to the understanding of this technique. We are aware of their recent publication.³ Unlike our study, only 33% of their patients required an endarterectomy. We therefore think that their patient population is totally different from ours, which explains the better 10-year survival. We nonetheless congratulate them on their excellent results, and we agree that identifying the causes of death will enhance our knowledge about this complex group of patients. Unfortunately, we do not have the data on the specific causes of death, but rather only all-cause mortality, as provided by the Social Security Death Index.

Regarding the use of a saphenous vein patch, this technique was only used in select patients, as outlined in our article,² in whom the endarterectomy required a long arteriotomy to complete the extraction of the atherosclerotic core. In these patients, we were concerned about the length of the left internal thoracic artery (ITA) pedicled graft, and we instead chose to use a vein patch onto which a left ITA was grafted. Although venous graft disease and the superiority of standard left ITA–left anterior descending coronary artery anastomosis are well documented, there are relatively few data on the fate of vein patches used in conjunction with left ITA grafts. We believe that a pedicled ITA graft has the ability to