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Novotel Paris Tour Eiffel

Passion Communication Education

Prévention de la mort subite dans la maladie coronaire

Place du traitement médical

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Electrophysiologie
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DÉCLARATION DE LIENS D'INTÉRÊT AVEC LA PRÉSENTATION

Intervenant : Cynthia Barbraud, Liège

☑ Je n'ai pas de lien d'intérêt à déclarer

Mort subite : 1ere manifestation de la coronaropathie

- >30% des MSC sont la manifestation initiale de la maladie coronaire
- Coronaropathie identifiée dans 80% des MSC

Incidence de la mort subite

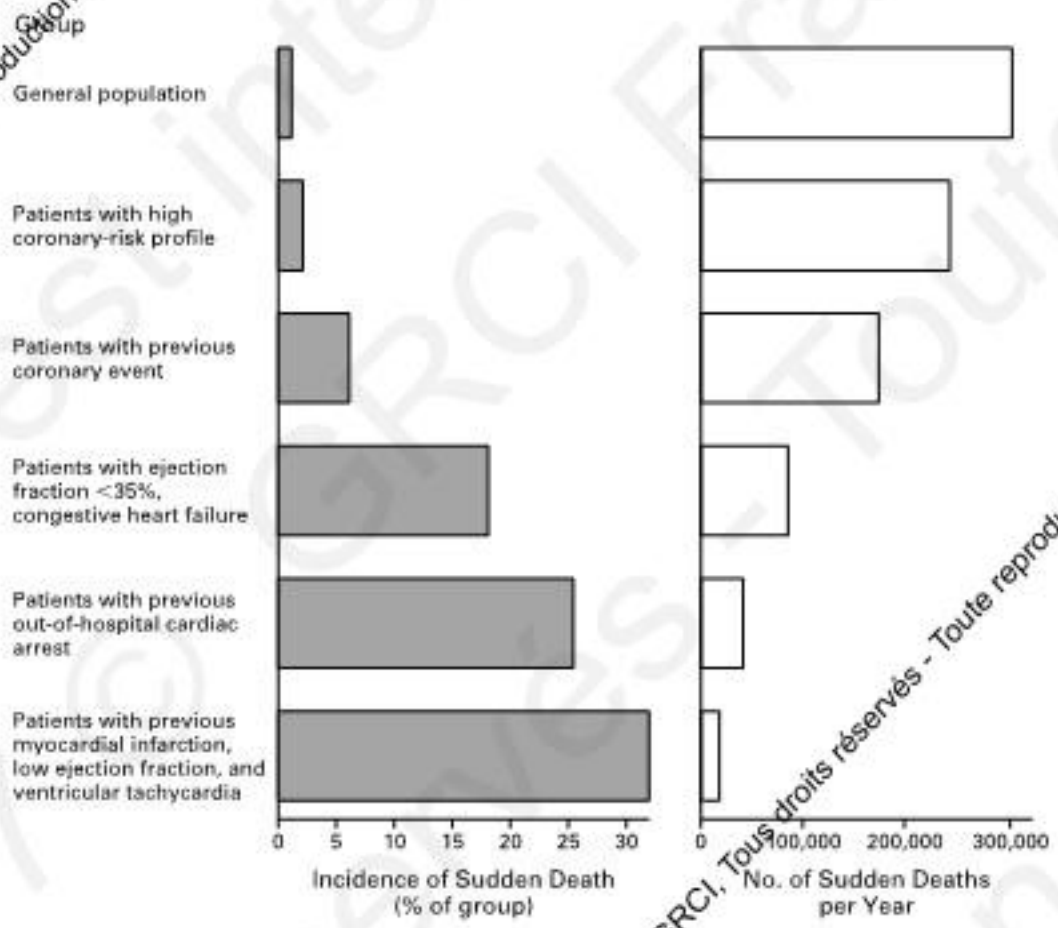
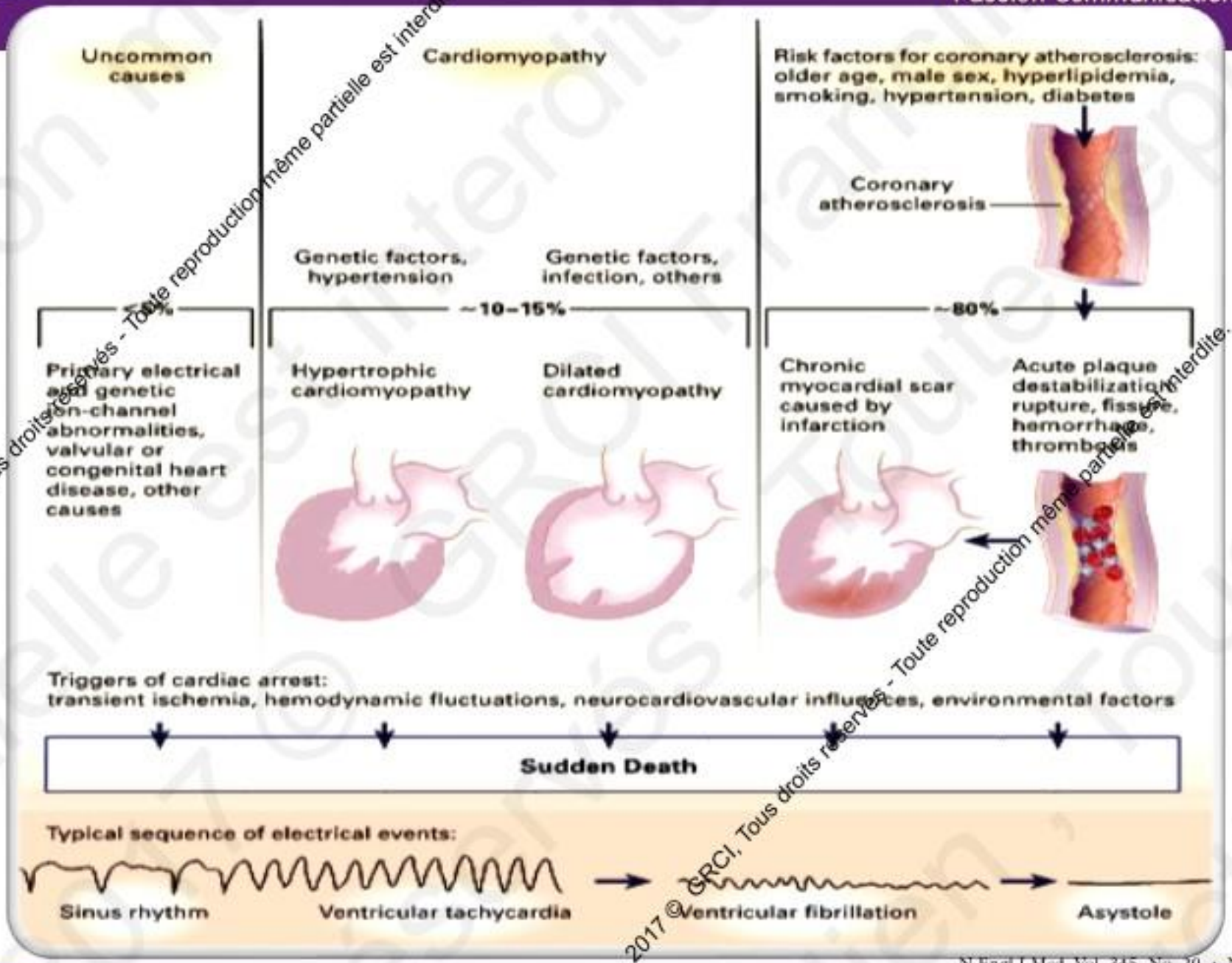
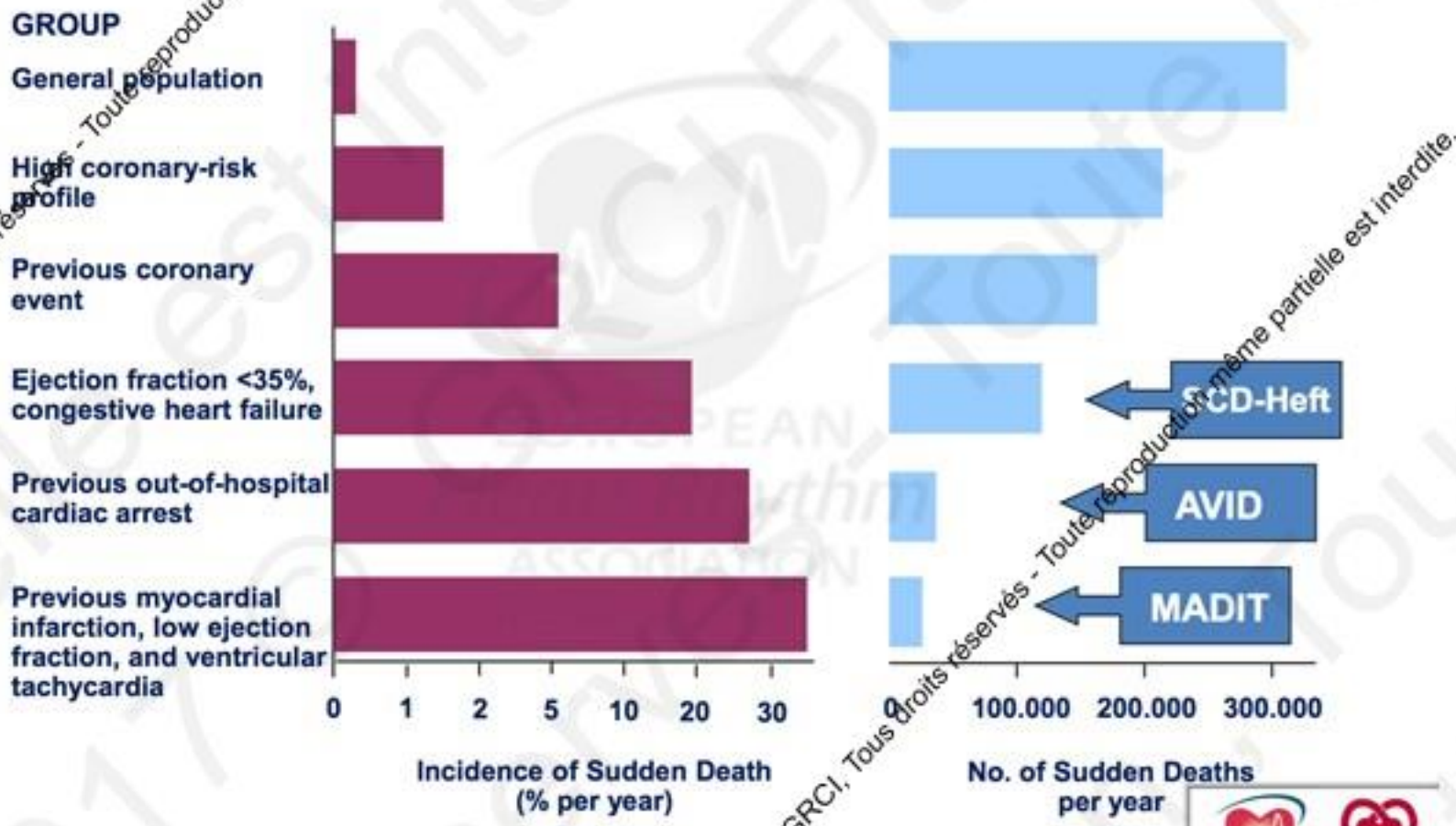


