

# **Ablation de FA dans l'insuffisance cardiaque**

**2e partie - rythmosud 2018**

# Le contexte la FA et l'insuffisance cardiaque

La FA est l'arythmie la plus fréquente dans l'IC quelle que soit la FEVG

Un nouvel épisode de FA chez un insuffisant cardiaque est d'mauvais pronostique

Un épisode d'IC compliquant la FA est de meilleur pronostique

Justifier les prescriptions d'amiodarone de plus de 6 mois.

Le contrôle de fréquence ne corrige pas toutes les cardiopathies rythmiques

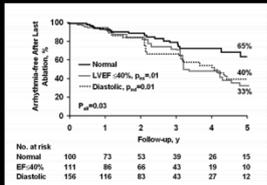
## Pulmonary Vein Isolation for the Treatment of Atrial Fibrillation in Patients With Impaired Systolic Function

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Cleveland, Ohio



## Success of Ablation for Atrial Fibrillation in Isolated Left Ventricular Diastolic Dysfunction A Comparison to Systolic Dysfunction and Normal Ventricular Function

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La moitié augmente la FEVG, 62% la normalise



Circ arrhythm Electrophysiol 2011

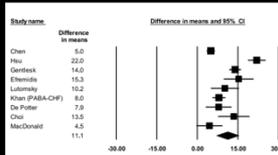
# Rythmosud 2011

Journal of Cardiac Failure Vol. 17 No. 11 2011

## Catheter Ablation for Atrial Fibrillation in Patients With Left Ventricular Systolic Dysfunction. A Systematic Review and Meta-Analysis

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Athens, Greece; and Leipzig, Germany



Moindre bénéfique chez le coronarien

## The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1822 DECEMBER 2, 2004 VOL. 351 NO. 23

### Catheter Ablation for Atrial Fibrillation in Congestive Heart Failure

Li-Fen Hsu, M.B., B.S., Pierre Jais, M.D., Prashanth Sanders, M.B., B.S., Ph.D., Stéphane Garrigue, M.D., Ph.D., Miklós Hosszi, M.D., Frédéric Sachet, M.D., Yoshitake Takahashi, M.D., Martin Rottner, M.D., Jean-Luc Pasquall, M.D., Ph.D., Christophe Scavée, M.D., Pierre Bordaach, M.D., Jacques Clémenty, M.D., and Michel Haissaguerre, M.D.

- 58pts (10% parox) mêmes résultats à 1an que 58 témoins (70%)
- Amélioration des symptômes, capacité d'effort et FEVG (même si fréquence contrôlée et cardiopathie)
- 92% d'amélioration spectaculaire pour les tachy cardiomyopathies



## Meta-Analysis of the Effectiveness and Safety of Catheter Ablation of Atrial Fibrillation in Patients With Versus Without Left Ventricular Systolic Dysfunction

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Am j cardiol 2010

- 1 procédure : + de récurrences
- 1,4 procédures : id.
- Complication : id
- FEVG + 10%

### AF disorders

Radiofrequency ablation for persistent atrial fibrillation in patients with advanced heart failure and severe left ventricular systolic dysfunction: a randomised controlled trial

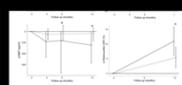
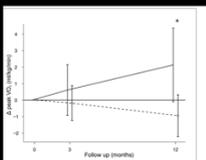
Michael R MacDonald,<sup>1</sup> Derek T Connelly,<sup>1,2</sup> Nathaniel M Hawkins,<sup>3</sup> Tracey Steedman,<sup>4</sup> John Payne,<sup>1</sup> Morag Shaw,<sup>1</sup> Martin Demir,<sup>5</sup> Sai Bha Sandy Small,<sup>2</sup> William Martin,<sup>2</sup> John J V McMurray,<sup>2</sup> Mark C Petrie<sup>1</sup>



- Étude randomisée négative
- Mais plus de complication (patients plus âgés, en insuffisance cardiaque plus sévère) avec 50% de RS à 6 mois
- Amélioration FEVG en Scinti et pas en IRM

