

Should We Be Afraid of Antiplatelet Treatment before Carotid Endarterectomy?

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Keywords: carotid endarterectomy, antiplatelet treatment

We have read with great interest the article entitled “Carotid Endarterectomy with Routine Shunt for Patients with contralateral carotid occlusion” by Kong et al. in the latest issue of the Ann Thorac Cardiovasc Surg.¹⁾ The authors concluded that carotid endarterectomy (CEA) with routine shunting is an effective and reproducible procedure for patients with contralateral carotid occlusion (CCO) compared to patients without CCO. However, we believe that there are some important issues to be mentioned.

- 1) Antiplatelet drug therapy protocol of the patients is not clear in the section “Materials and methods.” It is believed that antiaggregant therapy is necessary for minimizing the complications which may arise in the early stages of the CEA.²⁻⁴⁾ Furthermore, combined therapy of aspirin and clopidogrel has been shown to be more effective in reducing the number of emboli in the first 3 hours of CEA when compared to aspirin in the transcranial Doppler study.³⁾ On the other hand, the rate of bleeding which needs surgical exploration due to antiaggregant usage is 1%–3% while hematoma is 5%.^{2,5)} This situation may result in prolongation of hospital stay, cranial nerve injury, and infection.⁶⁾ Therefore,

there is no consensus on antiaggregant usage before CEA surgery.⁷⁾ Explanation of antiaggregant use for the evaluation of minor and major complications mentioned in the results section in this study would be helpful.

- 2) In addition, the author reported 2.9% stroke and 2.9% cranial nerve damage in the contralateral occlusion group as a 30-day outcome. In patients without contralateral occlusions, neurologic attack 3.3%, mortality 1.1%, MI 0.8%, cranial nerve injury 4.5%, and hematoma 1.5% have been reported by the authors.

Technical reasons are the major causes of postoperative stroke, which should be within control of the surgeon. Stroke following CEA could be seen in three time periods: during the operation, within the first 48 hours after operation, and within the first 30 days after operation. Each of these periods shows different prevention strategies depending on different etiology. The causes of intraoperative stroke which results from ischemia are carotid cross-clamping, embolization from the endarterectomy site, or unrecognized intraoperative thrombosis of the endarterectomy. Embolization during the endarterectomy procedure caused by extensive manipulation of the carotid plaque or inadequate flushing at the completion of the procedure is the second cause of intraoperative stroke.²⁾ Some authors recommend antiplatelet and statin therapy before surgery in all patients. Combined use of these drugs has been shown to reduce perioperative stroke after CEA.^{4,8)}

Stroke after the procedure usually occurs in the first 24–48 hours after CEA. Embolization and thrombosis from the endarterectomy site are the major causes of postoperative stroke. Surprisingly, high incidence of late (7–30 days) neurologic and cardiac events following

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Received: January 16, 2018; Accepted: April 14, 2018
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carotid intervention was emphasized in recent reports. The etiology of these events could not be explained but the importance of postoperative management, such as blood pressure control and antiplatelet and statin therapy has gained importance.⁹⁾

Capoccia and his colleagues reported the results of 1639 patients with or without CCO who were operated with selective shunt. They performed neurologic imaging to 33 patients who had postoperative cerebral attack in these patients. In the majority of cases, thrombus was detected at the place of CEA while a small portion of these patients has been associated with hypoperfusion or reperfusion injury.¹⁰⁾ So, it is important to explain the time and reasons of complications that Kong et al. have experienced. Since shunt is routinely used in all of their patients, we believe that the necessary investigations in cerebral complications and the explanation of the cause will illuminate the role of shunt in morbidity and mortality.

Disclosure Statement

The authors have no conflict of interest.

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