tion and platelet reactivity could play an important role in the occurrence of stroke during the acute phase of MI. We aimed to investigate the relationship between the mean platelet volume (MPV), a parameter of platelet function, the C-reactive protein (CRP), and the occurrence of in-hospital ischemic stroke (IHS) after AMI.

Methods: Data were obtained from a French regional survey for AMI, including 5976 patients admitted in intensive care unit (ICU) between 2001 and 2010. Patients were divided in 2 groups according to the occurrence of IHS. MPV, platelet count and CRP were routinely measured from blood samples drawn at admission in ICU.

Results: 87 (1.4%) IHS were recorded during the hospitalization period after admission for AMI. After Cox multivariate regression, IHS was independently associated with history of stroke (OR: 2.26, 95% CI: 1.26-4.06, p=0.006), LVEF<40% (OR: 1.74, 95% CI: 1.08-2.81, p=0.002), glycemia (OR: 1.05, 95% CI:1.01-1.08, p=0.008), CRP>10mg/l (OR: 2.56, 95% CI: 1.64-4.01, p<0.001), MPV/Platelet count ratio (OR 1.04, 95% CI: 1.01-1.08, p=0.03) and new onset atrial fibrillation (OR:1.91, 95% CI:1.12-3.24, p=0.02). Patients developing IHS had both an increased 30-day mortality (32.3% vs 8.3%, p<0.001) and 1-year mortality (44.4% vs 13.5%, p<0.001) (fig.1).

Conclusions: This study describes predictive factors for IHS after AMI, with both higher short and long-term risk of death. At hospital admission, new biological parameters as high MPV/Platelet count ratio and high level of CRP might help to identify patients at increased risk of IHS. Moreover, these results provide new insights on the potential role played by increased inflammation and platelet reactivity underlying the occurrence of stroke after AMI.

Abstract 0338 – Figure

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Is cystatin C a predictive factor of cardiovascular events in acute coronary syndrome?

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Background: Serum cystatin C has been proposed as a better marker of glomerular filtration rate than serum creatinine. This study aims to evaluate the relationship between cystatin C, BNP and acute coronary syndrome.

Methods: A total of 127 consecutive patients with acute coronary syndrome (ACS) were enrolled in this study. All patients had a normal glomerular filtration rate (GFR) estimated using the MDRD (Modification of Diet in Renal Disease) equation. Serum cystatin C and brain natriuretic peptide (BNP) were determined in all subjects. All patients were followed up for 12 months and adverse cardiovascular events were recorded.

Results: Serum Cys C levels were significantly higher in patients with multi-vessel coronary artery disease (1.17±0.47mg/L vs. 0.95±0.24mg/L, P<0.01). BNP concentrations were significantly associated to left ventricular ejection fraction (LVEF). Patients with systolic heart failure (LVEF < 50%) had higher BNP levels (343.3 pg/mL vs. 212.7 pg/mL; P<0.001). Serum Cys C and BNP levels were significantly associated to mortality and morbidity post ACS. Receiver operator characteristic (ROC) analyses identified cys C as being the best marker in predicting major adverse cardiac and cerebrovascular events (MACCE: heart failure hospitalizations, recurrent ischemic events and mortality) (AUC=0.622). For high Cys C levels (>1.2mg/L), the risk of occurrence of MACCE was multiplied by 3.35 for BNP levels exceeding 350pg/mL. ROC analyses identified BNP as the best predictor of LV systolic dysfunction (AUC = 0.784). A BNP value exceeding 133pg/mL had a sensitivity of 83% and a specificity of 67% for predicting LV systolic dysfunction during follow-up.

Conclusions: Cystatin C and BNP are strong predictors for risk of cardiovascular events in acute coronary syndrome.