## A Randomized Trial to Assess Catheter Ablation Versus Rate Control in the Management of Persistent Atrial Fibrillation in Heart Failure

David G. Jones, MD,<sup>1\*</sup> Shouvik K. Haldar, MBBS,<sup>1\*</sup> Wajid Hussain, MB, ChB,<sup>1\*</sup> Rakesh Sharma, PhD,<sup>1\*</sup> Darrel P. Francis, MD,<sup>1</sup> Shelley L. Rahman-Haley, MD,<sup>2</sup> Theresa A. McDonagh, MD,<sup>1\*</sup> S. Richard Underwood, MD,<sup>1\*</sup> Vias Markides, MD,<sup>1\*</sup> Tom Wong, MD<sup>1\*</sup>  
London, United Kingdom



JACC 2013

## Long-term follow-up after atrial fibrillation ablation in patients with impaired left ventricular systolic function: the importance of rhythm and rate control.

Nedios S. Sommer P, Dagnes N, Kosciuk J, Arya A, Richter S, Gaspar T, Kanagkinis N, Dinov B, Piorkowski C, Bollmann A, Hindricks G, Roff S.

Heart Rhythm. 2014 Mar;11(3):344-51. doi: 10.1016/j.hrthm.2013.12.031. Epub 2013 Dec 27.

- 69 pts suivi >2ans
- Même complications que témoins
- Amélioration FEVG à 6m liée à la baisse de fréquence
- Amélioration à long terme chez les 65% en RSS



ORIGINAL ARTICLE

## Pulmonary-Vein Isolation for Atrial Fibrillation in Patients with Heart Failure

Mohammed N. Khan, M.D., Pierre Jaïs, M.D., Jennifer Cummings, M.D., Luigi Di Biase, M.D., Prashanthan Sanders, M.D., David O. Martin, M.D., Josef Kautzner, M.D., Steven Hao, M.D., Sakis Themistoclakis, M.D., Raffaele Fanelli, M.D., Domenico Potenza, M.D., Raimondo Massaro, M.D., Oussama Wazni, M.D., Robert Schweikert, M.D., Walid Saliba, M.D., Paul Wang, M.D., Amin Al-Ahmad, M.D., Salwa Beheiry, M.D., Pietro Santarelli, M.D., Randall C. Starling, M.D., Antonio Dello Russo, M.D., Gemma Pelargonio, M.D., Johannes Brachmann, M.D., Volker Schibgilla, M.D., Aldo Bonso, M.D., Michela Casella, M.D., Antonio Raviele, M.D., Michel Haïssaguerre, M.D., and Andrea Natale, M.D., for the PABA-CHF Investigators\*

ABSTRACT

PABA-CHF.  
2008

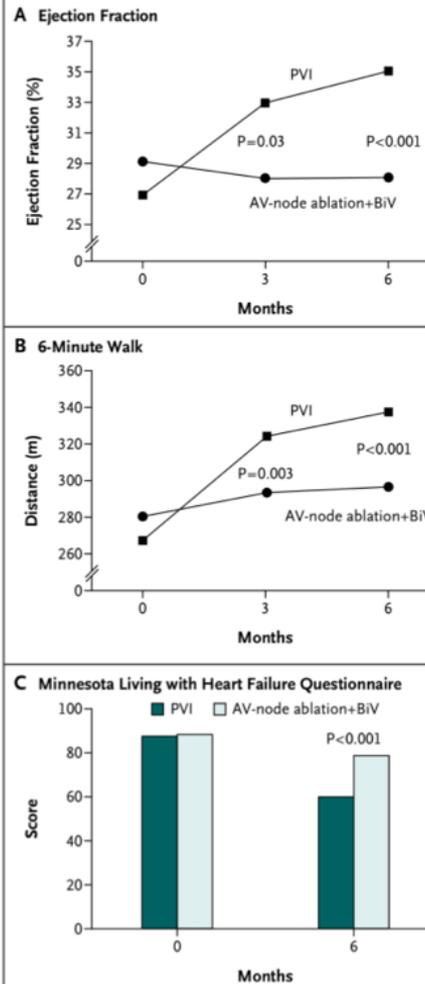


Figure 3. Composite Primary End Point of Ejection

# 2015

Plus de procédures chez l'insuffisant cardiaque

Plus de lésions

Amélioration fonctionnelle et augmentation de la FEVG

Surtout en l'absence de coronaropathie.



