0261

How to identify a risk for subsequent atrial fibrillation and higher risk of stroke in patients with hospitalization related to a cardiac cause?

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A substantial part of ischemic strokes (IS) occurs in patients with atrial fibrillation (AF) and 20% of all strokes are attributed to AF. We aimed to identify patients with a cardiac condition without diagnosed AF at higher risk of having a subsequent diagnosis of AF.

Methods: In a French longitudinal cohort study based on the PMSI database covering hospital care for the entire population, we analyzed incidence rates of new onset AF.

Results: Of 1,081,969 patients with hospitalization due to a cardiac condi-
tion in 2009, 926,416 patients did not have AF in their history but had hyper-
tension (51%), heart failure (24%), coronary artery disease (40%), rhythm or conduction disturbances with no AF (23%), and/or valve disease (9%). A total of 61,062 (7.4%) of these patients were diagnosed as having AF during a follow-up of 17±15 months (yearly AF incidence rate 5.19%). CHA2DS2-VASc score was higher in these patients (4.63±1.66 vs 2.83±1.98 in those with no AF during FU, p<0.0001). Among these 61,062 patients, 3,623 (5.9%) also suffered stroke during follow-up and CHA2DS2-VASc score was even higher in these patients (5.29±2.60 vs 4.59±2.65 in those with AF and no stroke during FU, p<0.0001). Among them, 967/3,623 (27%) had a stroke before AF was diagnosed.

Conclusion: A cardiac condition was associated with a substantial risk of AF (and stroke) during FU when CHA2DS2-VASc score was higher.

0295

Increased intracardiac VEGF and VWF levels revealed low grade inflammatory process and progressive endothelial damage in patients with atrial fibrillation

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Aims: Endothelial dysfunction seems to play a pivotal role in atrial fibril-
lation (AF). The purpose of this study was to investigate the relationship

between AF and vascular endothelial growth factor (VEGF) and to investigate the effect of different clinical forms of AF on plasma concentration of Von Willebrand Factor (vWF) at different levels of circulatory tree, both intracar-
diac and extracardiac.

Methods and results: Peripheral (Pf), left atrial (LA), and coronary sinus (CS) blood samples were obtained during cardiac catheterization from 52 patients with paroxysmal AF (PAF), 36 with persistent AF (PsAF), and 17 control subjects (Ct) with Wolff-Parkinson-White syn-
drome. Plasma levels of VEGF and vWF were measured at the three sam-
peld sites. Peripheral VEGF levels were higher in both PAF and PsAF patients than in controls (P<0.03). Left atrial VEGF levels were higher in paroxysmal AF (P = 0.05), but not in persistent AF (P = 0.32), compared with controls. Coronary sinus and pulmonary vein VEGF levels did not differ significantly among groups. (Fig 1). Compared with Ct, patients with PAF had higher LA plasma levels of vWF (P=0.004), but similar Pf and CS levels (both P > 0.30). In contrast, patients with PsAF had higher plasma concentrations of vWF in Pf (P=0.04), LA (P<0.001), and CS (P=0.04) samples compared with Ct. Left atrial plasma concentrations of vWF in patients with PsAF were also higher than in the PAF group (P=0.04). (Fig 1, next page).

Conclusion: This study suggests that inflammatory process in AF is of low grade. The heart itself is the most likely source of high left atrial VEGF; how-
ever, this disorder appears to be a transient event in AF history.

AF patients presented significantly higher plasma concentrations of vWF. This study suggests an association between the clinical evolution of AF and the progression of endothelial dysfunction. Further studies will have to estab-
lish the exact mechanisms that link endothelial dysfunction and stroke in the context of AF.

0457

Obesity and new-onset atrial fibrillation in acute myocardial infarction: a gender specific risk factor

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Purpose: In spite of the widespread use of contemporary therapies, new-
onset atrial fibrillation (AF) in acute myocardial infarction (AMI) remains common and associated with worse prognosis. No study have addressed obe-
sity, a modifiable risk factor, as a determinant of new-onset AF in AMI,

Methods: 1123 consecutive patients admitted for AMI were prospectively included. Obesity was defined as a BMI ≥ 30kg/m² Patients with a history of AF or atrial flutter were excluded. AF was considered either at AMI presenta-
tion or any time during hospital stay. Echocardiographic assessment of left atrial (LA) dimensions and left ventricular ejection fraction (LVEF) were per-
formed on admission.

Results: 91 (8%) patients developed new-onset AF. By multivariate ana-
lysis, several factors were independently associated with the occurrence of new-onset AF: age (OR (95% CI): 1.06(1.04-1.09); p<0.001), obesity (OR: 2.11; 95% CI 1.22-3.54; p=0.007), LA indexed volume (OR (95% CI): 1.02(1.01-1.04); p=0.016), LVEF<40% (OR (95% CI): 1.91 (1.06-3.46); p=0.032) and severe heart failure on admission (OR (95% CI): 2.46(1.21-5.02); p=0.013). In stratified analysis, we found marked differences in risk factors for AF according to gender. In women, only age (OR (95%CI): 1.07(1.03-1.11); p<0.001) and severe heart failure on admission (OR (95% CI): 4.02(1.38-11.7); p<0.011) were independently associated with AF. In contrast, in men, age (OR (95% CI): 1.07(1.04-1.10); p<0.001), CRP>10mg/l (OR (95% CI): 2.81(1.49-5.28); p=0.001), LA indexed volume (OR (95% CI): 1.03(1.01-1.05); p=0.011) and obesity (OR: 2.50; 95% CI 1.26-4.97; p=0.009) were independent correlates of AF.

Conclusion: The present study suggests for the first time that obesity is a major risk factor for the development of AF after AMI, which is specific to men. These findings may have clinical implication for risk stratification in AMI.