Efficacy and Safety of Combination Antiplatelet Therapies in Patients With Symptomatic Intracranial Atherosclerotic Stenosis

Symptomatic intracranial atherosclerotic disease is a common cause of stroke worldwide. Based on the results of the Warfarin-Aspirin Symptomatic Intracranial Disease (WASID) trial, aspirin is the preferred antithrombotic agent for the prevention of recurrent stroke. Despite maximal medical therapy, there is still a high rate of stroke recurrence. The Trial of cilOstazol in Symptomatic intracranial arterial Stenosis (TOSS) study demonstrated that the combination of cilostazol plus aspirin was superior to aspirin monotherapy in preventing the progression of symptomatic intracranial stenosis. The TOSS-2 study, presented in this month’s Stroke, is an investigator-initiated randomized double-blind multicenter clinical trial of 457 patients with symptomatic intracranial stenosis of the middle cerebral artery (M1 segment) or basilar artery on MR angiography. All patients took aspirin and were randomly assigned to either cilostazol or clopidogrel. Based on the follow-up MR angiography, cilostazol did not reduce the progression of symptomatic intracranial arterial stenosis (9.3%) compared with clopidogrel (15.5%; OR, 0.61; P=0.092). There was also no significant difference in the prevalence of new ischemic lesions between the cilostazol group (18.7%) and the clopidogrel group (12.0%; P=0.078). Major hemorrhagic complications (0.9% versus 2.6%; P=0.163) were also not significantly different between the 2 groups.

The clopidogrel/aspirin group showed a tendency toward fewer new ischemic lesions with no significant difference in hemorrhagic complications. These results are in contrast to the Management of ATherothrombosis with Clopidogrel in High-risk patients with recent TIA or ischemic stroke (MATCH) study, which showed that the combination of clopidogrel and aspirin has no significant benefit for stroke prevention and has a higher rate of hemorrhagic complications. At the present time, aspirin monotherapy, based on the results of WASID, is the recommended therapy in most cases of symptomatic intracranial stenosis. Further studies are needed regarding the use of dual antiplatelets for symptomatic intracranial stenosis. The preliminary results of the Stenting and Aggressive Medical Management for Preventing Recurrent stroke in Intracranial Stenosis (SAMMPRIS) study may offer further insight into this topic. See p 2883.

Patients With Severe Asymptomatic Carotid Artery Stenosis Do Not Have a Higher Risk of Stroke and Mortality After Coronary Artery Bypass Surgery

Stroke is an extremely unfortunate complication of coronary artery bypass grafting. Its etiology is multifactorial. The carotid artery is one potential source of stroke with potential mechanisms including hypoperfusion from a severely stenotic carotid artery or distal embolization from a carotid plaque. Due to the lack of definitive data on how best to manage these patients, various management strategies exist, including coronary artery bypass grafting alone or staged/synchronous carotid endarterectomy. This study was a retrospective analysis of 878 consecutive patients with carotid duplex ultrasound who underwent isolated coronary artery bypass grafting at a single center over a 7-year period. Patients with severe (≥75%) carotid stenosis (n=117) were older and had a higher prevalence of peripheral arterial disease and heart failure. Patients with severe stenosis had similar rates of in-hospital stroke (3.3% versus 3.6%; P=1.0) and mortality (3.4% versus 4.2%; P=1.0) compared with patients without severe carotid stenosis. The 30-day rate of mortality was also similar between the 2 groups. The results of this retrospective study add to the evidence against routine carotid revascularization for patients with asymptomatic severe stenosis undergoing coronary artery bypass grafting. However, without Level I evidence, the management of these patients must be individualized and based on clinical judgment. See p 2801.

Optimizing Protocols for Risk Prediction in Asymptomatic Carotid Stenosis Using Embolic Signal Detection: The Asymptomatic Carotid Emboli Study

There is a low risk of stroke in medically treated patients with asymptomatic carotid stenosis. Certain subgroups of patients may pose a higher risk of stroke and potentially benefit more from carotid revascularization. One such group is those patients with embolic signals detected by transcranial Doppler. The Asymptomatic Carotid Emboli Study (ACES) found that embolic signals detected at baseline predicted stroke risk over a 2-year follow-up period. Two 1-hour recordings with transcranial Doppler in the ipsilateral middle cerebral artery of patients with ≥70% asymptomatic carotid stenosis were performed at baseline separated by 1 week. Seventy-seven of 467 patients had embolic signals on 1 or both recordings. This current study is a predefined secondary analysis of ACES and sought to determine the predictive yield associated with different recording protocols. For the primary outcome of ipsilateral stroke or transient ischemic attack, the use of 2 1-hour baseline recordings had greater predictive accuracy than the first baseline recording alone (P=0.0005), a single 30-minute recording (P<0.0001), or 2 30-minute recordings (P<0.0001). For the outcome of ipsilateral stroke alone, 2 1-hour recordings had greater predictive accuracy when compared with all other recording protocols (all P<0.0001). Transcranial Doppler embolic signal detection may be a useful tool for risk stratification in asymptomatic carotid stenosis. These results show that 2 1-hour recordings at baseline gave the best risk prediction. See p 2819.
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