Purpose: Atherosclerotic plaque vulnerability is a systemic phenomenon and is often associated with severe plaque infiltration with inflammatory cells. 18-Fluoro-deoxyglucose (FDG) accumulates in inflammatory cells of atherosclerotic plaques. The aim of this study was to assess whether) 1) FDG uptake in the aorta and carotid arteries measured by positron emission tomography (PET) is higher in patients with acute coronary syndromes (ACS) than in patients with stable coronary artery disease (CAD) and; 2) associated with morphological markers of plaque instability detected with computed tomography angiography (CTA).

Methods: Patients with ACS (n=50) or stable CAD (n=28) underwent a PET 90 minutes after injection of 5 MBq/kg FDG followed by a CTA of the thoracic aorta and carotid arteries. Tissue-to-background ratios (TBRs) were calculated by dividing maximal standard uptake value (SUV) of the arterial wall by the mean SUV of blood. A global TBR was calculated in each patient as the average of the TBRs from the thoracic aorta and the 2 carotid arteries. Atherosclerotic plaques were classified with CTA as non-calcified/mixed/calcified, and smooth/irregular.

Results: Aortic, carotid and global TBRs (mean±SD) were higher in patients with ACS than in patients with stable CAD (1.78±0.19 vs. 1.61±0.18; 1.84±0.35 vs. 1.64±0.17; 1.81±0.23 vs. 1.62±0.16; p<0.05 for all). Patients in the highest quartile of global TBR had a higher percentage of non-calcified and irregular plaques in the thoracic aorta and carotid arteries as compared to patients in the lowest quartile of global TBR (cf. Table 1).

Conclusions: FDG uptake in the thoracic aorta and carotid arteries is higher in patients with ACS than in patients with stable CAD and correlates with morphological markers of plaque instability assessed by CTA.

Table 1 – Results

<table>
<thead>
<tr>
<th>Quartile</th>
<th>Total number TBR</th>
<th>Global TBR with calculated plaque of values</th>
<th>Patients</th>
<th>Non-calcified</th>
<th>Mixed</th>
<th>Calcified</th>
<th>Smooth</th>
<th>Irregular</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>53</td>
<td>1.36-1.60</td>
<td>32%</td>
<td>30%</td>
<td>45%</td>
<td>25%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Second</td>
<td>70</td>
<td>1.61-1.70</td>
<td>63%</td>
<td>43%</td>
<td>37%</td>
<td>20%</td>
<td>94%</td>
<td>6%</td>
</tr>
<tr>
<td>Third</td>
<td>55</td>
<td>1.71-1.81</td>
<td>74%</td>
<td>39%</td>
<td>47%</td>
<td>14%</td>
<td>87%</td>
<td>13%</td>
</tr>
<tr>
<td>Fourth</td>
<td>58</td>
<td>1.82-2.75</td>
<td>85%</td>
<td>40%</td>
<td>57%</td>
<td>3%</td>
<td>88%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Background: Acute complications of atherosclerosis, such as acute myocardial infarction (AMI) are becoming more common in patients with HIV. But the risk of coronary heart disease in HIV patients is influenced both from traditional risk factors and from specific features of this disease. The aim of the present study was to examine in-hospital case fatality in HIV-infected patients with AMI.

Methods: From the French nationwide hospital medical information database, data for all the consecutive patients hospitalized in the 1546 French hospitals/clinics for AMI from 1st January 2005 to 31st December 2009 were analysed. Patients were match according following parameters: age, gender, type of infarction (ratio 1:2).

Findings: Among the 677 076 patients included, HIV-infected patients (n=1344) accounted for 0.20%. HIV patients were younger, more frequently male and more likely to smoke. Hospital mortality was 4.3% in the HIV-infected group compared with 7.0% in uninfected patients (p <0.0001), but no difference appeared between the 2 groups after matching (3.4% vs. 4.3%; p=0.1334). Based on a Cox regression model, HIV-infection was not an independent predictor of in-hospital mortality in the overall population or after matching. Among none HIV infected patients, dyslipidemia, current smoker, STEMI and coronary angioplasty were independent predictors of in-hospital mortality. In contrast, among HIV infected patients, dyslipidemia [OR-95%IC: 2.433 (1.174-5.044)] and STEMI [OR-95%IC: 2.130 (1.134-4.076)] were independent factors associated with in-hospital mortality.

Conclusion: HIV-infected patients have a greater risk of myocardial infarction, but the present study demonstrated than the short-term are similar to non infected patients. Moreover, chronic kidney disease is more common in HIV-infected patients and associated with a worse prognosis. Consequently HIV care increasingly needs to incorporate strategies to manage these non-infectious co-morbidity in primary and secondary prevention.

