101. Vorapaxar vs. Placebo in Reducing Ischemic Events and Death Among Patients With Acute Coronary Syndrome: A Meta-Analysis

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Body

Background: Despite new treatment strategies for acute coronary syndrome (ACS), mortality and morbidity rates remain high. Newly developed drugs such as Vorapaxar should be assessed for efficacy and safety.

Vorapaxar is an orally available selective antagonist of the platelet protease-activated receptor-1. Results of clinical trials that evaluate its efficacy and safety in patients with coronary artery disease and/or ACS, have been inconsistent, hence a meta-analysis is warranted.

Methods: Randomized controlled trials evaluating the efficacy and safety of vorapaxar vs. standard therapy among patients with ACS were included. Primary efficacy outcome was all-cause death. Secondary efficacy outcomes were a composite of myocardial infarction, stroke, recurrent ischemia, or coronary revascularization - Major Adverse Cardiovascular Events (MACE). Primary safety outcome was TIMI major and minor bleeding.

Results: The meta-analysis of three randomized controlled trials encompassed a total of 30,840 patients.

Primary Outcome. Vorapaxar was associated with an insignificant 1% relative risk reduction (RRR) in death compared with controls (CI 0.88-1.12; p = 0.9).

Secondary Outcome. Vorapaxar showed a significant 10% RRR in MACE (CI 0.94-0.96; p = 0.0009), and a significant 16% RRR in the incidence of myocardial infarction (CI 0.78-0.91, p = <0.0001).

Safety Outcome. There is a statistically significant 1.6x increased risk for TIMI major or minor bleeding in the vorapaxar group (CI 1.37-1.77, p < 0.00001).

Conclusion: The addition of vorapaxar to standard therapy for ACS does not reduce all-cause death, but significantly reduces the risk of myocardial infarction, stroke, recurrent ischemia with rehospitalization, and urgent coronary revascularization. However, the addition of vorapaxar is associated with a more significant risk for bleeding.

Figure 1. Forrest plot for death

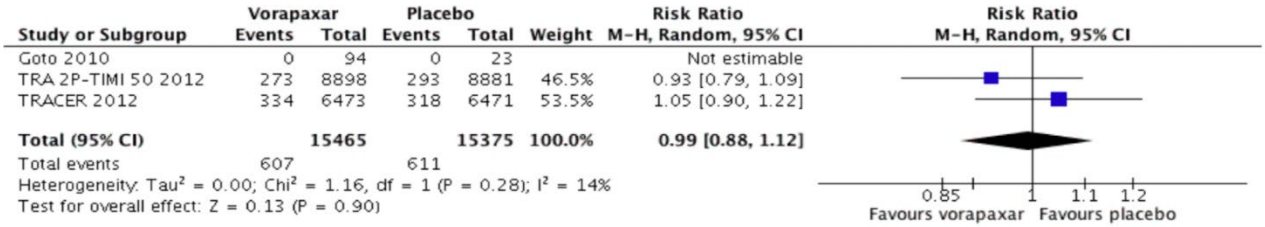


Figure 2. Forrest plot for major adverse cardiovascular events

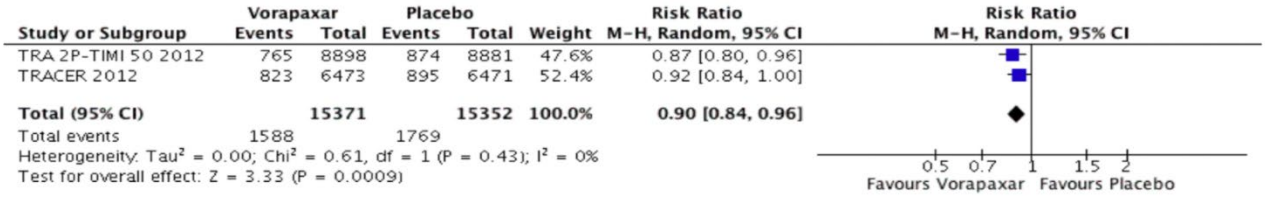


Figure 3. Forrest plot for myocardial infarction

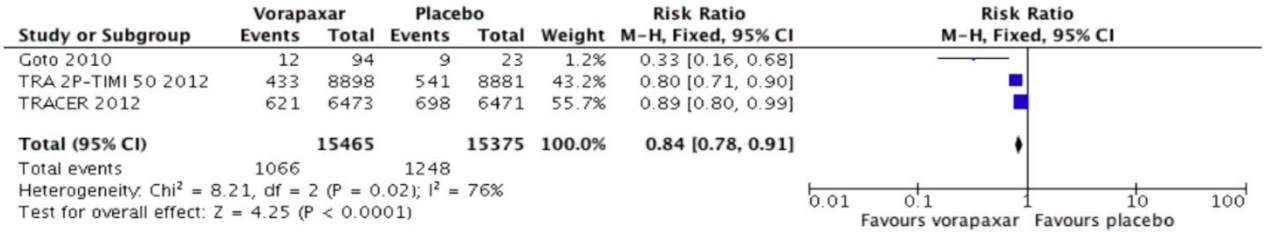
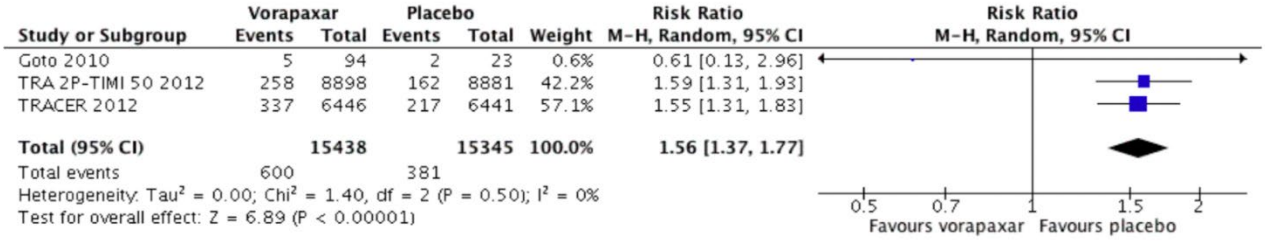


Figure 4. Forrest plot for TIMI major/minor bleeding



Clinical Implications: decide whether or not to add vorapaxar to their treatment regimen for acute coronary syndrome.