

The cardiovascular benefits of low-dosage acetylsalicylic acid

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1 Acetylsalicylic acid has established benefit in the secondary prevention of cardiovascular disease

The increased risk of severe bleeding with use of acetylsalicylic acid (ASA) (odds ratio 2.2, 95% confidence interval [CI] 1.4–3.4) is outweighed by the 21% reduction (95% CI 0.72–0.88) in the odds of recurrent atherosclerotic events (coronary artery disease, ischemic stroke or transient ischemic attack) and 13% reduction (95% CI 0.76–0.98) in the odds of all-cause mortality.¹

2 The benefit of ASA in the primary prevention of cardiovascular disease is offset by potential bleeding risks

The use of ASA for primary prevention was examined in a meta-analysis of 13 trials involving 164 225 participants.² Use of ASA was associated with a lower risk of cardiovascular events (hazard ratio [HR] 0.89, 95% credible interval 0.84–0.95; number needed to treat 241) and an increased risk of major bleeding (HR 1.43, 95% credible interval 1.30–1.56; number needed to harm 210).²

3 Patients with diabetes, despite their increased cardiovascular risk, have questionable benefit from ASA used for primary prevention

The ASCEND (A Study of Cardiovascular Events in Diabetes) trial in 2018 evaluated primary prevention with ASA in 15 480 patients with diabetes.³ At 7 years, a 1.1% absolute risk reduction in serious cardiovascular events was counterbalanced by an associated 0.9% increase in major bleeding with use of ASA; hence case-by-case judgment is required.³

4 Perioperative use of ASA in noncardiac surgery is unlikely to reduce the risk of myocardial infarction or venous thromboembolism

The POISE-2 (Perioperative Ischemic Evaluation 2) trial in 2014 found that preoperative use of ASA had no significant effect on the rate of postoperative myocardial infarction or venous thromboembolism.⁴ Use of ASA was associated with a 23% increase in major bleeding (HR 1.23, 95% CI 1.01–1.49).⁴ A guideline from the Canadian Cardiovascular Society indicates that ASA should not be started or continued 7 days before surgery except in patients with recent coronary stent insertion (within 6 weeks for bare-metal stents and 3–12 months for drug-eluting stents) or undergoing carotid endarterectomy.⁵

5 Acetylsalicylic acid should be used for patients with myocardial injury or ischemia after noncardiac surgery

The guideline from the Canadian Cardiovascular Society suggests that, postoperatively, patients with myocardial ischemia or myocardial injury (defined as a peak troponin T level of > 0.03 ng/mL) should take ASA.⁵

References

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