## Guidelines for the management of atrial fibrillation

The Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC)

Catheter ablation (pulmonary vein isolation) may be considered in heart failure patients with refractory symptomatic AF.

**IIb**

**B**

Dan Atar (Norway), Paolo Colonna (Italy), Raffaele De Caterina (Italy), Johan De Sutter (Belgium), Andreas Goette (Germany), Bulent Gorenek (Turkey), Magnus Heldal (Norway), Stefan H. Hohnloser (Germany), Philippe Kolh (Belgium), Jean-Yves Le Heuzey (France), Piotr Ponikowski (Poland), Frans H. Rutten (The Netherlands).

# Depuis...

>1000 patients inclus

2 autres études randomisées et une metaanalyse des 4 essais contrôlés vs contrôle de fréquence :

- 224 pts (83% persistante)
- Augmentation FEVG 8.5%
- VO2max, test de marche, qualité de vie > contrôle de fréquence

Qui ont servis de base aux recommandations 2016 esc - FA et IC....

## ESC 2016 FA

AF ablation should be considered in symptomatic patients with AF and heart failure with reduced ejection fraction to improve symptoms and cardiac function when tachycardiomyopathy is suspected.

<b>IIa</b>	<b>C</b>	163, 226–228, 720, 777–779, 828
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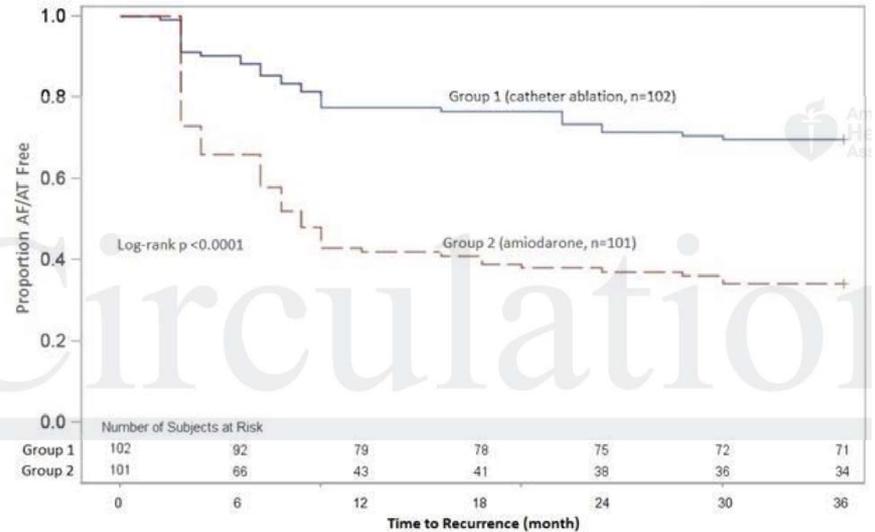
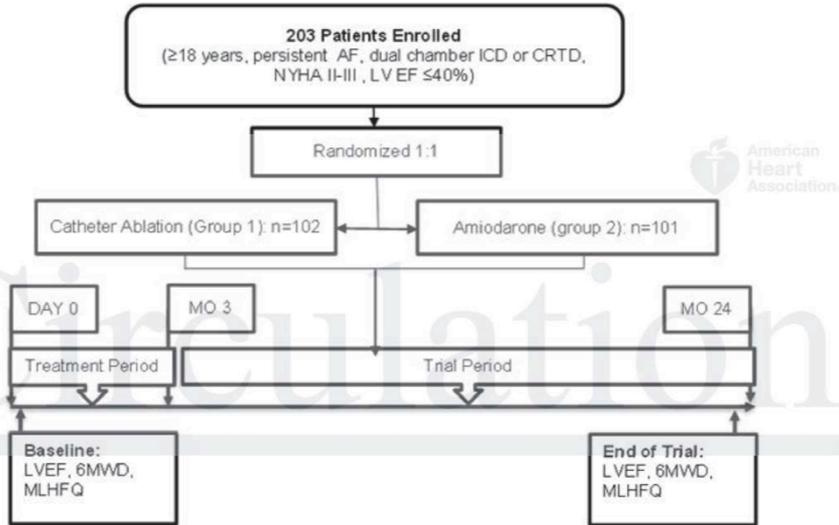
## ESC 2016 IC

