0294

Symptomatic AF but no silent AF is associated with an increased occurrence of ventricular arrhythmias after acute myocardial infarction

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Objectives: The aims of our study were to assess ventricular tachycardia or fibrillation (VT or VF) occurrence after AMI and to analyse the relationship with either symptomatic or silent AF occurrence.

Background: Silent or symptomatic AF are known to be common after AMI and to impair patients prognosis. But the reasons of this worse prognosis remain discussed.

Methods: 849 consecutive AMI were prospectively analyzed by continuous ECG monitoring (CEM) during the first 48 hours after admission. All AF, VT or VF episodes were then reviewed by two investigators. The population was studied into three groups: No AF, Silent AF, and symptomatic AF after AMI.

Results: Forty five patients (5%) developed symptomatic AF and one hundred and thirty five developed silent AF (15.9%). Compared with the no AF group, patients with AF were markedly older 80 (67-85) and 81(71-88) vs. 62 (53-75) years; with p<0.001), more likely to have hypertension (96(72%) and 53% p = 0.01; CI [1.3 – 6.53]). Significant complications occurred in 9% in the AF-CB group versus 13% in the AF group (p = 0.44). There was no difference regarding the rate of phrenic nerve palsy (7% AF-CB group vs 5% AF-CB group; p=0.24).

Conclusion: The lack of a bonus freeze application after PVI allows to significantly reducing the procedure time and the X-ray exposure. Even when using a reduced dosing strategy, our study shows the AF-CB leads to a better outcome as compared to the AF-CB.

0126

Evolution of early repolarization patterns after 5 years in a military population at low cardiovascular risk and practical implications in military medical expertise

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Aim: The French military population is a young and athletic population with a high prevalence of early repolarization patterns (ERP) compared to the general population. Screening of military officers at risk of sudden death (SD) is a priority in military medical expertise. The aim of our study was to evaluate the prevalence of ERP and its evolution over a period of 5 years in a specific asymptomatic population, free of heart disease and cardiovascular risk factors.

Methods: From March to December 2008, we prospectively collected the ECGs of military officers enlisted into the submarine forces of France. For 5 years (until 2012), the military officers included in the study underwent a clinical examination twice per year. A new ECG was carried out 5 years after the initial one.

Results: 250 male subjects were included (mean age 22.87±0.5 years). The prevalence of ERP was 19.2%. The most common appearance was an elevation of a slurring type J point (31/48 or 64.5%) in inferolateral leads (18/48 or 37.8%). After 5 years, the prevalence of ERP was identical to that of the initial one.

Conclusion: ERP is common in our population of young, athletic and asymptomatic military officers and changes little in 5 years

Key words: early repolarization, sudden death, young subjects

0141

Value of cardiac magnetic resonance imaging to predict the occurrence of ventricular tachycardia in post-infarct patients

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Introduction: The mid-term occurrence of VT or VF occurrence after AMI and to impair patients prognosis. But the reasons of this worse prognosis remain discussed.

Method: Since January 2011, all patients referred to our institution for ablation of symptomatic drug refractory paroxysmal atrial fibrillation were included (n=129). Until June 2012, the ablation was performed with the Arctic Front cryoballoon (AF-CB) with application of 4mm bonus freeze after PVI (n=47). From July 2012 to December 2013, the ablation procedure was performed with the AFA-CB, without bonus freeze after PVI in 82 patients. All patients were seen at 4 to 6 month follow-up. They underwent at least 1 Holter monitoring in the post-operative period (2-4 month after ablation). Mid-term clinical success was defined by the association of sinus rhythm on ECG and Holter monitoring and lack of symptoms.

Results: Compared to the AFCB group, there was a significant reduction of the procedure time (131 min vs 95 min; p < 0.01), the X-ray exposure (27Gy/cm² vs 20 Gy/cm²; p = 0.04) in the AFACB group. Isolation of the 4 PVs was obtained in 89 and 96% (p = 0.24) before performing a touch up with a Freezer Max catheter in the AFCB and AFACB group respectively.

Conclusion: The lack of a bonus freeze application after PVI allows to significantly reducing the procedure time and the X-ray exposure. Even when using a reduced dosing strategy, our study shows the AF-CB leads to a better outcome as compared to the AF-CB.
**Introduction:** The use of implantable cardioverter-defibrillators (ICD) is recommended to prevent sudden cardiac death (SCD) in patients with a reduced (≤30-35%) left ventricular ejection fraction (LVEF) due to previous myocardial infarction (MI). Some patients, however, never receive adequate ICD intervention. We studied whether the characteristics of MI scar, as assessed by magnetic resonance imaging (MRI), could predict the occurrence of ventricular tachycardia (VT).