Figure 1. The Incidence of Sudden Death in Specific Populations and the Annual Numbers of Sudden Deaths in Those Populations. Most of the deaths occur in the larger, lower-risk subgroups. Modified from Myerburg et al.[10] with the permission of the publisher.



Incidence of SCD in Specific Populations



Myerburg RJ. Circulation.1998;97:1514-1521.

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Facteurs de risque de mort subite

- Prévention primaire population générale, facteurs de risque cardiovasculaire
- Prévention secondaire post SCA :
  - Ischémie résiduelle
  - Dysfonction VG
  - Présence d'ESV
  - Âge

TABLE IIB Risk factors associated with short-term mortality from day of index myocardial infarction up to 45 days: Patients from TRACE and DIAMOND only were analyzed

	All-cause mortality		Arrhythmic mortality		Nonarrhythmic cardiac mortality	
Risk factors	OR (95% CI)	p Value	OR (95% CI)	p Value	OR (95% CI)	p Value
Age (↑10 years)	1.52 (1.24–1.87)	<0.001	1.29 (1.00–1.66)	0.05	1.52 (1.12–2.06)	0.007
Smoker	1.58 (1.00–2.49)	0.05	1.59 (0.85–2.98)	0.1	1.07 (0.58–1.98)	0.8
Previous MI	1.44 (0.98–2.11)	0.06	1.84 (1.09–3.09)	0.02	1.18 (0.67–2.07)	0.6
Previous hypertension	1.72 (1.13–2.60)	0.01	2.28 (1.34–3.89)	0.003	1.16 (0.64–2.12)	0.1
SBP (↑ by 10%)	0.80 (0.71–0.90)	<0.001	0.73 (0.61–0.86)	0.001	0.87 (0.72–1.04)	0.1
HR (↑ by 10%)	1.23 (1.11–1.37)	<0.001	1.28 (1.11–1.47)	0.001	1.26 (1.09–1.47)	0.002
NYHA (compared with level I)		<0.001		0.007		<0.001
II	1.36 (0.78–2.35)		1.10 (0.53–2.25)		2.53 (0.85–7.56)	
III	2.16 (1.17–4.00)		1.47 (0.65–3.32)		5.39 (1.74–16.70)	
IV	8.35 (4.23–16.5)		4.50 (1.8–11.22)		28.19 (8.99–88.42)	
DIAMOND-MI vs. TRACE	1.39 (0.91–2.11)	0.1	2.06 (1.17–3.63)	0.01	1.33 (0.73–2.43)	0.4

Abbreviations: OR = odds ratio, CI = confidence interval. Other abbreviations as in Table 1.

37. Yap YG, Duong T, Bland JM, et al. Prognostic impact of demo- graphic factors and clinical features on the mode of death in high-risk patients after myocardial infarctionda combined analysis from multicenter trials. Clin Cardiol. 2005;28(10):471-478.

Mort subite et **ischémie aiguë**
24-48h

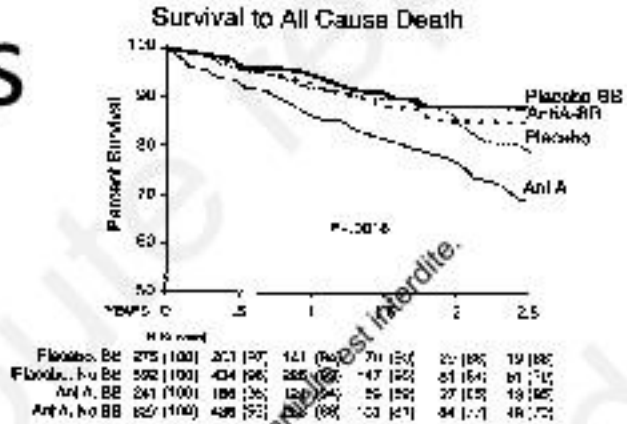
- Ischémie abaisse le seuil de dépolarisation, ↗tonus sympathique
- Reperfusion allonge la repolarisation : long QT local dans la zone ischémique
- Changement de l'électrophysiologie des myocytes déclenche réentrée

Beta Bloquants

- Effet anti ischémique et anti arrythmique
- CAST 1994
- Registre VALIANT 2008 BB phase aiguë Am J Cardiol. 2008 Dec 1;102(11):1427-32

