

## **Aspirin in the Primary Prevention of Cardiovascular Disease on Diabetic Patients: Systematic Review and Meta-Analysis**

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### **Abstract**

**Aims:** The publication of new trials brought additional data to the controversial topic of aspirin use in diabetic patients for primary prevention. Therefore, we aimed to systematically review all randomized controlled trials evaluating the clinical impact of aspirin in this setting.

**Methods:** We searched for randomized controlled trials (RCTs) evaluating the impact of aspirin in patients with diabetes in primary prevention, in MEDLINE, EMBASE, CENTRAL (November/2018). The primary outcomes were all-cause mortality and the composite outcome of major adverse cardiovascular events (MACE). A meta-analysis was performed deriving risk ratios (RR) and 95% confidence intervals (CI).

**Results:** All-cause mortality was not significantly reduced with RR 0.96 (95% CI 0.90-1.03; 7RCT; 27,595 patients). Regarding MACE, there was an 8% risk reduction (RR 0.92, 95% CI 0.84-0.999; I<sup>2</sup>=0%; 8RCT; 29,814 patients). The risks of major bleeding (RR 1.30, 95% CI 1.10-1.53; 2RCTs, 18,019 patients), and major GI bleeding (RR 1.39, 95% CI 1.08-1.80; 2RCTs, 18,019 patients) were significantly increased. The risks of cardiovascular mortality, myocardial infarction, stroke and amputation were not significantly different from control arm.

**Conclusions:** Aspirin use among diabetic patients in primary prevention appears was associated with increased risk of major bleeding, a modest decrease of MACE and lack of mortality benefit.

**Keywords:** Antiplatelet; Cardiovascular disease; Cerebrovascular disease; Coronary disease; Diabetes mellitus; Net clinical benefit; Peripheral arterial disease; Primary prevention; Revascularization.

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