

March/April 2024 E-Journal Winner by Dr Greg Douglas

Title: Dual Antiplatelet Therapy Versus Aspirin in Patients With Stroke or Transient Ischemic Attack Meta-Analysis of Randomized Controlled Trials

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Introduction

Patients with minor ischemic stroke or transient ischemic attack (TIA) face a significant risk of subsequent thrombotic events. Aspirin has long been the standard for secondary prevention, offering a balance of safety and efficacy. However, recent evidence suggests that dual antiplatelet therapy (DAPT) may surpass aspirin monotherapy in preventing recurrence in these patients. This meta-analysis compares the safety and efficacy of aspirin alone versus the combination of aspirin and a P2Y12 inhibitor in preventing recurrent strokes in individuals with TIA or minor ischemic stroke.

Methods

A comprehensive search of online databases was conducted to identify trials enrolling adult patients with acute stroke or TIA, randomized to receive either DAPT or aspirin monotherapy. The primary efficacy endpoint was the recurrence of stroke (ischemic or haemorrhagic), while the primary safety endpoint was major bleeding. Secondary outcomes of interest were also evaluated. Exclusion criteria included cardioembolic stroke, indications for anticoagulation, planned endovascular therapy, or thrombolysis.

Results

The analysis encompassed four double-blind, randomized controlled trials, totalling 21,459 participants. DAPT recipients exhibited a reduced risk of recurrent stroke (relative risk: 0.76) but an elevated risk of major bleeding (relative risk: 2.2). The absolute benefits of DAPT were deemed to outweigh the increased bleeding risks.

Conclusion

Compared to aspirin alone, DAPT—comprising aspirin plus clopidogrel or ticagrelor—diminishes the risk of recurrent stroke and major adverse cardiac events (MACE) in patients with mild non-cardioembolic stroke or high-risk TIA, particularly when initiated within 24 hours of symptom onset.

Limitations

The meta-analysis faced challenges due to the heterogeneity of the included trials regarding DAPT duration, dosages, follow-up periods, and stroke/TIA criteria. Additionally, the number of trials was limited.

Strengths

The analysis drew on large-scale, double-blind studies conducted across multiple countries. Both aspirin plus clopidogrel and aspirin plus ticagrelor were evaluated. The study populations were comparable in terms of sex and comorbidities. Heterogeneity among studies ranged from low to moderate, and various statistical methods were employed to address this variability. Funnel plots indicated no publication bias.

Applicability and future direction

In Ireland, where an aging and increasingly multimorbid population is likely to present more frequently with neurological symptoms from high-risk TIAs and minor strokes, this study endorses DAPT as an additional resource for improving national health. Given the systemic nature of atherosclerosis, this meta-analysis hints at broader benefits for multimorbid patients, as shown by the reduction in MACE.

Moving forward, determining the superior P2Y12 inhibitor and the optimal duration of treatment remains a priority for research.