CONFLICTING RESULTS BETWEEN RANDOMIZED TRIALS AND OBSERVATIONAL STUDIES ON THE IMPACT OF PROTON PUMP INHIBITORS ON CARDIOVASCULAR EVENTS

Poster Contributions
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Background: We conducted a systematic review comparing the effectiveness and safety of concomitant use of proton pump inhibitor (PPI) and dual antiplatelet therapy (DAPT) among patients with coronary artery disease.

Methods: Studies dated January 1995 through August 2012 were screened by independent investigators. Investigators identified 32 studies for inclusion, extracted data, assessed applicability and study quality, and graded the strength of evidence. Meta-analysis of direct comparison was performed when outcomes and follow-up periods were comparable.

Results: Five studies (4 RCT, 1 observational) compared DAPT with and without omeprazole. There was insufficient evidence on the effect of omeprazole on composite ischemic events, nonfatal MI, stroke, revascularization, or stent thrombosis. Use of omeprazole reduced rates of upper gastrointestinal bleeding. Random-effect meta-analyses of 26 observational studies comparing PPI as a class consistently reported lower events rates in patients who were not receiving a PPI medication for the various composite outcomes, all-cause mortality after 1 year, nonfatal MI at 1 year, stroke at 1 year, revascularization at 1 year, stent thrombosis at 1 year and rehospitalization at 1 year. The findings were inconsistent (i.e., showing no differences between groups or showing increased event rates in the PPI group) the evidence base insufficient for bleeding (minor, major and gastrointestinal).

Conclusions: Large, well-done observational studies of PPI as a class and RCTs of omeprazole seem to provide conflicting results on the effect of different PPI on various cardiovascular outcomes when co-administered with DAPT. Prospective trials directly comparing pharmacokinetics parameters and clinical events of different PPIs in patients with coronary artery disease treated with DAPT are warranted.