Association between silent Atrial Fibrillation and heart failure after Acute Myocardial infarction

Karim Dijon, Soad Elsas, Claude Loutzery, Jean Claude Beer, Marianne Zeller, Yves Coutin

CHU Dijon, USIC, Dijon Cedex, France

Atrial Fibrillation (AF) complicating an acute myocardial infarction (AMI) is frequent and associated with a worse prognosis after MI, particularly because of lethal heart failure (HF) episodes and cardiogenic shock. Although silent AF has also been suggested to be common in AMI, its association with development of heart failure during the first days after AMI remains unknown. In this study we aimed to assess a potential association between silent AF and episodes of heart failure after AMI.

Methods: For AF screening, 581 consecutive AMI were prospectively ana-
lyzed by Continuous ECG Scope Monitoring (CSM) for 48H after hospital admission. Left Ventricular Ejection Fraction (LVEF) was determined on admission by echocardiography. We analyzed the study population into 3 groups: No AF, silent AF (asymptomatic episodes of AF lasting at least 24 hours). Diagnosis of heart failure episode was based on plasmatic level of Nt-ProBNP.

Results: Ninety-five (16.4%) patients had AF on CSM after MI, of whom 76 (80%) developed silent AF. Compared with No AF group, patients with silent AF were markedly older (60 (59–74) vs 62 (53–79); p=0.001), more fre-
quently women (45 vs 27%; p=0.006), hypertensive (70% vs 25%; p=0.001) but less smoker (18% vs 38%; p<0.001). On admission, patients with silent AF had unpaired LVEF (46% (13%) vs 54% (11%); p=0.001), with higher Nt-ProBNP (1817 (556-708) vs 435 (111-1512; p<0.001) and more frequent episode of heart failure (42 vs 21%; p=0.001). Comparing the three groups, heart failure episodes during the acute phase after myocardial infarction were more fre-
quent in silent AF group (42%) and in asymptomatic AF group (53%) than in no AF group (21%), with p<0.001.

Conclusion: This study shows that silent AF is very common after MI (16.4%), and highlights for the first time that its significantly associated with episodes of heart failure. This outcome suggests the potential impact of silent AF on the prognosis of patients after AMI.

Long-term follow-up after implantable cardioverter defibrillator in patients with Brugada syndrome: a multicenter French experience

Aimé Bonny (1), Amara Walid (2), Hasnna Salih (2), Joecli Tonet (3), Stéphane Denetteire (1), Guy Fontaine (3), Robert Frank (3), Françoise Hidden-Lucet (3)

(1) CH Roubaix, Roubaix, France – (2) CH Montfermeil, Montfermeil, France – (3) Hôpital Pitié-Salpêtrière, cardiologie, unité rythmologie, Paris, France

Background and objective: Implantation of a cardioverter defibrillator (ICD) is a frequently recommended treatment for symptomatic Brugada syn-
drome (Bis). However, complications related to the device have been reported.

Methods and results: We assessed the benefit / morbidity ratio of this mode of therapy in a cohort of 34 patients implanted in 3 French experienced centers between January 1, 2002 and November 30, 2010. The mean age was 48±14 years, 4 (12%) female. Twenty nine (85%) patients had spontaneous typical coved Type I ECG pattern, 15 (44%) had family history of sudden car-
diac death (SCD) and 24 (88%) had positive EP study. ICD implantation was
based on aborted sudden cardiac arrest (SCA) in 3 (9%), syncope in 19 (56%) or high risk status (spontaneous type 1 ECG in conjunction with a family his-
tory of SCD and/or a positive EP study) in 12 (35%). The median follow-up period was 74±23 (9–127) months. One patient with prior cardiac arrest died of a non-cardiac cause, 5 (15%) patients had appropriate device therapy; all with spontaneous type 1 ECG and previous syncope but none with prior car-
diac arrest. Overall complication rate was 26%. Six (27%) symptomatic patients and 3 (25%) asymptomatic patients experienced complications. Five (14%) patients (4 with previous syncope and 1 asymptomatic) experienced inappropriate shocks and 4 (12%) had other complications: 2 patients had lead rupture, 1 lead displacement, and 1 pneumothorax during device replacement. These complications occurred in 2 asymptomatic and 2 symptomatic (1 syncope and 1 prior aborted SCA) patients. No case of SCD was observed in ICD carriers.

Conclusion: Appropriate device therapy after a median follow-up period of 6 years was observed in patients with prior syncope and none in asymptom-
atic patients. Complication rate was leading not to recommend ICD implanta-
tion in asymptomatic Brugada patients and to carefully evaluate the risk / morbidity ratio in subject with non spontaneous coved type ECG pattern.

Reverse electrical remodeling by cardiac resynchronization therapy: An Analysis of the CARE-HF trial

Thibaud Damy (1), Stefano Ghio (2), Alan Rigby (3), Luc Hittinger (4), Sarah Jacob (5), Luigi Tavazzi (6), John Cleland (3)

(1) CHU Henri Mondor, Fédération de cardiologie, Créteil, France – (2) Department of Cardiology, IRCCS Policlinico San Matteo, Pavia, Ita-
lie – (3) Castle Hill Hospital, Academic Cardiology, Kingston-Upon-Hull, Royaume-Uni – (4) CHU Henri Mondor, UF insuffisance cardiaque 8e étage, Créteil, France – (5) Medtronic Research Centre, Maastricht, France – (6) GYM Hospitals of Care and Research, Cotignola, Italie

Background: Cardiac resynchronization therapy (CRT) prolongs survival in appropriately selected patients with heart failure. Right ventricular (RV) dysfunction is associated with a worse prognosis in this setting but it is not clear whether it influences the clinical response to CRT.

Method and Results: Of 813 patients enrolled in the Cardiac Resynchron-
ization-Heart Failure (CARE-HF) study, 688 had tricuspid plane systolic excursion (TAPSE) measured at baseline and 345 of these were assigned to CRT. Their median (IQR) age was 66 (58–71) years, left ventricular (LV) ejection fraction was 24 (21–28%) and TAPSE was 19 (16–22)mm. Baseline LV function and size and QRS duration were similar amongst TAPSE tertiles but those in the worst tertile (TAPSE<17.4 mm) had higher plasma concentra-
tions of amino-terminal pro-brain natriuretic peptide (NT-proBNP) and were more likely to have ischaemic heart disease. In response to CRT, patients in the lowest tertile of TAPSE had less LV reverse remodelling but greater reductions in NT-proBNP and pulmonary artery pressure and more RV reverse remodelling compared to other tertiles. The median (IQR) follow-up for mortality was 748 (592–950) days during which 213 deaths occurred. Patients with lower TAPSE had a higher mortality regardless of assigned treatment (p<0.001). Greater inter-ventricular mechanical delay, New York Heart Association class, mitral regurgitation and NT-proBNP, lower TAPSE and assignment to the control group were independently associated with higher mortality. Reduction in mortality with CRT was similar in each tertile.

Conclusion: RV dysfunction is a powerful determinant of prognosis amongst candidates for CRT, regardless of treatment assigned: CRT improved prognostic in patients with RV dysfunction despite less improvement in LV remodelling.