Impact of Weight on the **Antiplatelet Effects of Aspirin: Results of a Pooled Analysis of Two Randomized Crossover Studies Comparing a Liquid Aspirin Formulation with Enteric-Coated Aspirin**

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BACKGROUND

Enteric-coated aspirin (EC-ASA) is the current standard of care for long-term aspirin therapy on the presumption of lower gastrointestinal (GI) risk. However, EC-ASA is limited by erratic absorption and associated high rates of nonresponsiveness. We determined whether weight further influences the pharmacodynamic (PD) performance of EC-ASA and a novel formulation of a lipid-aspirin complex (PL-ASA) administered in liquid filled capsules that has been specifically designed to reduce GI risk.

METHODS

Two randomized crossover studies in obese diabetic patients comparing PD parameters after 3 doses of 325 mg EC-ASA or PL-ASA were pooled at the patient level. Regression analysis was performed to detect the impact of weight on thromboxane B2 (TXB2) inhibition.

See also: Bhatt DL, Grosser T, Dong JF et al. Enteric Coating and Aspirin Nonresponsiveness in Patients With Type 2 Diabetes Mellitus. J Am Coll Cardiol 2017 Feb 14;69(6):603-612.

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Increased weight is associated with lower rates of aspirin response, an effect that is greatly dependent on type of aspirin formulation. The novel pharmaceutical lipid-aspirin complex liquid-filled capsules (PL-ASA) may be an attractive alternative over enteric-coated aspirin in obese patients.

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183 samples (EC-ACA, n=91; PL-ASA, n=92) from 97 patients were included. Weight was inversely associated with TXB2 inhibition in the overall analysis (figure 1) with the trend line crossing below the 99% TXB2 inhibition threshold (complete aspirin response) at 117 kg. Similar relationships were seen individually for EC-ASA (figure 2) and PL-ASA (figure 3), however, with significantly earlier drop below the threshold with EC-ASA than PL-ASA (95 kg vs. 131 kg respectively, p < 0.001).





Increased weight is associated with a diminished aspirin response in diabetic patients. PL-ASA significantly modulates this effect and may be an attractive option for this population.

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RESULTS

FIGURE 2



CONCLUSION

DISCLOSURE INFORMATION