

ORIGINAL ARTICLE

Platelet Inhibition with Cangrelor in Patients Undergoing PCI

Robert A. Harrington, M.D., Gregg W. Stone, M.D., Steven McNulty, M.S., Harvey D. White, D.Sc., A. Michael Lincoff, M.D., C. Michael Gibson, M.D., Charles V. Pollack, Jr., M.D., Gilles Montalescot, M.D., Ph.D., Kenneth W. Mahaffey, M.D., Neal S. Kleiman, M.D., Shaun G. Goodman, M.D., Maged Amine, M.D., Dominick J. Angiolillo, M.D., Ph.D., Richard C. Becker, M.D., Derek P. Chew, M.B., B.S., M.P.H., William J. French, M.D., Franz Leisch, M.D., Keyur H. Parikh, M.D., Simona Skerjanec, Pharm.D., and Deepak L. Bhatt, M.D., M.P.H.

ABSTRACT

BACKGROUND

Cangrelor, a nonthienopyridine adenosine triphosphate analogue, is an intravenous blocker of the adenosine diphosphate receptor P2Y₁₂. This agent might have a role in the treatment of patients who require rapid, predictable, and profound but reversible platelet inhibition.

METHODS

We performed a large-scale international trial comparing cangrelor with 600 mg of oral clopidogrel administered before percutaneous coronary intervention (PCI) in patients with acute coronary syndromes. The primary efficacy end point was a composite of death from any cause, myocardial infarction, or ischemia-driven revascularization at 48 hours.

RESULTS

We enrolled 8877 patients, and 8716 underwent PCI. At 48 hours, cangrelor was not superior to clopidogrel with respect to the primary composite end point, which occurred in 7.5% of patients in the cangrelor group and 7.1% of patients in the clopidogrel group (odds ratio, 1.05; 95% confidence interval [CI], 0.88 to 1.24; $P=0.59$). Likewise, cangrelor was not superior at 30 days. The rate of major bleeding (according to Acute Catheterization and Urgent Intervention Triage Strategy criteria) was higher with cangrelor, a difference that approached statistical significance (3.6% vs. 2.9%; odds ratio, 1.26; 95% CI, 0.99 to 1.60; $P=0.06$), but this was not the case with major bleeding (according to the Thrombolysis in Myocardial Infarction criteria) or severe or life-threatening bleeding (according to Global Utilization of Streptokinase and Tissue Plasminogen Activator for Occluded Coronary Arteries criteria). A secondary exploratory end point of death from any cause, Q-wave myocardial infarction, or ischemia-driven revascularization showed a trend toward a reduction with cangrelor, but it was not significant (0.6% vs. 0.9%; odds ratio, 0.67; 95% CI, 0.39 to 1.14; $P=0.14$).

CONCLUSIONS

Cangrelor, when administered intravenously 30 minutes before PCI and continued for 2 hours after PCI, was not superior to an oral loading dose of 600 mg of clopidogrel, administered 30 minutes before PCI, in reducing the composite end point of death from any cause, myocardial infarction, or ischemia-driven revascularization at 48 hours. (ClinicalTrials.gov number, NCT00305162.)

From the Duke Clinical Research Institute, Duke University Medical Center, Durham, NC (R.A.H., S.M., K.W.M., R.C.B.); Columbia University Medical Center and the Cardiovascular Research Foundation, New York (G.W.S.); Green Lane Cardiovascular Service, Auckland City Hospital, Auckland, New Zealand (H.D.W.); Cleveland Clinic, Cleveland (A.M.L.); Beth Israel Deaconess Medical Center (C.M.G.) and VA Boston Healthcare System and Brigham and Women's Hospital (D.L.B.) — all in Boston; Pennsylvania Hospital, University of Pennsylvania, Philadelphia (C.V.P.); Institut de Cardiologie, Pitié-Salpêtrière Hospital, Paris (G.M.); Methodist DeBakey Heart and Vascular Center, Methodist Hospital, Houston (N.S.K.), and Northwest Heart Center, Tomball (M.A.) — both in Texas; Terrence Donnelly Heart Centre, Division of Cardiology, St. Michael's Hospital and the Canadian Heart Research Centre, Toronto (S.G.G.); University of Florida College of Medicine, Jacksonville (D.J.A.); Flinders University and Flinders Medical Centre, Adelaide, SA, Australia (D.P.C.); Harbor-UCLA Medical Center, Torrance, CA (W.J.F.); Cardiovascular Division, City Hospital Linz, Linz, Austria (F.L.); Heart Care Clinic, Ahmedabad, India (K.H.P.); and the Medicines Company, Parsippany, NJ (S.S.). Address reprint requests to Dr. Harrington at the Duke Clinical Research Institute, 2400 Pratt St., Durham, NC 27705, or at robert.harrington@duke.edu.

This article (10.1056/NEJMoa0908628) was published on November 15, 2009, and updated on November 17, 2009, at NEJM.org.

N Engl J Med 2009;361:2318-29.

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