...en attendant  
CASTLE-AF

Electrical cardioversion or pharmacological cardioversion with amiodarone may be considered in patients with persisting symptoms and/or signs of HF, despite OMT and adequate control of ventricular rate, to improve clinical/symptomatic status.	<b>IIb</b>	<b>B</b>	344
AF ablation may be considered in order to restore sinus rhythm to improve symptoms in patients with persisting symptoms and/or signs of HF, despite OMT and adequate control of ventricular rate, to improve clinical/symptomatic status.	<b>IIb</b>	<b>B</b>	279, 363
Amiodarone may be considered prior to (and following) successful electrical cardioversion to maintain sinus rhythm.	<b>IIb</b>	<b>B</b>	342, 360

# Ablation vs. Amiodarone for Treatment of Persistent Atrial Fibrillation in Patients With Congestive Heart Failure and an Implanted Device: Results From the AATAC Multicenter Randomized Trial

Running title: *Di Biase et al.; AF ablation in heart failure*



Mortalit  8 vs 18%

# 2017 HRS/EHRA/ECAS/APHRS/SOLAECE expert consensus statement on catheter and surgical ablation of atrial fibrillation



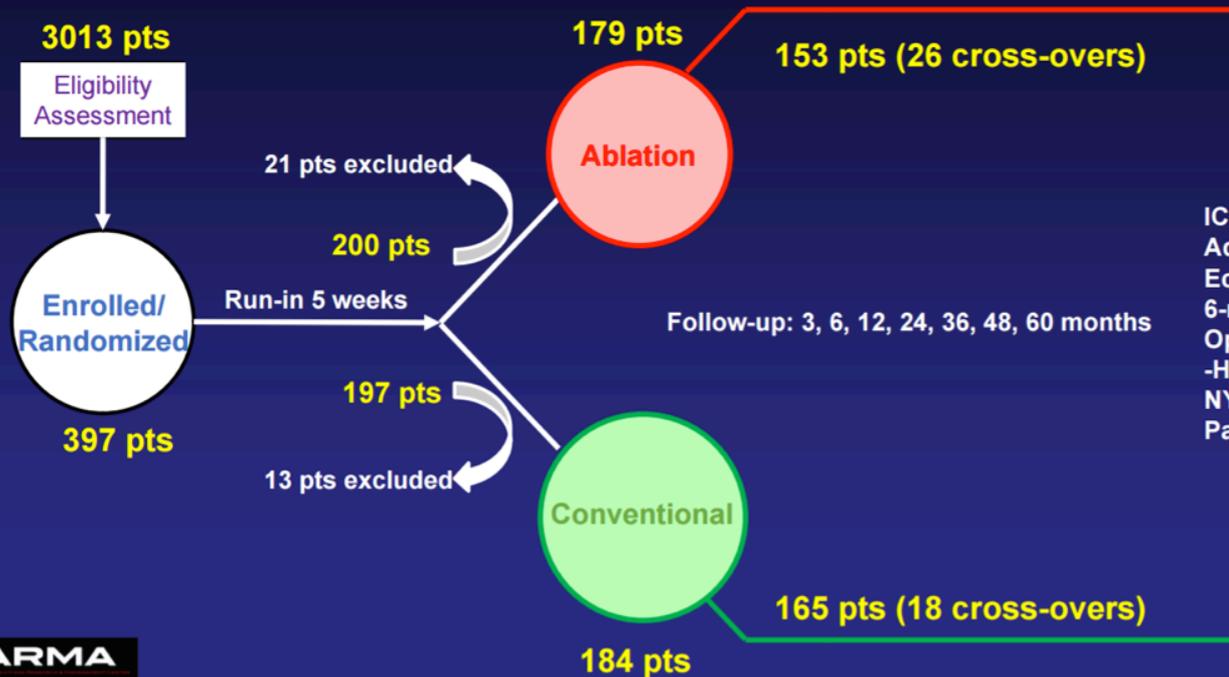
Calkins et al Catheter and Surgical Ablation of Atrial Fibrillation

