of a neprilysin inhibitor and an angiotensin-converting enzyme inhibitor, known to cause serious angioedema, there was no increased risk of serious angioedema with the ARNI when compared with enalapril.

No Increased Coronary or Mortality Risk Associated With Changes in DAPT

Written by Mary Beth Nierengarten

For patients discharged after acute coronary syndrome (ACS), changing from dual-antiplatelet therapy (DAPT) to less potent antiplatelet therapy is not associated with increased coronary or mortality risk despite a short-term excess of cardiovascular (CV) events.

Héctor Bueno, MD, PhD, Hospital General Universitario Gregorio Maranon, Madrid, Spain, presented the results of the Long-term Follow-up of Anti-thrombotic Management Patterns in Acute Coronary Syndrome Patients [EPICOR; NCT01171404], a real-world-practice cohort study conducted to describe current international patterns of DAPT use following ACS and the clinical outcomes associated with changes in DAPT.

Between September 2010 and March 2011, patients (n = 10 568) from 555 hospitals in 20 countries across Latin America and Europe were enrolled in the study. All patients were hospitalized for an ACS within 24 hours of symptom onset, and all survived to hospital discharge. Of these patients, 4943 had STEMI, and 5625 had non–ST segment elevation ACS.

This prospective, observational study was designed to look at short- and long-term antithrombotic management patterns in patients with ACS among the hospitals. It also examined the relationship between antithrombotic management patterns and in-hospital and postdischarge clinical outcomes, quality of life, and economic aspects.

At discharge, the medication status was known for 10 069 patients; 8593 (85.3%) remained on DAPT, while others switched to single-antiplatelet therapy or oral anticoagulation. At 2 years, 43.8% of patients remained on DAPT.

Prof Bueno said that the data show that patients frequently remained on DAPT after ACS much longer than the recommendation guidelines of 12 months. The study found that a maximum of 65.9% of patients in Latin America and a minimum of 55.7% in Southern Europe remained on DAPT at 2 years ($P < .001$).

To look at the association between change in DAPT status and clinical outcomes, Prof Bueno presented the 2-year follow-up results of 8593 patients who were interviewed per study design every 3 months after discharge up to 24 months. Results at 2 years showed an increase in CV events in patients who discontinued DAPT versus those who remained on DAPT. Despite the increase in nonfatal CV events, there was no association with changes in DAPT status and the risk of either coronary or all-cause mortality, although there were few number of events (Tables 1 and 2).

Prof Bueno highlighted several limitations of the study, including its observational nature, potential for recall bias, lack of accurately recording the date of all medication changes, few number of deaths, potential to underestimate CV events, and lack of systematic recording of the cause of death.

Table 1. Relationship Between Change in DAPT Status and Nonfatal Cardiovascular Events and Death

	No. of Eligible Participants	No. of Changes in Medication	No. of Events (%)	Event Rate per 100 Person-Years at Risk
During time on DAPT	8593	—	655 (85)	5.9
After DAPT change (any time)	3551	3976	114 (15)	3.4
< 7 d after stop	3551	3976	7	9.2
7 to 30 d after stop	3520	3936	9	3.7
> 30 d after stop	3406	3796	98	3.2

DAPT, dual-antiplatelet therapy.

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Table 2. Relationship Between Change in DAPT Status and Death

	No. of Eligible Participants	No. of Changes in Medication	No. of Events (%)	Event Rate per 100 Person-Years at Risk
During time on DAPT	8593	—	517 (85)	4.6
After DAPT change (any time)	3608	4041	92 (15)	2.7
< 7 d after stop	3608	4041	3	3.9
7 to 30 d after stop	3580	4004	6	2.4
> 30 d after stop	3467	3865	83	2.7

DAPT, dual-antiplatelet therapy.

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Mixed Results With iNO During PCI

Written by Mary Beth Nierengarten

Inhaled nitric oxide (iNO) delivered to patients before and during percutaneous coronary intervention (PCI) for treatment of myocardial infarction (MI) does not reduce infarct size but may enhance functional recovery in patients who also receive intracoronary or intravenous nitroglycerin (NTG).

Stefan P. Janssens, MD, University Hospital Gasthuisberg of Leuven, Leuven, Belgium, presented results of the Effects of Nitric Oxide for Inhalation in Myocardial Infarction Size trial [NCT01398384]—a double-blind, placebo-controlled, parallel-group study to test the hypothesis that iNO reduces infarct size and adverse left ventricular (LV) remodeling and improves LV functional recovery in patients with STEMI who have undergone PCI. The phase 2 multicenter study included 248 patients with STEMI who presented between 2 and 12 hours after symptom onset and were randomized to a group that received supplemental oxygen with iNO at a concentration of 80 parts per million (n = 126) or to a control group of no iNO (n = 122).

All patients included in the study were older than 18 years, with no congestive heart failure and with normal oxygen saturation. Patients were excluded from the study if they had a prior MI, coronary artery bypass grafting, prior PCI, left bundle branch block, contraindication to cardiac magnetic resonance, active or recent hemorrhage, or pulmonary disease needing oxygen.

The primary end point of the study was infarct size (percentage LV mass) at 48 to 72 hours after PCI, as assessed by cardiac magnetic resonance imaging. There was no difference in the relative infarct size between patients treated with iNO and the control group (18.0% vs 19.4%; $P = .44$).

In a prespecified subgroup analysis of patients who also received NTG during PCI, NTG-naïve patients who received iNO had a significant reduction in infarct size as compared with controls (17.0% vs 22.4%; $P = .044$). However, in patients who had previously received NTG, infarct size increased during PCI when compared with that of controls (19.3% vs 15.1%; $P = .059$). Secondary end points of the study included cardiovascular magnetic resonance–based outcomes, including infarct size as percentage area at risk at 48 to 72 hours, incidence of myocardial hemorrhage at 48 to 72 hours, global LV function at 48 to 72 hours and at 4 months, and changes in remodeling at 4 months.

A trend toward greater myocardial salvage index and enhanced functional recovery was found in patients who received iNO. Furthermore, at 4 months, the early benefit of this trend toward functional recovery was enhanced, as was adverse LV remodeling. An additional secondary end point examining a clinical composite outcome of death, recurrent MI or ischemia requiring rehospitalization or revascularization, and stroke also showed a promising trend in the benefit of iNO.

Prof Janssens concluded his presentation by emphasizing that the preliminary results of this trial need independent corroboration in future studies.

Early Ticagrelor Improves ST Segment Resolution After PCI

Written by Mary Beth Nierengarten

For patients with ongoing STEMI, prehospital administration of ticagrelor approximately 45 to 60 minutes prior to undergoing percutaneous coronary intervention (PCI) improves ST elevation segment resolution after PCI without increasing bleeding.