high-pressure intralumenal distension and vascular trauma.[4] In addition, damage to the vasa vasorum will reduce the transmural blood supply, a condition shown experimentally to cause neointimal hyperplasia.[4] The cushion of fat surrounding the vein plays an important role in the improved performance of no-touch SV; it provides mechanical support, buffering against arterial hemodynamics once implanted into the coronary circulation.[3] Also, perivascular adipose tissue (PVAT) is a source of adipocyte-derived factors beneficial to graft performance.[5] For example, a recent study has shown that PVAT-derived prostanoids possess anticontractile activity against noradrenaline-induced contraction of human SV and ITA segments in vitro, suggesting that retaining this pedicle in both conduits may have potential clinical implications to improve coronary bypass graft patency.[6]

We recognize that, whereas the aforementioned observations relate to comparison of SV segments at the time of harvesting, the pathophysiologic changes following graft implantation are unclear. Such changes are outlined in a recent review describing those events that occur immediately after SV grafting, including altered hemodynamics, increased flow, and shear stress. Later processes of vein graft remodeling involve activation of vascular smooth muscle cells and fibroblasts, and development of neointimal thickening and atheroma formation, stages of graft occlusion most common where SV grafts are used to bypass small-diameter coronary arteries.[7]

Although the clinical relevance of the structural changes to the SV caused at harvesting has yet to be established, we recommend including a no-touch SV group in any study comparing conduits used in CABG. When stripping the SV of surrounding tissue and distending the vein we believe that a damaged graft is being used in an attempt to repair a damaged heart.

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SAPHENOUS VEIN GRAFT HARVESTING AND PATENCY: STILL AN UNANSWERED QUESTION

Reply to the Editor:

In their letter on our recent work,[1] Loesch and colleagues underline the importance of the saphenous vein (SV) harvesting technique, supporting the superiority of no-touch technique with surrounding soft tissue over the traditional approach, including dissection and manual distention.[2] The success of coronary artery bypass grafting is still limited by unsatisfactory SV graft patency because of the high incidence of thrombotic early graft occlusion, progressive intimal hyperplasia, and late graft atherosclerosis.[3] A greater use of arterial grafts has been advocated in view of their observed better patency rate; however, additional arterial grafts remain largely underused as the result of their increased technical complexity and risk of sternal complication when using bilateral internal thoracic arteries.[4]

Basic science and clinical research has focused on several methods that have the potential to improve SV graft patency, including the no-touch harvesting technique.[2] SV usually is stripped of its adventitial layer and distended to overcome spasm, a procedure known to cause vein intima and medial wall damage.[3] By using a no-touch technique, the SV is harvested with a pedicle of surrounding tissue and can be implanted without the need for previous distension. This has the potential to preserve vessel wall integrity, thus improving SV patency rate. Samano and colleagues[2] recently have reported a 16-year follow-up angiography study of 44 patients randomized to conventional SV harvesting ($n = 27$) versus the no-touch ($n = 27$) technique. Crude SV graft patency was 64% in the conventional group versus 83% in the no-touch group ($P = .03$). The main limitation of this study, however, was that the SV conventional group underwent aggressive manual distention with saline at 300 mm Hg for 1 minute whereas in the no-touch group, the SV was connected to the arterial cannula. Therefore, we are unable to establish whether the observed superior patency rate in the no-touch group was related to the presence of surrounding tissues or to the avoidance of overdistention. The effect of mechanical force damages

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on vein graft integrity has been demonstrated previously by our group, and we reported a technique that preserves endothelial and media viability.[3] The SV is harvested with a no-touch technique but without surrounding soft tissue, and overdistention is avoided by connecting the SV to the arterial cannula and allows the vein to distend at the patient's own arterial pressure.

In a recent randomized study of on- versus off-pump coronary surgery where a no-touch technique was used without the surrounding pedicle tissue, we reported a SV patency rate of 89% at 8 years' follow-up.[5] We also found that by using this approach, long-term survival was similar in patients receiving SV or radial artery in the context of bilateral internal thoracic artery grafting.[1] In conclusion, although every effort should be made to avoid SV damage and overdistension during harvesting, the role of no-touch technique and surrounding soft tissue still needs to be clarified. Despite preliminary promising data, this technique currently remains largely underused because of the potentially increased risk of surgical-site infection in the leg. A randomized clinical trial investigating the effect of pressure distention and no-touch soft tissue pedicle harvesting on SV on medial-intimal proliferation at 1-year follow up using intravascular ultrasound has just been completed in our institution, and it is expected to report in the next few months.

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MANAGEMENT OF N2 NON–SMALL CELL LUNG CANCER

To the Editor:

We commend Yang and colleagues[1] on their recent article in the *Journal* evaluating long-term outcomes after surgery for unsuspected ipsilateral mediastinal nodal metastases (N2) in non–small lung cancer (NSCLC). The treatment of N2 disease is controversial, with various options recommended by different guidelines. This study lends considerable data to support the recommendation that when occult N2 disease is recognized at thoracotomy, the most appropriate option is probably to go ahead with surgery and administer postoperative chemotherapy. Taking this a step further, is there really strong evidence to suggest that neoadjuvant chemotherapy (NACT) followed by lung resection is actually superior to upfront surgery followed by postoperative chemotherapy, even in the setting of preoperatively diagnosed N2 disease? All the studies supporting NACT for N2 disease used surgery alone as the control arm.[2] In the current era, in which the standard of care for operable NSCLC is surgery followed by adjuvant chemotherapy, we wonder whether we need a reexamination of the need for NACT (as opposed to adjuvant chemotherapy) in N2 disease.

Two meta-analyses[2,3] evaluating the outcomes of NACT in all (stages I-IIIA) as well as N2 NSCLC arrived at almost identical 5-year survival benefits of about 5%; incidentally, this is also identical to the 5% survival benefit seen with adjuvant chemotherapy in operable NSCLC.[4] Although we are acutely aware of the perils of comparing results across trials (or meta-analyses!), there seem to be some data to suggest that outcomes with these two strategies could be similar even for N2 NSCLC. Let us assume for a moment that the hypothesis that postoperative chemotherapy would have equivalent survival to that seen with NACT in the setting of proven N2 NSCLC is true; if so, this would obviate the need for accurate mediastinal staging before lung resection in a large number of patients. The longstanding controversy as to whether endobronchial ultrasound or mediastinoscopy is superior would be buried as a clinically irrelevant question, and implications for resource saving (cost, operating room time) would be enormous. The argument that N3 nodal metastases would need to be ruled out is only theoretic, because the incidence of occult N3 nodes in otherwise operable NSCLC is remarkably low when the positron emission tomographic–computed tomographic scan does not indicate metastatic disease. The role of endobronchial ultrasound and mediastinoscopy would then be reserved for the small proportion of patients with increased uptake in contralateral mediastinal lymph nodes.