Medical Xpress

# Global platelet reactivity and high risk ACS patients

August 28 2012

Global platelet reactivity is more effective than responsiveness to clopidogrel in identifying acute coronary syndrome (ACS) patients at high risk of ischemic events, according to research presented at ESC Congress 2012.

The results from the RECLOSE 2-ACS study were presented by Dr Rossella Marcucci from the University of Florence.

The Responsiveness to Clopidogrel and Stent thrombosis 2 – ACS (RECLOSE 2-ACS) study is a prospective, observational, referral centre cohort study of 1,789 patients with acute coronary syndromes undergoing percutaneous coronary intervention (PCI) at the Division of Cardiology, Careggi Hospital, Florence, Italy.

Dual antiplatelet therapy with aspirin and clopidogrel is the cornerstone of therapy in these patients to improve prognosis and reduce adverse cardiovascular events, stent thrombosis and cardiovascular death.

"In recent years, we and other groups have focused our attention on the role of platelet inhibition," said Dr Marcucci.

"We found that a significant percentage of patients on clopidogrel therapy – the so-called nonresponders to clopidogrel – had a high platelet reactivity (HPR) on clopidogrel and a significantly higher risk of developing an adverse ischemic event at a follow-up of 2 years."

A number of genetic and acquired conditions are associated with a high platelet reactivity on clopidogrel. Carriers of a genetic variant (the CYP2C19*2 polymorphism), diabetics, older patients, females and patients with a reduced renal and cardiac function have a higher risk of maintaining a high platelet reactivity on clopidogrel. In addition, the concomitant use of drugs such as proton pump inhibitors (PPIs) is associated with a reduced metabolization of clopidogrel (which is a prodrug and needs to be metabolized to the active drug by the liver) and a high risk of high platelet reactivity.

The aim of the current study was to evaluate whether a high platelet reactivity due to nonresponsiveness to aspirin could also identify ACS patients at high risk of ischemic events. The investigators also evaluated whether the combination of aspirin and clopidogrel nonresponsiveness could identify high risk patients more effectively than one measure alone.

The researchers measured platelet reactivity in response to aspirin and clopidogrel in patients enrolled in the RECLOSE 2-ACS study. They found that approximately 12% of patients had a high platelet reactivity to aspirin and were therefore nonresponders. These patients had a significantly higher prevalence of an ischemic event or cardiac death at the 2 year follow-up (major adverse cardiac events [MACE]: Hazard Ratio [HR]=1.4 [1.0-1.8], p