LETTERS TO THE EDITOR

Regarding “Predictors of neck bleeding after evasion carotid endarterectomy”

We noted with interest the recent study by Baracchini et al,1 which reports a single-center, single-surgeon experience of evasion carotid endarterectomies (CEA) and factors associated with increased perioperative bleeding complications, including re-exploration for bleeding. The study concludes that preoperative treatment with clopidogrel, when used either alone or combined with aspirin was associated with an increased incidence of bleeding. The authors additionally conclude that aspirin and ticlopidine, when used alone preoperatively were also associated with an increased incidence of neck hemorrhage following CEA. Review of the study sample, however, reveals that only 110 patients were taking clopidogrel alone within 1 day of surgery and that only an additional 10 patients were taking combined therapy (clopidogrel + aspirin). Furthermore, only 95 patients were taking aspirin alone at the time of CEA, making definitive conclusions regarding these commonly used antiplatelet agents more difficult.

By comparison, in a recent study by the Vascular Study Group of New England,2 we evaluated 5264 carotid endarterectomies, performed by 66 surgeons treated at 15 academic and community centers. We found that preoperative aspirin (asa; n = 3823), clopidogrel (n = 147), or dual antiplatelet therapy (asa + clopidogrel; n = 708) use was not associated with any increase in re-exploration for bleeding after CEA (asa 1.2%, clopidogrel 0.7%, asa + clopidogrel 1.4%; P = .84).2 Based on this data, we do not believe that aspirin or clopidogrel increases serious bleeding complications and it remains our practice to routinely perform CEA in patients taking antiplatelet therapy at the time of surgery, for which there is sufficient evidence from both randomized controlled trials and our study group to justify therapy given their impact on reducing stroke.2

The different conclusion reached by Baracchini et al could also relate to their nonuse of protamine to reverse heparin during CEA, potentially amplifying bleeding risk if antiplatelet agents are also being used. Our data has previously shown a significant decrease in re-exploration for bleeding after CEA (n = 4587) when protamine is used, independent of antiplatelet agents (protamine 0.64% vs no protamine 1.66%; P = .001).1 Accordingly, we believe that recent studies support the safe use of both antiplatelet therapy at the time of CEA and the use of protamine to reverse heparin intraoperatively.

David H. Stone, MD
Philip P. Goodney, MD
Brian Nolan, MD

Section of Vascular Surgery
Dartmouth-Hitchcock Medical Center
Lebanon, NH

REFERENCES


Reply

We thank Drs Stone, Goodney, and Nolan for expressing their interest in our article and giving us the opportunity to reply to their letter and further clarify some issues of our study.1

Drs Stone, Goodney, and Nolan believe that the number of our patients continuing clopidogrel (n = 110) or aspirin (n = 95) or both (n = 10) to the day before carotid endarterectomy (CEA) is too small to draw any definite conclusions about the risk of neck bleeding after CEA. Since our preoperative protocol includes the discontinuation of any type of preoperative antiplatelet therapy for 1 week before surgery, it was already expected that only a small percentage of patients would violate this protocol, mainly for their own omission. Therefore, the statistical analysis was performed on this portion of our patient population, and our results show that preoperative treatment with clopidogrel, when used either alone or combined with aspirin, was associated with an increased incidence of bleeding.

In agreement with Drs Stone, Goodney, and Nolan, we are quite aware that our results do not represent a universal law and cannot be exported before a large multicenter prospective trial definitely clarifies this issue. However, we do believe that our results are as significant as those reported in the recently published study by the Vascular Study Group of Northern New England,2 in which clopidogrel was not associated with major bleeding complications. In fact, that observational study has also several limits: (1) it is not a randomized comparison of patients treated with clopidogrel versus untreated patients; (2) patients’ baseline characteristics before and during CEA are not reported; and (3) the results are not controlled for individual surgeon or center effects. Furthermore, the primary endpoint of that study3 was postoperative bleeding requiring reoperation, while in our investigation, we included any clinical signs of neck bleeding after CEA, warranting or not warranting surgical re-exploration. We believe that the different conclusions reached in the two studies could be related to these differences.

With regard to the use of protamine to reverse the effects of heparin during CEA, we are aware of and we quoted the Stone et al recently published article showing that protamine reduces bleeding complications without increasing the stroke risk.3 However, we are still reluctant in applying those results in our everyday clinical practice because of several intrinsic limitations present in the study by Stone et al,4 mainly due to the nonrandomized controlled nature of the trial and, surprisingly, to the absence of neurologists involved in the diagnosis of stroke. No information is given on how that diagnosis was reached, and certainly cerebral magnetic resonance was not performed in all patients in order to...