Risk of drug-eluting stent thrombosis in patients receiving proton pump inhibitors.

Abstract:
Clopidogrel is a prodrug that is converted via the hepatic cytochrome P450 system into its active thiol metabolite. Evidence is accumulating that proton pump inhibitors (PPIs) inhibit this enzymatic pathway and may therefore attenuate the antiplatelet effect of clopidogrel. The objective of this study was to investigate whether patients on clopidogrel therapy after drug-eluting stent (DES) placement who also receive a PPI are at higher risk of stent thrombosis (ST). This is a retrospective analysis of patients who received dual antiplatelet treatment including clopidogrel after DES placement. Outcomes were compared according to PPI therapy. The primary endpoint was the incidence of definite ST at 30 days. Secondary endpoints were death, combined death or ST and myocardial infarction (MI). The study population included 3,338 patients and 698 patients (20.9%) received PPIs. Patients receiving a PPI had a higher risk profile at baseline. Multivariate analysis showed that PPI treatment was not independently associated with the occurrence of ST [adjusted HR 1.8 (95% CI: 0.7-4.7), p=0.23] or MI [adjusted HR 1.3 (0.8-2.3), p=0.11]. PPI treatment was significantly associated with death [adjusted HR 2.2 (1.1-4.3), p=0.02] and death or ST [adjusted HR 3.3 (1.7-6.7), p=0.02]. Concomitant treatment with a PPI in patients receiving dual antiplatelet treatment after coronary stenting is not
an independent predictor of ST. The higher mortality is probably due to confounding as patients on PPIs had a higher risk profile at baseline.