High prevalence of marijuana smokers in acute coronary syndromes in young people

Paul-Louis Vervueren [Orateur] , Benjamin Honton, Jerôme Roncalli, Olivier Laliez, Sébastien Hascoët, Atul Pathak, Didier Carrie, Michel Galilier, Meyer Elbaz
CHU Rangueil, Cardiologie, Toulouse, France

Background: Despite marijuana is the most frequent drug use worldwide, there is no prospective clinical data of its implication in acute coronary syndromes (ACS). The aim of this study was to evaluate the prevalence of marijuana smokers in young people admitted to intensive unit care for ACS.

Material and Methods: From September 2010 to Mars 2011, we prospectively included all patients below 50 years old admitted for ACS at the University Hospital of Toulouse, France and assessed their use of Marijuana by medical questioning and systematic urinary assay. Patients were divided into 2 groups (marijuana smokers and no marijuana smokers) according to the presence of marijuana in urines. Parametric and non-parametric tests were used for groups comparison.

Results: 63 patients were included. Mean age was 42±7 years old and 52 (82.5%) patients were male. In this cohort, 23.8% (15) were recognized as marijuana smokers (MS). There was no difference in classical cardiovascular risk factors, age and gender between the two groups. Interestingly, MS present significative more non ST elevation myocardial infarction than non MS patients (67% vs 29.2%; p=0.009). There was no difference in the coronary status but a high frequency of multivessel coronary disease (respectively 46.6% and 45.8%, p=0.95) in the two groups. There was no death in MS group whereas two in the non MS group. No difference was observed in left signification more non ST elevation myocardial infarction than non MS patients were male. In this cohort, 23.8% (15) were recognized as marijuana smokers and no marijuana smokers) according to the presence of marijuana in urines. Parametric and non-parametric tests were used for groups comparison.

Conclusion: Marijuana use is frequent, especially in the few hours preceding the event, and probably underdiagnosed in ACS of people below 50 years old. Clinical presentation of ACS is different in this group with less ST elevation suggesting a more complex coronary artery disease. Multicentric study should be achieved to assess epidemiology and pathophysiological role of marijuana use in ACS.

Clinical, angiographic and genetic determinants of early coronary stent thrombosis: the ONASSIST study

Guillaume Cayla [Orateur] (1), Ean-Sébastien Hulot (1), Stephen O’Connor (1), Johanne Silvain (1), Farzin Beygui (1), Olivier Barthelemy (1), Yves Gruel (2), Athul Pathak (3), Jean-Philippe Collet (1), Gilles Montalescot (1)
(1) AP-HP, CHU Pitié-Salpêtrière, Cardiologie, Paris, France – (2) CHU Tours, Hématoologie, Toulouse, France – (3) CHU Toulouse, Pharmacologie Clinique, Toulouse, France

Objectives: To perform a comprehensive analysis of all determinants of definite early stent thrombosis (ST) to identify the risk and the modifiable factors of early ST.

Methods: Using a web-based case collection and reporting system, 123 patients with definite EST on dual antiplatelet therapy were matched 2:1 according to age and gender with 246 controls. All patients were genotyped for 23 genetic variants involved in clopidogrel metabolism (CYP2C19, CYP2C9, CYP3A5, IOR, ABCB1, PON1), platelet receptor function (P2Y12, ITGB3), and the coagulation and fibrinolytic system (MTHFR, Factor V, Fibrinogen, Prothrombin, PAI1 and VKORC1).

