Type 2 diabetes and ASA

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Clinical question
Should acetylsalicylic acid (ASA) be recommended for all patients who have type 2 diabetes but no history of cardiovascular disease (CVD)?

Evidence
Two recent randomized controlled trials of ASA in type 2 diabetics addressed this question.

• The JPAD (Japanese Primary Prevention of Atherosclerosis With Aspirin for Diabetes) study1 examined 2539 patients with type 2 diabetes taking low-dose ASA (81 to 100 mg) or nothing for a median of 4.4 years.
  -CVD events were not significantly different:
    —5.4% for those taking ASA versus 6.7% for those not taking ASA (P = .16).
  -Bleeding events (hemorrhagic stroke and severe gastrointestinal bleeding) were not significantly different.
  -In patients older than 65 years (prespecified subgroup), ASA reduced CVD events:
    —6.3% for those taking ASA versus 9.2% for those not taking ASA (P = .047; number needed to treat = 35).
• The POPADAD (Prevention of Progression of Arterial Disease and Diabetes) study2 followed 1276 patients with type 2 diabetes (with asymptomatic peripheral artery disease) taking low-dose ASA (100 mg) or placebo for a median of 6.7 years.
  -CVD events were not significantly different:
    —18.2% for those taking ASA versus 18.3% for those taking placebo (P = .86).
  -Gastrointestinal bleeding events were not significantly different (P = .69).

Context
These findings are supported by the PPP (Primary Prevention Project) study of higher-risk patients without history of CVD.3

• In those with diabetes (1031 patients), ASA did not result in a statistically significant difference in CVD events.
• Those without diabetes (3753 patients) who had 1 or more risk factors for CVD had a statistically significant benefit with ASA (P = .03).

A recent meta-analysis combined JPAD1 and POPADAD2 with subgroups of patients with diabetes extracted from other studies and also found no overall advantage for ASA in primary prevention for those with type 2 diabetes.4

Canadian Diabetes Association guidelines5 correctly suggest that ASA is not necessary in all patients with diabetes but that it could be considered in “high-risk” groups.

• Their definition of high-risk includes men 45 years or older, women 50 years or older, patients with microvascular or macrovascular disease, those with family history of CVD, those who have had diabetes for more than 15 years, or those with an extreme level of a single risk factor (eg, low-density lipoprotein >= 5.0 mmol/L).
• However, this high-risk group includes patients who did not benefit from ASA in the latest studies.1-3

High-quality evidence has not clearly identified which “high-risk” patients with diabetes will benefit from ASA (except perhaps those aged 65 or older).

Bottom line
According to current evidence, ASA should not be universally recommended for patients with type 2 diabetes who have no history of CVD.

Implementation
Prescribe ASA to patients with diabetes judiciously and alter flow sheets, checklists, or current standards of care accordingly. In 1 study,1 the patients with diabetes who benefited from ASA had a mean 10-year CVD risk of more than 20%. You can estimate risk periodically by linking to online6 calculators (or adding paper-based7 calculators) in patients’ charts. Patients’ estimated CVD risk can inform discussion regarding starting (or stopping) low-dose ASA.

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The opinions expressed in this Tools for Practice article are those of the authors and do not necessarily reflect the perspective and policy of the Alberta College of Family Physicians.

References