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Impact of Postprocedural Anticoagulation on Clinical Outcomes After PCI in Acute Myocardial Infarction: Meta-Analysis

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BACKGROUND

Acute myocardial infarction (AMI) treated with PCI continues to cause substantial morbidity and mortality due to thrombotic complications such as stent thrombosis and recurrent ischemia. Postprocedural anticoagulation (PPAC) has been proposed to mitigate these risks, but guideline support remains limited because of inconsistent evidence.

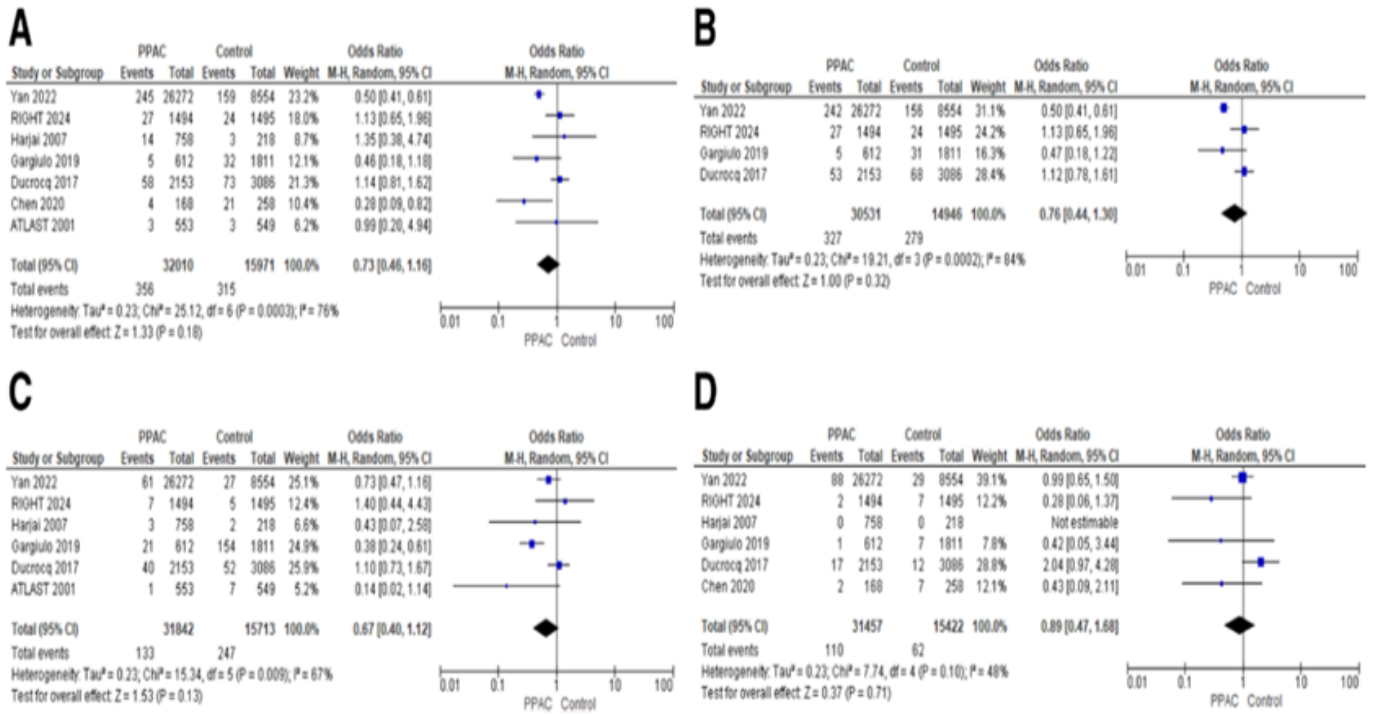
METHODS

A comprehensive literature search identified randomized and observational studies comparing PPAC versus no anticoagulation after PCI in AMI patients. Eligible studies reported 30-day outcomes, including mortality, recurrent MI, stroke, stent thrombosis, revascularization, and bleeding.

RESULTS

Seven studies, encompassing a total of 47,981 patients were included in the analysis. The pooled results demonstrated no significant difference between PPAC and no AC in reducing 30-day all-cause mortality [RR: 0.73; 95% CI, 0.47–1.16], cardiovascular mortality [RR: 0.76; 95% CI, 0.45–1.30], recurrent myocardial infarction [RR: 0.68; 95% CI, 0.41–1.12], stroke [RR: 0.89; 95% CI, 0.47–1.67], target vessel revascularization [RR: 0.74; 95% CI, 0.37–1.47], or stent thrombosis [RR: 1.08; 95% CI, 0.75–1.57]. Similarly, no significant difference was observed in bleeding risk [RR: 1.25; 95% CI, 0.83–1.88].