**Table 2** Indications for catheter (A and B) and surgical (C, D, and E) ablation of atrial fibrillation

	Recommendation	Class	LOE
<b>Indications for catheter ablation of atrial fibrillation</b>			
<b>A. Indications for catheter ablation of atrial fibrillation</b>			
Symptomatic AF refractory or intolerant to at least one Class I or III antiarrhythmic medication	Paroxysmal: Catheter ablation is recommended.	I	A
	Persistent: Catheter ablation is reasonable.	IIa	B-NR
	Long-standing persistent: Catheter ablation may be considered.	IIb	C-LD
	Paroxysmal: Catheter ablation is reasonable.	IIa	B-R
Symptomatic AF prior to initiation of antiarrhythmic therapy with a Class I or III antiarrhythmic medication	Persistent: Catheter ablation is reasonable.	IIa	C-E0
	Long-standing persistent: Catheter ablation may be considered.	IIb	C-E0
<b>B. Indications for catheter atrial fibrillation ablation in populations of patients not well represented in clinical</b>			
Congestive heart failure	It is reasonable to use similar indications for AF ablation in selected patients with heart failure as in patients without heart failure.	IIa	B-R

# Study Design— CASTLE-AF

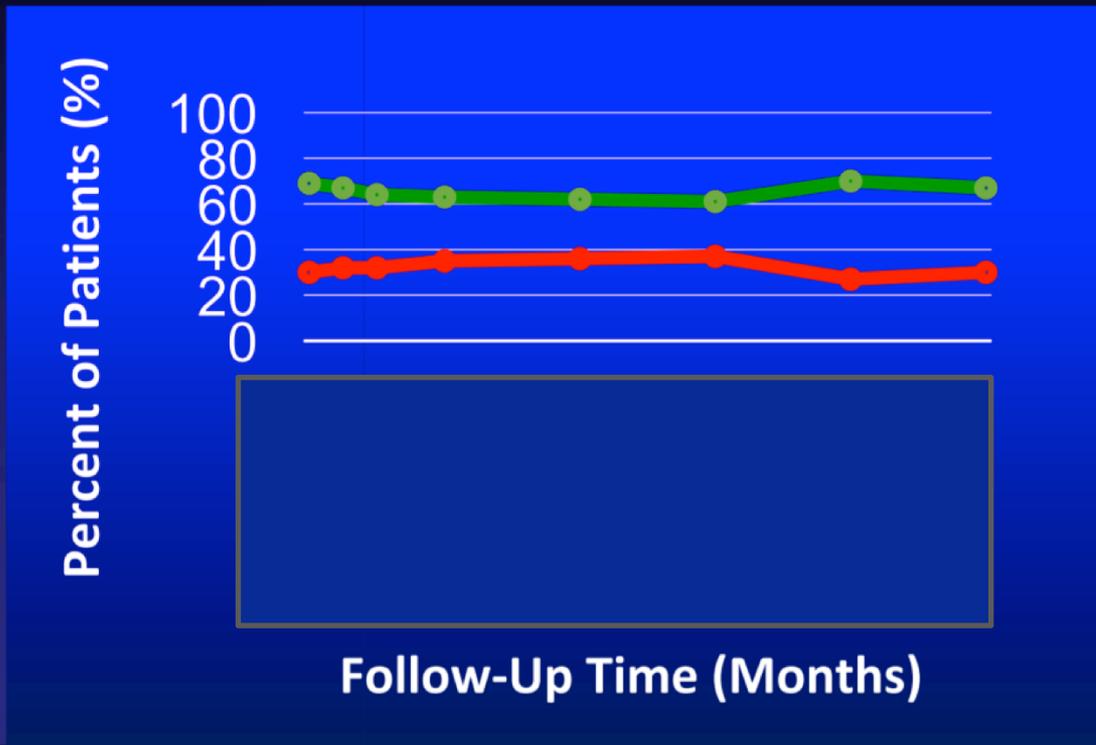
- Investigator initiated, Prospective, Multicenter ( 31 sites, 9 countries), Randomized, Controlled



