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On Drugs and Therapeutics

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IN BRIEF

Enteric-Coated Aspirin as an Antiplatelet Drug

One of our readers has suggested that more attention should have been paid to a study comparing the antiplatelet effects of immediate-release and enteric-coated aspirin that appeared in *Circulation* last year. The safety benefits of enteric-coated aspirin are unclear. It may protect against dyspepsia, but not against major gastrointestinal bleeding, which is thought to be mainly a systemic effect of prostaglandin inhibition.

ANTIPLATELET EFFECTS OF ASPIRIN — Aspirin irreversibly acetylates cyclooxygenase-1, blocking thromboxane synthesis and inhibiting platelet activation and aggregation for the life of the platelet (5-7 days). Aspirin prophylaxis reduces the incidence of myocardial infarction and/or death by 15-25% in patients with coronary heart disease or ischemic stroke, and in those undergoing angioplasty or a coronary artery bypass graft. Aspirin can also prevent myocardial infarction in asymptomatic men and ischemic stroke in asymptomatic women, but the risk-benefit ratio is less favorable because the thrombotic risk is lower and the benefit in preventing thrombosis is offset by a small risk of gastrointestinal bleeding or hemorrhagic stroke.²

THE STUDY — The effects of a single 325-mg dose of immediate-release or enteric-coated aspirin on platelet aggregation were assessed 4 or 8 hours post-dose in 400 healthy volunteers. The rate of platelet nonresponse (<60% inhibition of platelet aggregation) to enteric-coated aspirin was 49% at 4 hours and 17% at 8 hours; *ex vivo* addition of aspirin to the samples reduced the rates of nonresponse to 12% and 0%, respectively. The rate of nonresponse to immediate-release aspirin was 0%.1

CONCLUSION — A study in healthy volunteers (not patients with atherosclerosis) of the effect of a single 325-mg dose of immediate-release or enteric-coated aspirin (not the usual recommended maintenance dose of 81 mg) on platelet response (not cardiovascular events) has limited applicability to clinical practice. Nevertheless, most patients who take aspirin for prophylaxis might be well advised to take regular aspirin.

- T Grosser et al. Drug resistance and pseudoresistance: an unintended consequence of enteric coating aspirin. Circulation 2013; 127:377.
- 2. Antithrombotic drugs. Treat Guidel Med Lett 2011; 9:61.

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