Figure 1. Individual and pooled analyses comparing postprocedural anticoagulation to no anticoagulation after percutaneous coronary intervention for acute myocardial infarction. A, 30-day all-cause mortality. B, 30-day cardiovascular mortality. C, 30- day myocardial infarction. D, 30-day stroke



CONCLUSIONS

This meta-analysis of seven studies involving nearly 48,000 patients found that routine PPAC after PCI in AMI does not significantly reduce mortality or ischemic complications and does not markedly increase bleeding risk. The findings do not support routine PPAC use, emphasizing individualized decision-making based on patient risk profiles. Further large-scale randomized trials are needed to identify potential subgroups that may benefit.

Colchicine for cardiovascular risk reduction in coronary artery disease: An updated meta-analysis

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BACKGROUND

Inflammation contributes to a higher risk of adverse cardiovascular events in individuals with coronary artery disease (CAD). Colchicine, an anti-inflammatory agent, may help enhance clinical outcomes in these patients.

METHODS

A systematic literature search was conducted across main databases to identify randomized controlled trials (RCTs) that reported clinical outcomes with the use of colchicine in CAD. Data for outcomes were extracted and summary estimates were generated using a random effects model.

RESULTS

A total of 16 RCTs involving 20,601 patients were included. The pooled analysis showed no significant difference between colchicine and control groups in reducing all-cause mortality (RR 0.97; 95% CI, 0.78–1.22), cardiovascular mortality (RR 0.98; 95% CI, 0.79–1.21), or stroke (RR 0.67; 95% CI, 0.39–1.15). However, colchicine was associated with a significantly lower risk of myocardial infarction (RR 0.74; 95% CI, 0.59–0.93) and ischemia-driven revascularization (RR 0.72; 95% CI, 0.53–0.99), albeit with a higher incidence of gastrointestinal adverse events (RR 1.83; 95% CI, 1.38–2.43) compared with control.

Figure 1. Forest plots for all-cause and cardiovascular death

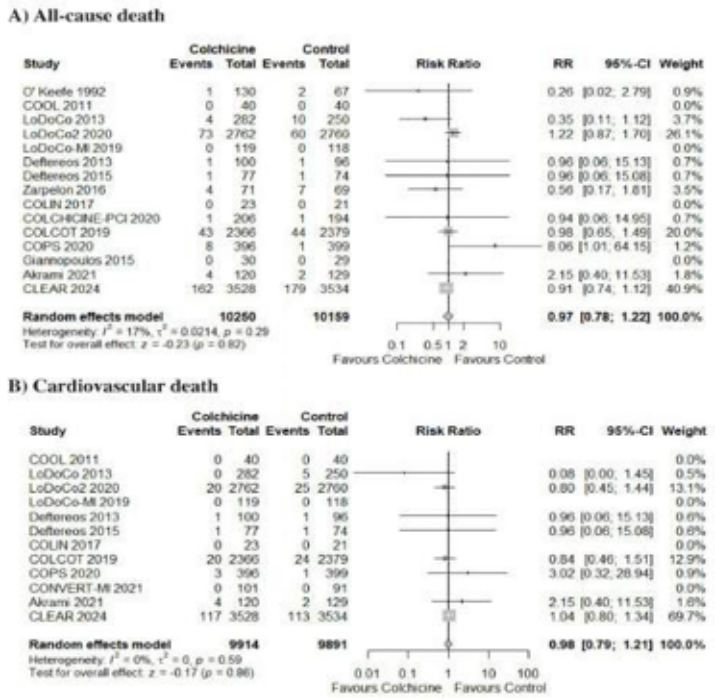
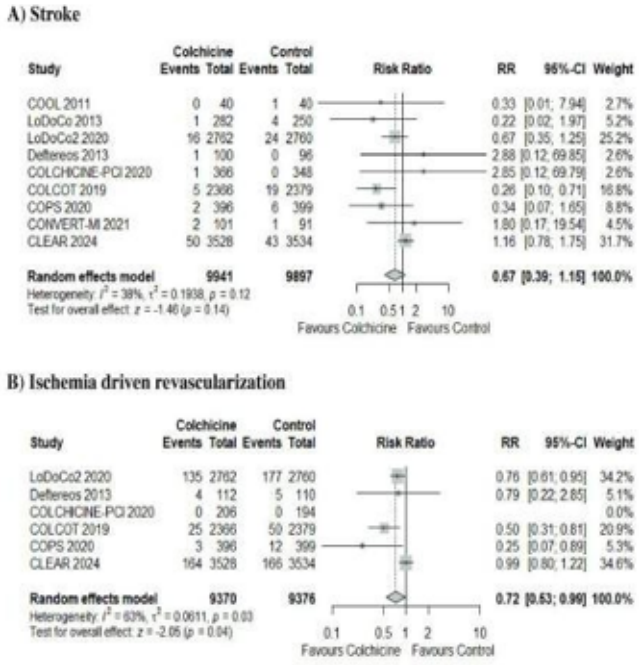


Figure 2. Forest plots for stroke and ischemia driven revascularization



CONCLUSIONS

Colchicine does not reduce the relative risk of all-cause and cardiovascular death in patients with CAD. However, it can reduce the risk of myocardial infarction and ischemia drive revascularization. Additional trial data are required to confirm these findings.