

## **INTERVENTIONS IN SECONDARY STROKE PREVENTION - DRUG THERAPY FOR TIA AND STROKE: IMMEDIATE ASPIRIN AND DIPYRIDAMOLE**

**H-C. Diener**

*Essen University, Germany*

Several meta-analyses have shown that platelet aggregation inhibitors can make a major contribution to stroke prevention. Platelet aggregation inhibitors reduce the risk of a nonfatal stroke by 23% (from 10.8% to 8.3% over 3 years) in patients after TIA or stroke<sup>(1)</sup>. Acetylsalicylic acid (ASA), clopidogrel or the combination acetylsalicylic acid (ASA) plus slow-release dipyridamole are effective as antiplatelet agents in the secondary prevention of ischemic stroke. Gastrointestinal side effects and bleeding rate increases with ASA doses >150mg/d<sup>(2)</sup>. The fixed combination of ASA and dipyridamole was shown to be more effective compared with ASA alone in the ESPS-2 study<sup>(3)</sup> and the recently investigator-driven ESPRIT study<sup>(4)</sup>. The combination therapy also had similar bleeding rate compared to aspirin in both studies. In the subgroup of stroke patients Clopidogrel was not more effective than aspirin<sup>(5)</sup>. A study comparing clopidogrel and ASA/dipyridamole is currently under way (PROFESS) and results are supposed to be presented in mid 2008. The combination of ASA and clopidogrel showed an increased bleeding rate in the MATCH<sup>(6)</sup> and CHARISMA<sup>(7)</sup> study when compared with the single therapy and therefore is not recommended. In conclusion, the combination of aspirin and extended release dipyridamole is more effective for secondary stroke prevention than monotherapy and does not increase the bleeding risk.

### References:

1. Antithrombotic Trialists' Collaboration. Collaborative meta-analysis of randomised trials of antiplatelet therapy for prevention of death, myocardial infarction, and stroke in high risk patients. *BMJ* 2002;524:71-86.
2. Topol E, Easton D, Harrington R, Amarenco P, Califf R, Graffagnino C, Davis S, Diener H, Ferguson J, Fitzgerald D, Granett J, Shuaib A, Koudstaal P, Theroux P, Van de Werf F, Sigmon K, Pieper K, Vallee M, Willerson J, on Behalf of the Blockade of the Glycoprotein IIb/IIIa Receptor to Avoid Vascular Occlusion (BRAVO) Trial Investigators. Randomized, double-blind, placebo-controlled, international trial of the oral IIb/IIIa antagonist Icatrafiban in coronary and cerebrovascular disease. *Circulation* 2003;108:16-23.
3. Diener HC, Cuhna L, Forbes C, Sivenius J, Smets P, Lowenthal A. European Stroke Prevention Study 2. Dipyridamole and acetylsalicylic acid in the secondary prevention of stroke. *J Neurol Sci* 1996;143:1-13.
4. The ESPRIT Study Group. Aspirin plus dipyridamole versus aspirin alone after cerebral ischaemia of arterial origin (ESPRIT): randomised controlled trial. *Lancet* 2006;367:1665-1673.
5. CAPRIE Steering Committee. A randomised, blinded, trial of clopidogrel versus aspirin in patients at risk of ischaemic events (CAPRIE). *Lancet* 1996;348:1329-1339.
6. Diener H, Bogousslavsky J, Brass LM, Ciminello C, Csiba L, Kaste M, Leys D, Matias-Guiu J, Rupprecht H-J, on behalf of the MATCH Investigators. Management of atherothrombosis with clopidogrel in high-risk patients with recent transient ischaemic attack or ischaemic stroke (MATCH): Study design and baseline data. *Cerebrovasc Dis* 2004;17:253-261.
7. Bhatt DL, Fox KA, Hacke W, Berger PB, Black HR, Boden WE, Cacoub P, Cohen EA, Creager MA, Easton JD, Flather MD, Haffner SM, Hamm CW, Hankey GJ, Johnston SC, Mak KH, Mas JL, Montalescot G, Pearson TA, Steg PG, Steinhubl SR, Weber MA, Brennan DM, Fabry-Ribaud L, Booth J, Topol EJ. Clopidogrel and aspirin versus aspirin alone for the prevention of atherothrombotic events. *N Engl J Med* 2006;354(16):1706-17.