Aims: Premature discontinuation of antiplatelet therapy has been identified as a major risk factor for stent thrombosis and prior aspirin withdrawal has been associated with poor prognosis after acute coronary syndrome. We investigated the hypothesis that biological aspirin "resistance" may often be related to non compliance in patients undergoing coronary stenting.

Methods and Results: We prospectively investigated the occurrence of aspirin non compliance in 136 consecutive patients undergoing coronary stenting receiving aspirin 75 mg daily. We analyzed post-treatment maximal intensity of arachidonic acid-induced platelet aggregation (AA-Ag) during hospitalization after controlled intake of aspirin and one month after hospital discharge. After one month, all non responders received controlled aspirin 75 mg and assessment of response was repeated. Aspirin non response was defined by AA-Ag>30%. During in-hospital period, the range of AA-Ag varied from 0 to 34% with a mean value of 7.5±10.9% and 4 patients (3%) were classified as non responders. One month after discharge, AA-Ag of the population was significantly higher than during the hospital phase (15.3±23 vs 7.5±10%, p=0.0004) and 19 patients (14%) were identified as non responders. After controlled administration of aspirin, all but one of these "non responders" became responders and were identified as patients with non compliance rather than biological resistance.

Conclusion: Aspirin resistance is rare in compliant patients using methods that directly indicate the degree of platelet cyclooxygenase inhibition. More than 10% of patients receiving aspirin for coronary stenting are non compliant for aspirin therapy during the first month after stenting. These results suggest a need for improved education of these patients.

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2C19*2 genetic variant: a new risk factor for stent thrombosis, myocardial infarction and cardiovascular mortality

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Background: The *2 variant of the CYP2C19 gene encodes a defective enzyme that likely fails to adequately convert clopidogrel to its active metabolite, leading to diminished cardiovascular protection.

Objectives: We performed a meta-analysis of trials that determined the CYP2C19*2 genetic variant in patients exposed to clopidogrel therapy after stent implantation. The primary objective was to evaluate whether carriage of the CYP2C19*2 was associated with the occurrence of stent thrombosis, recurrent myocardial infarction and cardiovascular death.

Methods and results: Eight trials (9427 patients) with data available data on death, recurrent myocardial infarction, stent thrombosis and any ischemic events were selected. The odds ratio (OR) as the parameter of efficacy with a fixed effect model was used. Carriers of the genetic variant associated with a loss-of-function of the CYP2C19 enzyme (28%, n=2674) displayed a 30% increase in the risk in any ischemic events compared to non carriers (10.4% vs 5.3%; OR 2.51; 95% CI: 1.89-3.31; p<0.001) but also of death or MI (12.1% vs 5.3%; OR 2.51; 95% CI: 1.89-3.31; p<0.001) and also of death or MI (12.1% vs 5.3%; OR 2.51; 95% CI: 1.89-3.31; p<0.001). This metaanalysis confirmed the excess of stent thrombosis (2.9% vs 0.9%; OR 3.01; 95% CI: 2.51; 95% CI: 1.89-4.80; p<0.001) but also of death or MI (12.1% vs 5.3%; OR 2.51; 95% CI: 1.89-4.80; p<0.001) (n=1975) but also of death or MI (12.1% vs 5.3%; OR 2.51; 95% CI: 1.89-4.80; p<0.001)(n=1975) but also of death or MI (12.1% vs 5.3%; OR 2.51; 95% CI: 1.89-4.80; p<0.001)(n=1975) but also of death or MI (12.1% vs 5.3%; OR 2.51; 95% CI: 1.89-4.80; p<0.001)(n=1975).

Conclusions: Our findings support rapid genetic testing for the CYP2C19*2 to identify patients with a deficient clopidogrel metabolic activation. The clinical relevance of such approach remains to be established by adequately powered randomized studies.

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One year follow-up of nonrandomized comparison between CABG surgery and DES for the treatment of ULMCA artery disease in elderly patients

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Purpose: The present observational study compares in-hospital and 12 month clinical outcomes in elderly patients (aged ≥ 75 years) with unprotected left main coronary artery (ULMCA) disease treated either with coronary artery bypass grafting (CABG) or drug eluting stent (DES).

Methods: From January 2004 to December 2007, 211 patients (pts) with ULMCA stenosis, aged 75 or older, underwent a coronary revascularisation