**Review: dipyridamole given with or without aspirin reduces recurrent stroke**


**Clinical impact ratings**

GP/FP/Primary care ★★★★★★ IM/Ambulatory care ★★★★★★ Internal medicine ★★★★★★

**Neurology ★★★★★★ Haematology ★★★★★★**

**Q** In patients with a history of ischaemic cerebrovascular disease, does dipyridamole given with or without aspirin reduce the risk of recurrent stroke?

**METHODS**


**Study selection and assessment:** randomised controlled trials (RCTs) in any language that evaluated dipyridamole for secondary prevention of stroke in patients with previous cerebrovascular disease. Study quality was assessed using criteria that included method of randomisation, concealment of allocation, completeness of follow up, and blinding of outcome assessment.

**Outcomes:** recurrent stroke (combined fatal and non-fatal), non-fatal stroke, combined fatal and non-fatal myocardial infarction (MI), vascular death, and a composite outcome of non-fatal stroke, non-fatal MI, and vascular death.

**MAIN RESULTS**

5 RCTs (*n* = 11 240) (mean age 65 y, 60% men) were included in the intention to treat meta-analysis of individual patient data using a logistic regression model with random effects for trial and fixed effects for treatment assignment. Odds ratios (ORs) were adjusted for trial, age, sex, qualifying event, and history of hypertension. *Dipyridamole plus aspirin (combination group)* v *control (including placebo)* (*4 RCTs*).

- Risk of recurrent fatal and non-fatal stroke (all stroke) was lower in the combination group than in the control group (table). Risk of non-fatal stroke (OR 0.59, 95% CI 0.49 to 0.72), MI (all) (OR 0.67, CI 0.48 to 0.95), and the composite endpoint (OR 0.66 CI, 0.57 to 0.75) were also lower in the combination group than in the control group. Groups did not differ for vascular death. *Dipyridamole v control (1 RCT).* Risk of recurrent all stroke (table) and the risk of non-fatal stroke (OR 0.75, CI 0.59 to 0.94) were lower in the dipyridamole group than in the control group. Groups did not differ for other outcomes. *Dipyridamole plus aspirin v aspirin (4 RCTs).* Risk of recurrent stroke (all) (OR 0.78, CI 0.65 to 0.98), non-fatal stroke (OR 0.73, CI 0.59 to 0.90), and the composite endpoint (OR 0.84, 0.72 to 0.97) were lower in the combination group than in the aspirin group. Groups did not differ for all MI or vascular death. *Dipyridamole plus aspirin v dipyridamole (1 RCT).* Risk of recurrent stroke (all) (OR 0.74).

For correspondence: Professor P Bath, University of Nottingham, Nottingham, UK. Philip.bath@nottingham.ac.uk

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<table>
<thead>
<tr>
<th>Outcome</th>
<th>Number of trials (n)</th>
<th>Comparisons</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal and non-fatal stroke</td>
<td>4 (10,146)</td>
<td>Combination v control</td>
<td>36% (27 to 46)</td>
<td>24 (19 to 32)</td>
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<tr>
<td> </td>
<td>1 (6602)</td>
<td>Dipyridamole v control</td>
<td>16% (0 to 29)</td>
<td>53 (29 to =)</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary; RRR, NNT, and CI calculated from odds ratio (adjusted for trial, age, sex, qualifying event [ischaemic stroke or transient ischaemic attack], and history of hypertension) in article.*

In patients with a history of ischaemic cerebrovascular disease, does aspirin reduce the risk of recurrent ischaemic stroke? 

**CONCLUSION**

In patients with a history of ischaemic cerebrovascular disease, dipyridamole given with or without aspirin reduces the risk of recurrent stroke.

Abstract and commentary also appear in *ACP Journal Club.*