ICD/CRT-D check  
Adverse event documentation  
Echocardiography  
6-minute walk test  
Optimization of medication for HF  
-Home Monitoring programming  
NYHA, weight, BP, QoL  
Patients' diary

# Results-CASTLE AF

## Rate Versus Rhythm Control in Conventional Arm



### Rate control:

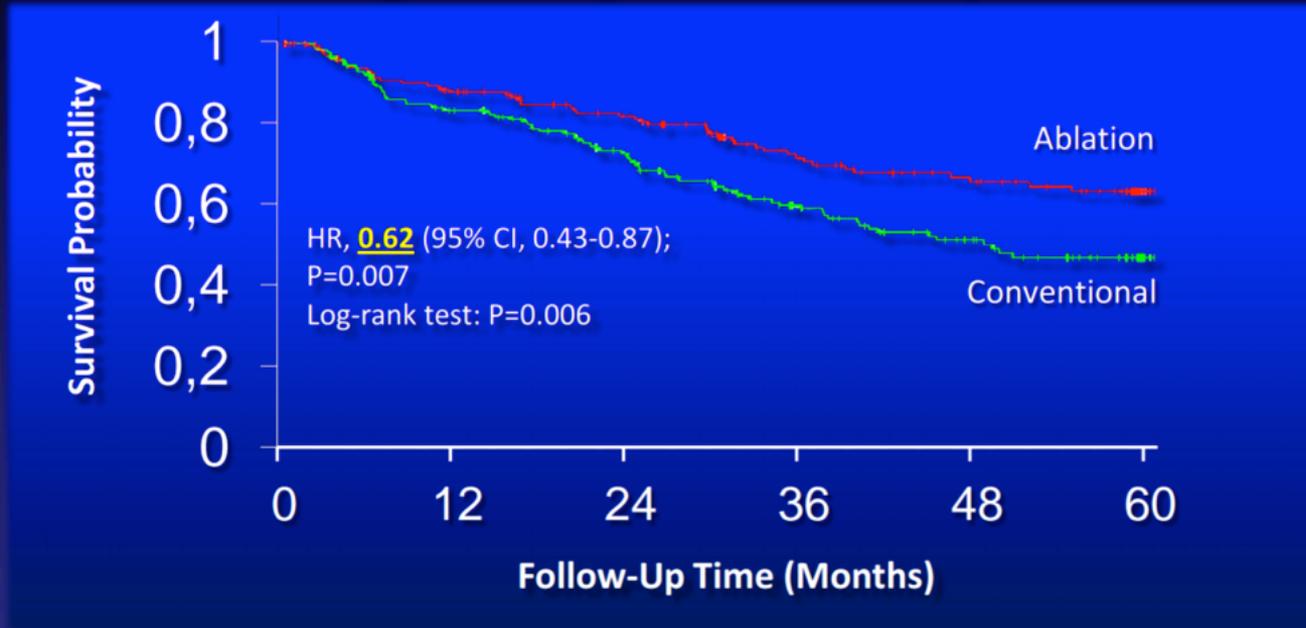
- Beta-blocker
- Digitalis
- Calcium antagonist
- Atrioventricular node ablation (in 5 patients)

### Rhythm control:

- Antiarrhythmic drug
- Atrial fibrillation ablation (18 crossover cases)

