The aim of this study was to evaluate benefits and risks of extending dual antiplatelet therapy (DAPT) after percutaneous coronary intervention (PCI) in the drug-eluting stent era. We searched electronic databases (Medline, EMBASE, the Cochrane Central Register of Controlled Trials), relevant websites, reference lists, conference abstracts, reviews, chapters in books, and proceedings of advisory panels for the US Food and Drug Administration, for randomized controlled trials investigating the clinical impact of extending DAPT duration in patients undergoing PCI. The primary endpoint was all-cause death. The secondary endpoints were myocardial infarction (MI), stent thrombosis (ST), cerebrovascular accidents (CVAs), and thrombolysis in myocardial infarction (TIMI) major bleeding. We included four trials that randomized 8231 patients (50.2%, extended DAPT duration vs. 49.8%, control duration). A total of 8158 patients (99.1%) were available for final analyses. The median DAPT duration was 16.8 vs. 6.2 months for the extended DAPT and control groups, respectively. At follow-up (median 16.8 months) extending DAPT duration did not reduce all-cause death [odds ratio (95% confidence interval) = 1.15 (0.85-1.54), P = 0.36], MI [0.95 (0.66-1.36), P = 0.77], ST [0.88 (0.43-1.81), P = 0.73], or CVAs [1.51 (0.92-2.47), P = 0.10]. Conversely,
extended DAPT duration clearly increased the risk of TIMI major bleeding [2.64 (1.31-5.30), P = 0.006]. The extension of DAPT duration after percutaneous coronary interventions may increase the risk of bleeding without reducing ischaemic events. These results need corroboration from large ongoing trials.