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 analyze the relationship with either symptomatic or silent AF occurrence.

Background: Silent or symptomatic AF are known to be common after AMI and to impair patient’s 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 drug refractory paroxysmal atrial fibrillation were 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) vs. 62 (53-75) years; with p<0.001), more likely to have hypertension (96(72%) vs. 63(45%); with p<0.001), more likely to be smoker (26 (20%) and 3(7%); with p=0.01), more likely to have diabetes (22(17%) and 5(4%); with p=0.001), higher heart rate (maximum, median or systolic; with p<0.001), more likely to have hypertension (96(72%) and 63(45%); with p<0.001). Comparing these three groups at day 1 and day 2, patients with symptomatic AF had higher heart rate (maximum, median or systolic; with p<0.001). Moreover, in-hospital mortality was higher in symptomatic AF group, that was confirmed at day 2 with 11(24.4%) vs 7(5.2%) in silent AF group and 29(4.3%) in the no AF group (9 (1.3%) with p<0.001). Comparing these three groups at day 1 and day 2, patients with symptomatic AF had higher heart rate (maximum, median or systolic; with p<0.001) and less smoker (26 (20%) and 3(7%); with p=0.001). Comparing these three groups at day 1 and day 2, patients with symptomatic AF had higher heart rate (maximum, median or systolic; with p<0.001) and less smoker (26 (20%) and 3(7%); with p=0.001). Comparing these three groups at day 1 and day 2, patients with symptomatic AF had higher heart rate (maximum, median or systolic; with p<0.001) and less smoker (26 (20%) and 3(7%); with p=0.001).

Conclusion: Symptomatic AF is very common after AMI and impacts patient’s outcome with more frequent episodes of VT or VF and higher inhospital mortality (17.8%). Our large prospective study suggests that VT or VF occurrence associated with symptomatic AF could be linked with the higher mortality in this population.

Use of 2nd generation cryoballoon with reduced dosing strategy is superior to 1st generation cryoballoon for paroxysmal atrial fibrillation ablation

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Background: With the technical properties of the 2nd generation (Arctic Front Advance, AFA cryoballoon (CB), we postulated we could reduce complication rate without impairing efficacy in the treatment of paroxysmal atrial fibrillation if we stop the bonus application.

Method: Since January 2011, all patients referred to our institution for ablation of 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 reduce the procedure time and the X-ray exposure. Even when using a reduced dosing strategy, our study shows the AFA-CB leads to a better outcome as compared to the AF-CB.

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 previous period (19.2%) with no change in appearance, distribution and amplitude in 47 subjects (97.9%). Repolarization changed in 2 patients (1 occurrence of ERP and 1 disappearance). During the 5 years of follow-up, the subjects remained asymptomatic

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

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

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