**Methods:** Fifty-one patients (41 men, mean age=59±11 years) with a remote (>6 months) MI and a class I primary prevention indication for ICD implantation underwent a cardiac MRI study before implantation. Delayed contrast enhancement (DCE) was used to delineate post-MI scars. On the basis of manually outlined contours of left ventricular epicardial, endocardial, and scar borders, the location and transmural extent of the scar were calculated.

**Results:** VT occurred in 15 patients (29%) after a follow-up of 43±24 months. There were no statistical differences between patients who experienced VT and those who did not for demographic data, LVEF, total myocardial and MI surface at infarct borders, MRI showed areas with intramural and/or epicardial scar in all but one patients. Epicardial scar surface (3.6±0.5 vs. 1.3±0.3 cm²; p=0.0005) and intramural scar surface (4.0±0.6 vs. 1.8±0.4 cm²; p=0.002) were greater in patients with VT. In multivariate analysis, intramural and sub-epicardial scar remained significantly associated with the occurrence of VT (respectively: HR, 1.28/cm²; CI, 1.10 to 1.51; p=0.003 and HR, 1.23/cm²; CI, 1.01 to 1.51; p=0.04). Patients with intramural scar surface >1.65 cm² had lower 5 years VT free survival (33.8% vs. 100%; p<0.0001).

**Conclusion:** The presence of a critical surface of both intramural and epicardial scars at an infarct border may be key factors for the occurrence of VT after MI.

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**0300**

**Relationship between spatial scar characteristics assessed by cardiac magnetic resonance imaging and cycle length of monomorphic ventricular tachycardia in post-infarct patients**

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**Introduction:** We have previously demonstrated that the spatial characteristics (intramural and epicardial components) of MI scar predicts the occurrence of monomorphic ventricular tachycardia (MVT) after a myocardial infarction (MI). We studied whether MI scar characteristics, as assessed by magnetic resonance imaging (MRI), was related to the minimum cycle length (mCL) of MVT.

**Methods:** We studied 50 patients (43 men, mean age 60±13 years) with previous MI, cardiac MRI study, primary (n=12) or secondary prevention indication of implantable cardiac defibrillator (ICD) and who experienced MVT. Delayed contrast enhancement (DCE) was used to delineate post-MI scars.

**Results:** MVT occurred 15±9 years after MI and the mCL was 303±49ms. MRI showed endocardial or transmural scar in all patient. Patients were classified depending on the median of the mCL (300ms). There were no statistical differences between the 2 groups for: gender, medication, indication of ICD, history of coronary artery revascularization, infarct location and for the following MRI parameters: left ventricular (LV) ejection fraction, LV end-diastolic volume, LV mass, total myocardial surface, total MI scar surface, transmural, endocardial or epicardial MI scar surface. In patients with a mCL>300ms, there was a trend for older age at first MVT episode (64±2 vs. 57±3 year; p=0.06) and a greater intramural scar surface (5.8±3.7 vs. 2.9±1.6cm²; p=0.002). Age (r=0.32; p=0.02) and intramural scar surface (r=0.47; p<0.001) were associated with the mCL. After multiple linear regression, age and intramural scar surface remained significantly associated with the mCL (respectively: β=1.3±0.6; p=0.03 and β=6.5±2; p=0.003).

**Conclusion:** Our study suggests that the mCL of MVT may be related to age and to the intramural MI scar surface at the infarct border (figure next page).

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**0379**

Premature ventricular beat-induced cardiomyopathy. Characteristics and prognosis factor for recovery after radio-frequency ablation

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**Introduction:** Premature ventricular beat-induced cardiomyopathy (CM). Characteristics and prognosis factor for recovery after RF ablation remain debated.

**Methods:** 93 patients (74% men, 58±14 yo) with dilated CM associated with frequent isolated PVB were included. A group of 75 pts undergoing ablation for symptomatic PVB without significant cardiac disease serves as the control group.

**Results:** EF was 38±10% and left ventricular end diastolic diameter (LVEDD) was 63±8mm. One third have various associated cardiomyopathy. PVB burden was 27±12%. PVB arose from the left ventricle in 96 pts (LVOT 61, mitral 16, apex 7, septal 12) and from the right ventricle in 61 pts (RVOT 58) and multiple in 11. Epicardial ablation in the CS was needed in 25.