

**DIABETES
RANOLAZINE
DECREASES ANGINA**

The results of TERISA, a randomized, double-blind trial in which the effect of ranolazine in patients with type 2 diabetes mellitus and chronic stable angina was examined, were reported at the ACC Scientific Sessions and simultaneously published in *JACC*.

Patients were randomly assigned to ranolazine ($n=462$) or placebo ($n=465$) after an initial 4-week run-in period to assess patient adherence to study protocols. Each participant recorded angina episodes in a novel electronic diary. The primary outcome was the number of angina episodes per week during weeks 2–8.

Weekly angina frequency was significantly lower in patients treated with ranolazine than those treated with placebo (3.8 events/week, 95% CI 3.6–4.1 versus 4.3 events/week, 95% CI 4.0–4.5, $P=0.008$), as was the number of weekly doses of sublingual nitroglycerin (1.7 doses, 95% CI 1.6–1.9 versus 2.1 doses, 95% CI 1.9–2.3, $P=0.003$). Ranolazine was safe and well-tolerated, with no difference in serious adverse events between the two groups.

In an exploratory subgroup analysis, the therapeutic benefit of ranolazine was greater in patients with high levels of glycated haemoglobin. Glucose increases the late sodium current in isolated cardiomyocytes. Since ranolazine inhibits the late sodium current, Mikhail Kosiborod, lead author of the TERISA study, suggests that ranolazine would therefore be expected to have a greater therapeutic effect in patients with poor glycaemic control.

Kosiborod describes the rationale behind the trial as being based on two observations. Firstly, among patients with coronary artery disease, “those with diabetes have a greater burden of angina than those without diabetes,” he says. Angina is associated with a low health-related quality of life and a high risk for repeat hospitalizations. Secondly, some evidence suggests that ranolazine lowers fasting glucose and glycated haemoglobin levels. “If its glucose-lowering effect is confirmed in future trials, ranolazine might have the dual benefit of reducing angina and lowering blood glucose in patients with diabetes,” said Kosiborod. Several such trials are currently ongoing.

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Original article Kosiborod, M. *et al.* Evaluation of ranolazine in patients with type 2 diabetes mellitus and chronic stable angina. Results from the TERISA randomized clinical trial. *J. Am. Coll. Cardiol.* doi:10.1016/j.jacc.2013.02.011