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# Effects of pantoprazole and esomeprazole on platelet inhibition by clopidogrel

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### Background

Clopidogrel is activated by CYP2C19, which also metabolizes proton pump inhibitors (PPI). As proton pump inhibitors are metabolized to varying degrees by CYP2C19, we hypothesized that the reported negative omeprazole-clopidogrel drug interaction may not be a class effect.

### Methods

Responsiveness to clopidogrel was assessed by the vasodilator-stimulated phosphoprotein phosphorylation (VASP) assay and aggregometry (Multiplate Analyzer) in 300 patients with coronary artery disease (CAD) undergoing percutaneous coronary intervention (PCI).

## Results

The mean platelet reactivity index (PRI, assessed by the VASP assay) was nearly the same in patients with ( $n = 226$ ; PRI = 51%) or without PPI treatment ( $n = 74$ ; PRI = 49%;  $P = .724$ ). Likewise, the adenosine diphosphate-induced platelet aggregation did not differ significantly between patients with or without PPI treatment (45 vs. 41 U;  $P = .619$ ). Similarly, there was no difference in the PRI or the adenosine diphosphate-induced platelet aggregation between patients with pantoprazole ( $n = 152$ ; PRI = 50%; aggregation = 47 U), esomeprazole ( $n = 74$ ; PRI = 54%; aggregation = 42 U), or without PPI ( $n = 74$ ; PRI = 49%; aggregation = 41 U;  $P = .382$ ).

## Conclusion

In contrast to the reported negative omeprazole-clopidogrel drug interaction, the intake of pantoprazole or esomeprazole is not associated with impaired response to clopidogrel.



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