# Results-CASTLE AF

## Primary Composite Endpoint

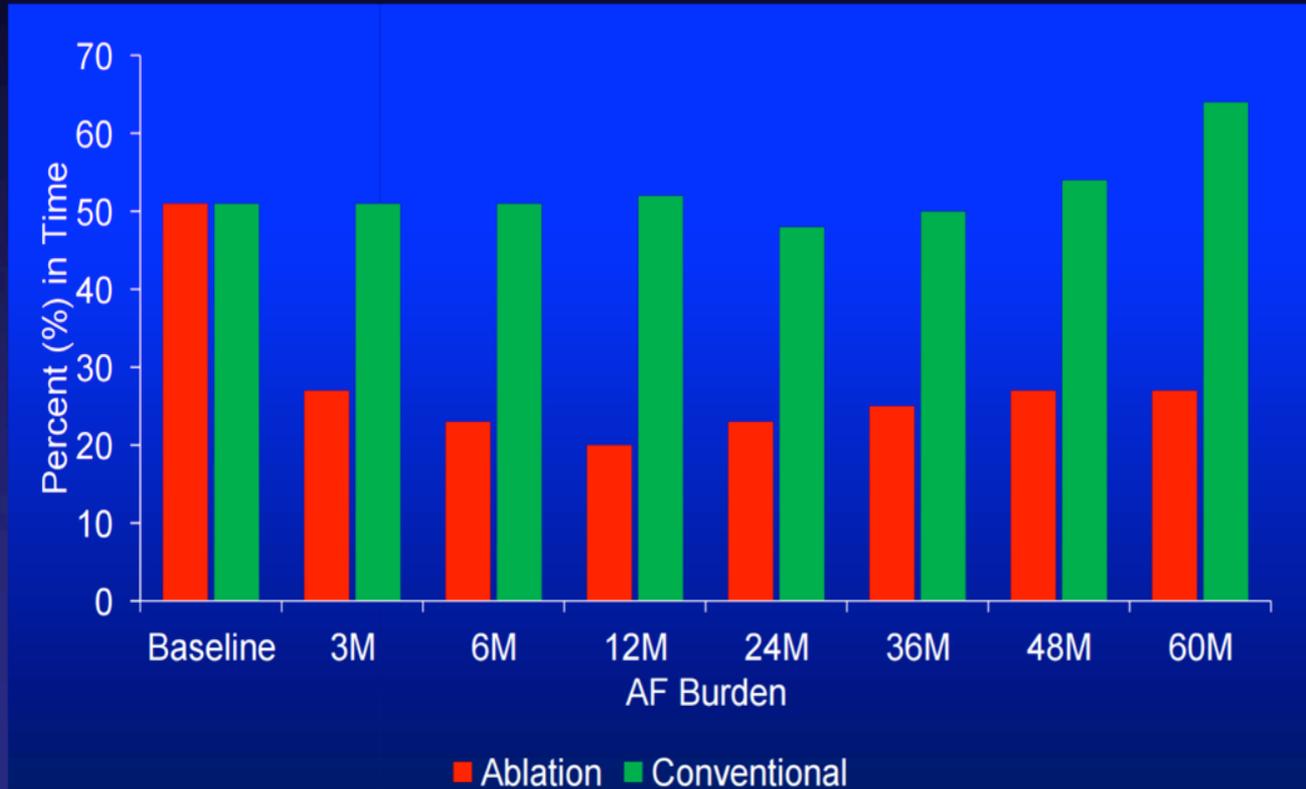


### Patients at Risk

	0	12	24	36	48	60
Ablation	179	141	114	76	58	22
Conventional	184	145	111	70	48	12

# Results-CASTLE AF

## *AF Burden Derived from Memory of Implanted Devices*



# En bref

Beaucoup de persistante

Efficacité de l'ablation est la même avec ou sans dysfonction VG : 70% à 1 an

Pas plus de complications

Compter 1.5 procédures,

Espérer +10% FEVG

Amélioration des symptômes

Diminution de mortalité et hospitalisation

# Ablation FA / insuffisance cardiaque en 2013

## Que sont ils devenus ?

- H 70 ans, ATCD d'hyperthyroïdie
- CMD – BBG traité depuis 5 ans, NYHA 2, FEVG =45%
- Choc cardiogénique, FA 130/mn, FEVG <20%

# Ablation FA / insuffisance cardiaque en 2013

## Que sont ils devenus ?

- H 50ans
- ETT normalz après un accès de FA de 3j il y a 1 an
- Consulte pour dyspnée : FEVG = 45%, FA 130/mn
- Après 6 semaines sous 10mg de ramipril et 10mg de bisoprolol : FEVG = 45%, FA 90