Dual Antiplatelet Treatment Patterns in Patients with Myocardial Infarction Undergoing Percutaneous Coronary Intervention: Insights from the Prospective Canadian Observational AntiPlatelet Study (COAPT)

Jean-Pierre Déry, Shamir Mehta, Harold Fisher, Robert Welsh, Anthony Della Siega, Asim Cheema, Mark Henderson, Sohrab Lutchmedial, Payam Deghani, Shahar Lavi, Brian Wong, André Kokis, Tomas Cieza, Shaun Goodman, for the Canadian Observational AntiPlatelet Study (COAPT) Investigators

BACKGROUND: In patients with an acute coronary syndrome (ACS) undergoing percutaneous coronary intervention (PCI), the Canadian Cardiovascular Society Guidelines for the use of antiplatelet therapy strongly recommend dual oral antiplatelet therapy with low-dose ASA indefinitely and an ADP (P2Y12) receptor inhibitor for ≥12 months. In 2012, the guidelines were updated to encourage the use of the newer P2Y12 inhibitors over clopidogrel.

METHODS: COAPT is a prospective, multicenter, longitudinal, observational cohort study describing real-world Canadian treatment patterns of ADP receptor inhibitor therapy and its association with patient and treatment characteristics, over a 15-month period, in patients with both non-ST elevation (NSTEMI) and ST elevation (STEMI) myocardial infarction undergoing PCI. Objectives include the description of ACS patient characteristics, switching, discontinuation and duration of ADP receptor inhibitor therapy, and rates of major adverse cardiac events and bleeding. All 43 PCI centers in Canada were invited to participate; target enrolment is 2,200 patients by May 2013 with final 15-month follow-up anticipated by the end of 2014.

RESULTS: From December 2011 and up to April 2013, 1576 patients (median age 60 [53, 67] years; 20.5% female; 61.5% STEMI, 38.5% NSTEMI), were enrolled from 26 PCI hospitals. Prior history includes: MI (37.6%), heart failure (2.3%), PCI (25.9%), coronary artery bypass surgery (6.3%), stroke (2.5%), peripheral arterial disease (4.6%), hypertension (65.6%), diabetes (23.9%), and dyslipidemia (60.6%). Oral antiplatelet use included: ASA (94.2%; median dose 81), clopidogrel (90.1%), prasugrel (9.5%), and ticagrelor (15.4%). The ADP receptor inhibitor was started >1 hour before PCI in 86.4%, 43.9% and 46.3% of patients initially treated with clopidogrel, prasugrel and ticagrelor, respectively. First dose of antiplatelet therapy was the ER in 74.7% of cases. ER doctors were the prescribing physicians for 49.9%, 43.9% and 17.9% of patients receiving clopidogrel, prasugrel and ticagrelor, respectively. Amongst patients who received the newer agents, 61.5% also received clopidogrel. Early discontinuation of newer agents was rare with 9.1% of prasugrel and 5.2% of ticagrelor-treated patients switched to clopidogrel. The rate of coronary artery bypass surgery (CABG) in this ACS PCI-managed population was 2.5%, occurring a median of 11 [6, 73] days from admission.

CONCLUSIONS: Despite superior efficacy and availability, newer ADP-receptor antagonists are used in a minority of ACS patients undergoing PCI in Canada. CABG rates are low, and generally occur well after admission. Updated in-hospital data and initial 6 week follow-up antiplatelet use together with cardiac and bleeding event data will be presented.