Dr. Raffaele Pulli and colleagues have demonstrated that completion carotid arteriography following carotid endarterectomy offered no benefit in their 914 prospectively evaluated patients. The low immediate stroke rate and 30-day stroke and death rate are testimony to the technical excellence of Dr. Pouli and colleagues. They convincingly demonstrated that completion carotid arteriography had nothing to do with their excellent results.

Unfortunately, the technique of completion carotid arteriography continues in selected centers in Europe and the United States and it carries risk. What is unfortunate is that radiographic imaging is frequently substandard in the operating room. The imaging technique is often not reported in published manuscripts nor is the quality of the image intensifier. In the majority of arteriograms, only one view is obtained, and magnification views are notably absent. Important information in rare cases is obtained by the intracranial images; however, most vascular surgeons are unfortunately not prepared to act upon the intracranial findings. The focus of attention in the overwhelming majority of patients is the cervical (operated) carotid artery.

Interestingly, when vascular surgeons are queried regarding the information they wish to obtain, it is clear that duplex imaging will provide greater detail, magnify images, add the hemodynamics of flow in the carotid circulation, and offer generous views of the common carotid clamp site and below. During our initial 12-month period of completion carotid duplex imaging, I found unsuspected common carotid plaque fracture with dissection in 3 patients at the common carotid clamp site. This may well have been missed by completion arteriography, depending on the technique. Expedient correction by extension of the endarterectomy proximally almost certainly avoided a neurologic complication. These findings highlight the importance of the common carotid clamp site as a potential source for operative neurologic complications and emphasize the appropriate positioning of the common carotid clamp, depending upon the distribution of plaque. This is an important additional observation, since most vascular surgeons are focused on the internal carotid. In reality, the endpoint of endarterectomy should be well visualized at the time of closure with good preservation of the lumen.

Intraoperative quality control is a concern for all vascular surgeons. I suggest that maximal intraoperative quality control be offered to all patients. This begins with preoperative aspirin, intraoperative dextran infusion (except in patients with congestive heart failure or borderline renal function), generous anticoagulation with heparin, selective shunting (as performed by the authors), patch closure in all patients (however, avoiding Dacron patches), completion carotid duplex, and heparin reversal at the completion of the procedure.

The authors are to be congratulated on their fine results and for bringing this important information to the vascular surgery community. This robust database should terminate a technique which should have been replaced by completion carotid duplex years ago.

**Reference**


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