Echocardiographic factors determining immediate results of percutaneous mitral balloon commissurotomy

Leila Bazzah, Hédi Baccar, Wajedène Ouechttati, Hbib Ben Ahmed, Slim Sidhom, Sami Marouène, Imène Fradi
Hôpital Charles Nicolle, Tunis, Tunisia

Objectives: Define echocardiographic predictors of the immediatresult of percutaneous mitral balloon commissurotomy (PMC)

Methods: PMC by the Inoue balloon was attempted in 247 patients (mean age: 35 years, 77% female) with severe mitral valve stenosis. All the patients had undergone echocardiographic examination before PMC to assess mitral anatomy, commissural calcification and to determine the Wilkins score.

Results: The mean value of Wilkins score was 7.9±6.1(range 5-13) and the mean mitral valve area (MVA) before PMC was 1.2±0.19cm² (range 0.5-1.4cm²). Twenty-nine patients (11.7%) had one-commissural calcification. After PMC, the mean MVA increased to 1.79±0.34cm² (p=0.001) resulting in a success rate of 83%. Severe mitral regurgitation (MR) occurred in 5 patients (2%). Wilkins score was an independent predictor of the immediate result of PMC, but if >8, this score had a weak predictive value. Commisural mor-

Conclusion: Echocardiography is now the cornerstone in the assessment of mitral anatomy before PMC and should integrate Wilkins score and commissural morphology for the optimal selection of patients to PMC.

National observational study of diagnostic and interventional cardiac catheterization by the French Society of Cardiology (ONACI): study design and baseline characteristics

Etienne Puyminrat (1), Marie-Cécile Perier (2), Maria-Pia Donattozio (1), Martine Gilard (3), Thierry Lefevre (4), Genevieve Mulak (5), Xavier Jouven (1), Christian Spaulding (1), Nicolas Danchin (1), Didier Blanchard (1)
(1) Hôpital Européen Georges Pompidou (HEGP), Cardiologie, Paris, France – (2) Unité Inserm U970, Paris, France – (3) CHU Brest, Brest, France – (4) Institut hospitalier Jacques Cartier, Massy, France – (5) Société Française de Cardiologie, Paris, France

Background: The national observational study of diagnostic and interventional cardiac catheterization (ONACI) is a prospective multi-center registry of the French Society of Cardiology including all interventional cardiology procedures performed from 2004. We aimed to evaluate “real world” management of patients with coronary artery disease (CAD) in France from this registry.

Methods: The present study is focused on data collected between 2004 and 2008. Patient demographics and co-morbidities, invasive parameters, treatment options, and procedural techniques were prospectively collected. Patients were recruited in 99 hospitals (55% of patients were hospitalized in private clinics, 45% in public institutions).
Results: Over a 5-year period, a total of 298,105 patients underwent coronary angiography (CAG) and 176,166 patients underwent percutaneous coronary intervention (PCI). Diagnosis was acute coronary syndrome (ACS) in 22%, stable angina or silent ischemia in 23% and atypical chest pain in 9% of cases. Normal coronary arteries or not significant coronary lesions were found in 26% of patients. Radial access was increasingly used over the years regardless of the indication. The average number of PCI per procedure was 1.5±0.7 (range from 1.3±0.7 to 1.5±0.7) and those of stents per procedure were 1.5±0.8 (range from 1.5±0.8 to 1.6±0.8). Drug-eluting stents (DES) were used in 45% (range from 34 to 62%).

Conclusions: Coronary anatomy is highly dependent on clinical presentation. Strategies to reduce the number of normal CAG performed for atypical chest pain should be developed. The management of ACS is associated with less radial access, more single PCI and fewer DES.

020
Impact of anti-platelets dose fractionation on platelet inhibition in type 2 diabetes mellitus
Redouane Saady, Denis Doyen, Emile Ferrari
CHU Nice, Cardiologie, Nice, France

Objective: The hypothesis of the study was that increased drug administration frequency [twice daily versus once daily] may provide more effective platelet inhibition in patients with type 2 diabetes mellitus.

Methods: Twenty patients with type 2 diabetes mellitus with stable coronary artery disease were prospectively recruited. All the patients received once daily 150 mg of aspirin and clopidogrel for two weeks. Then patients were switched to aspirin and clopidogrel 75 mg twice daily for two weeks. Pharmacodynamic assessment was performed by VerifyNow system accurometrics at fifteen and thirty days.

Results: There was no difference between the antiplatelet effect produced by 150 mg of aspirin given once daily and 75 mg of aspirin given twice daily. A twice-daily dose of 75 mg of clopidogrel is associated with significantly more effective platelet inhibition on the residual assay: PRU=38.2% once daily vs 53.8% twice daily (p=0.001) and PRU=187 once daily vs 147 twice daily (p=0.005).

Conclusions: Increasing the frequency of clopidogrel administration to twice daily in patients with type 2 diabetes mellitus is significantly associated with more effective platelet inhibition. But our data do not support a twice-daily dose of aspirin to improve platelet response.

