Benefits of Staged Carotid Stenting Before Cardiac Surgery: a Randomized Trial Is Unwise

To the Editor:

We congratulate Dr. Randall and coworkers for the low incidence of neurological complications described in their article focused on a staged “hybrid” approach, consisting of carotid stenting before cardiac operations in patients with concurrent disease.1 We applied a similar strategy in 21 selected patients with no death or permanent stroke and would like to point out several aspects related to this specific issue.

In the authors’ experience, 49/52 consecutive patients underwent staged revascularization. Three remaining patients died of cardiac causes while awaiting for cardiac surgery, 24, 56 and 59 days after carotid stenting, respectively, accounting for a 5.8% mortality rate. More specifically, 1 death occurred within 30 days in a patient with multiple high-risk cardiac conditions (coronary artery disease, aortic valve disease, heart failure), whereas 2 deaths occurred almost 2 months after stenting: all deaths might thus have been avoided by not delaying myocardial revascularization. Although unstated, the interval between the procedures (2 to 60 days) could be dictated by bleeding risk considerations. In this respect, patients are possibly at relatively low-risk during the first month after stenting, ie, while on a double antiplatelet regimen (this applies to 82.7% of patients). The cardiac operation should thus be preferably planned immediately after discontinuing antithrombotic drugs, or on a more urgent basis in higher-risk patients, despite a higher incidence of postoperative bleeding. Interestingly, a similar strategy, including percutaneous coronary intervention and valve surgery within 2 weeks, has been suggested to reduce the operative risk in patients with complex coronary/valve disease.2

Indications for preoperative duplex ultrasound varies according to the operating cardiac surgeon. The authors correctly indicate this as a potential bias, but do not state how many patients (if any) were not assessed because of a clinical cardiac priority (unstable angina, left main disease, etc), and what was the incidence of neurological complications. Although only a minority of patients (7.6%) showed cerebrovascular symptoms during the preceeding 6 months, it is probably unwise not to screen higher-risk populations (older age, diabetes, peripheral vascular disease, unstable angina).3–5 Furthermore, the potential role of off-pump coronary revascularization, which likely reduces the incidence of neurological and bleeding complications,6 is not discussed. In fact, most of our cardiac operations after carotid stenting (13/21, 61.9%) were performed with this technique.

This represents a consecutive series. Thus, no carotid operation was performed in cardiac surgical candidates since 1998. According to the authors, the usefulness of stenting before cardiac surgery, versus staged or concurrent carotid endarterectomy, would help to limit “additional workload” with “overstretched vascular services.” However, 49 procedures during a 7-year interval imply 7 operations/year at the authors’ institution, which represent an insignificant procedural increase for a cardiovascular surgical department. Also, carotid surgery in combined operations is commonly performed by cardiac surgeons at many institutions.

In conclusion, a staged “hybrid” approach provides low neurological complication rates and is particularly appealing in patients with comorbidities. However, patients are exposed to higher overall cardiac risks by delaying surgery. Cardiac operations alone and staged revascularization with prior stenting are possible options, but we disagree that a randomized trial is warranted to compare outcomes because other alternatives, including shorter delays between staged procedures, or staged/concomitant surgery, represent equally important “graytones” in a broad spectrum of therapeutic solutions.

Disclosures

None.

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