Results: CYP2C19*2 (ORund=2.53, 95% CI [1.61-3.97], p<0.0001) and ABCB1 TT3435 (ORund=2.01, 95% CI [1.22-3.30], p=0.006) carriers were more frequent among patients with EST than controls while CYP2C19*17 (ORund=0.53, 95% CI [0.31-0.88], p=0.01) and ITGB3 P2A2 (ORund=0.50, 95% CI [0.29-0.87], p=0.01) carriers were less frequent. The accuracy of the clinical model to discriminate between EST and controls (AUC 0.72, 95% CI [0.60-0.85]) did not differ significantly from the genetic model (AUC 0.70, 95% CI [0.53-0.85], p=0.04). Among all independent predictors of early ST, the use of high clopidogrel loading doses (OR=0.73, 95% CI[0.57-0.94], p=0.01) and proton pump inhibitors (OR=2.19, 95% CI [1.28-3.72], p=0.004) were the only modifiable factors.

Conclusion: In addition to established clinical and angiographic factors, three genes involved in clopidogrel metabolism and platelet receptor function (CYP2C19, ABCB1, ITGB3) were significantly significantly improved the ability to predict early ST. PPI use and clopidogrel dose were both independently correlated with the risk of early ST, suggesting that the final amount of active metabolite generated is a major factor of prevention.

Impact of the time of presentation on the management and in-hospital outcome of patients with STEMI: Insights from the MIRAMI registry

Fattouma Bourguiba University Hospital, Cardiology, Monastir, Tunisia

Background: The impact of the timing of presentation of patients with acute myocardial infarction (AMI) and the subsequent effect on management and prognosis have not been fully investigated.

Methods and results: A total of 1315 patients admitted for AMI between January 1995 and December 2010 were included in our MonastIR AMI (MIRAMI) registry. We deliberately excluded from the analysis patients who presented late and therefore did not receive a reperfusion strategy. A total of 768 patients did receive one of the two reperfusion strategies (thrombolysis or primary angioplasty) and therefore were included in this analysis. There were no significant differences on the frequency of AMI between the different periods of the day and particularly between working and off-work hours. (p=0.92). Primary angioplasty was more frequently performed between 8 and 12 a.m (p=0.03). Thrombolysis was more given between 8 and 12 p.m (p=0.03). AMI was more frequent during winter (31.7% with p=0.007) but mortality was higher during autumn (p=0.008). There were no differences in mortality and heart failure according to the hour of presentation (p=0.77 and p=0.44 respectively).

Conclusion: The time of presentation of patients with AMI did have an impact on the selection of the reperfusion strategy but not on the in-hospital outcome. There is clearly an impact of the season with a higher in-hospital mortality during autumn.

High doses of clopidogrel to overcome genetic resistance: the randomized cross-over CLOVIS-2 study

Jean-Philippe Collet [Orateur], Jean-Sébastien Hulot, Ghailia Anzaha, Ana Pena, Thomas Chastre, Johanne Silvain, Guillaume Cayla, Anne Bellemaim, Olivier Barthelemy, Farzin Beygui, Gilles Montalescot
AP-HP, CHU Pitié-Salpêtrière, Cardiologie, Paris, France

Background: Carriers of the loss-of-function CYP2C19*2 genetic variant have lower active metabolite levels and diminished platelet inhibition after clopidogrel loading.

Objectives: To determine the pharmacokinetic (PK) and pharmacodynamic (PD) responses to two LDs (LD) of clopidogrel according to carriage of CYP2C19*2 genetic variant.

Methods: Young post-MI patients heterozygous (wt/*2, n=43) or homozygous (*2/*2, n=8) for the CYP2C19*2 genetic variant were matched with patients not carrying the variant (wt/wt, n=58). All patients were randomized to 300mg or 600mg clopidogrel LD. The relative reduction in residual platelet aggregation (RR-RPA in %) and the area under the plasma concentration (AUC0-6) – time curve of active metabolite) from baseline to six-hours post loading were compared according to both LD and CYP2C19*2 carriage.

Results: The 300 mg LD led to a gene-dose effect for RR-RPA (~65.7±35.9% in wt/wt vs. ~48.0±38.4% in wt/*2 vs.14.6±32.4% in *2/*2; overall p-value=0.003, p=0.03 for wt/wt versus wt/*2, p=0.04 for wt/*2 versus *2/*2)

January 13th, Friday 2012