021
Clopidogrel low response and correlation between the different tests: light transmission aggregometry, VerifyNow-P2Y12 and VASP.
Gilles Lemesle (1), Jean-Baptiste Landel (2), Anne Bauters (3), Cedric Delhaye (1), Laurent Bonello (4), Arnaud Sudre (1), Christophe Bauters (3), Jean Marc Lablanche (1)

Background: Clopidogrel low response correlates with poor prognosis after percutaneous coronary intervention (PCI). Many biological tests are currently available to test the clopidogrel response. However, the presence of any correlation between the different tests is today poorly reported.

Methods: In this prospective study, clopidogrel response was assessed in 100 consecutive patients. All patients were tested between 18h and 24h after a 600mg clopidogrel loading dose using 3 different tests: light transmission aggregometry with 10 µmol ADP (LTA, results expressed as platelet inhibition percentage), VerifyNow-P2Y12 (VN, results expressed as PRU) and vasodilator stimulated phosphoprotein (VASP, results expressed as IRP).

Results: The mean platelet inhibition percentage, PRU value and IRP value were 38.5±13% by LTA, 178±89 PRU by VN and 52±29% by VASP. When results were analyzed as continuous variables, there was a good correlation between the different tests: LTA/VN (R²=0.409, p<0.001), LTA/VASP (R²=0.409, p<0.001) and VN/VASP (R²=0.416, p<0.001). However, when results were analyzed as pre-specified cut-off points to define patients as “low or good responders” (according to the literature: 50% for LTA, 235 PRU for VN and 50% IRP for VASP), only 47% of the patients were defined as “good” or “low responders” by the 3 tests. Altogether, 33% of the patients were defined as “low responders” by only 1 test, 20% by 2 tests and only 16% by the 3 tests.

Conclusion: If the correlation between the different tests is good when results are analyzed as continuous variables, each individual is rarely (less than 50%) defined as “low or good responder” by all the 3 tests when recognized cut-off values are used. In that way, a sole test might not be sufficient to manage antiplatelet therapy in an individual patient.

022
Compared efficacy and safety of unfractionned heparins versus low-molecular-weight heparins in STEMI patients
Mohamed Majed Hassine, Wiesl Semli, Meiji Ben Messaoud, Ismail Ghissi, Fehmi Karou, Amine Hidji, Fatma Ben Amor, Sami Ouanes, Mehdi Khil, Mohamed Ben Doudou, Zohra Dridi, Fethi Begbout, Habib Gmara
CHU Fattouma Bourguiba, Monastir, Cardiologie, A, Monastir, Tunisia

Background: Low-molecular-weight heparins have recently been introduced in the management of ST elevation myocardial infarction (STEMI) patients but evidence remains poor among specific populations particularly elderly and patients with renal dysfunction.

Objective: to compare the outcome (mortality and hemorrhage) between patients treated with unfractioned heparin (UFH) versus low-molecular-weight heparins (LMWHs) in the whole population and among elderly and renal dysfunction patients.

Methods: Patients admitted for STEMI between January 1995 and November 2011 were retrospectively enrolled in the MIRAMI (MonastIR Acute Myocardial Infarction) registry. We compared the outcome (mortality and hemorrhage) between patients who received UFH versus LMWHs in the global MIRAMI population, then among elderly (aged over 75 years) and renal dysfunction patients (defined by a creatinin level >130 µmol/l).

Results: UFH was more often used when thrombolysis was adopted as reperfusion therapy (80.6% vs 68.6% when primary angioplasty is adopted (p=0.001), when patients present with heart failure (p=0.001), among elderly (p=0.001) and in patients with renal dysfunction (p=0.002). High rates of prescription of UFH may be attributed to the enrollment of patients since 1995, before LMWHs introduction in clinical practice. Mortality was higher among patient treated with UFH. This difference was statistically significant in the global population (11.9% vs 3.1%, p<0.001), but there was no significant differences among elderly (22.3% and 13.3%, p<0.05) and in renal dysfunction patients (39% vs 20%, p=0.23). Use of LMWHs did not show an increase of hemorrhagic complications in the global population (p=0.118), but among elderly (p=0.05) and renal dysfunction patients (p=0.61).

Conclusion: In the MIRAMI registry, LMWHs seemed to be at least as safe and effective as UFH in STEMI patients, even in elderly or renal dysfunction population.

023
National observational study of diagnostic and interventional cardiac catheterization by the French Society of Cardiology (ONACI): results according to administrates regions (northern vs. southern)
Etienne Puymirat (1), Maria-Pia Donatacico (1), Marie-Cécile Perier (2), Martine Gilard (3), Thierry Lefevre (4), Genevieve Mulak (5), Xavier Jouven (1), Christian Spaulding (1), Nicolas Danchin (1), Didier Blanchard (1)
(1) Hôpital Européen Georges Pompidou (HEGP), Cardiologie, Paris, France – (2) Unité Inserm U970, Paris, France – (3) CHU Brest, Brest, France – (4) Institut hospitalier Jacques Cartier, Massy, France – (5) Société Française de Cardiologie, Paris, France

Background: The national observational study of diagnostic and interventional cardiac catheterization (ONACI) is a prospective multi-center registry

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