En cas de TV soutenue ou FV

5,8% arrythmie en phase aiguë, risque x3 mortalité hospitalière



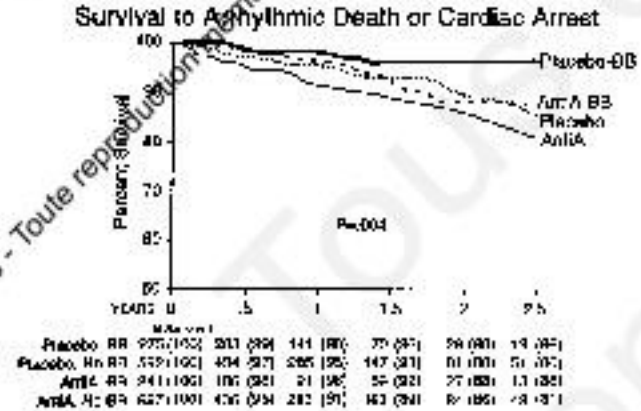
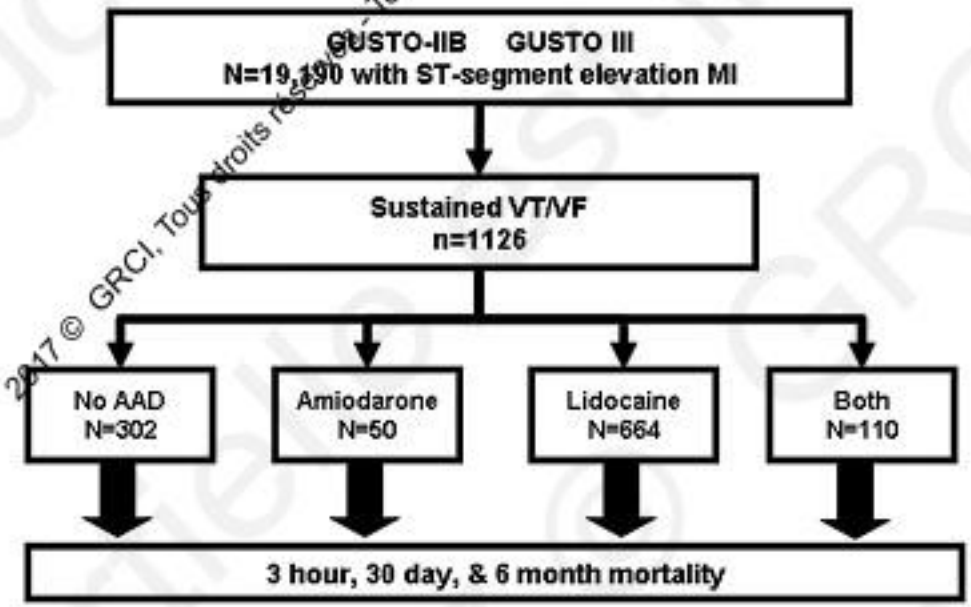
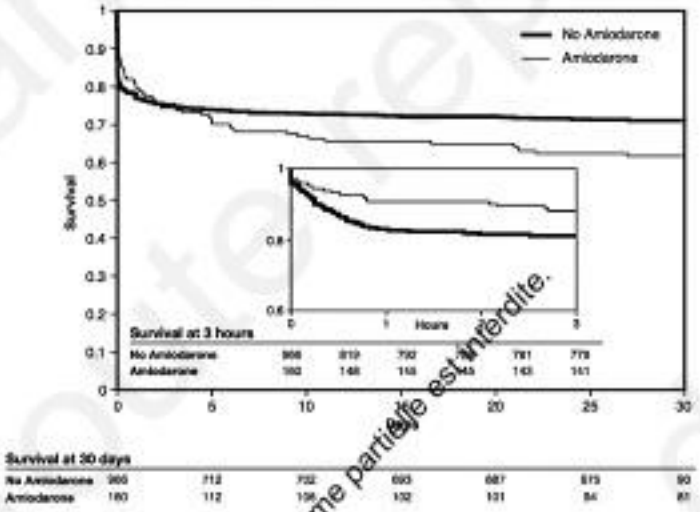


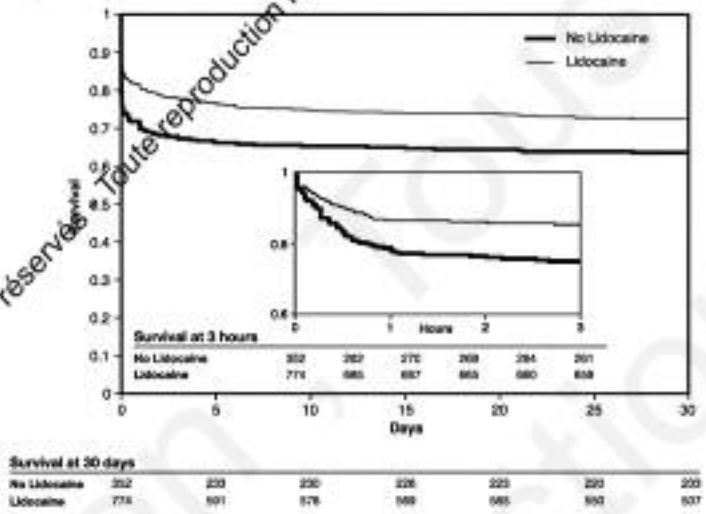
FIGURE 1. Kaplan-Meier survival of 1,723 CAST patients with an ejection fraction ≤ 40% stratified for treatment with antiarrhythmic (AntiA) therapy or placebo and β-blockers (BB) during 2.5 years of follow-up. (P), the end point was all-cause death. (B), the end point was arrhythmic death or nonfatal cardiac arrest. (Reproduced with permission from Kennedy et al [5])

5. Kennedy HL, Brooks MM, Barker AH, Bergstrand R, Huther ML, Beanlands DS, Bigger JT, Goldstein S, for the CAST Investigators. Beta-blocker therapy in the Cardiac Arrhythmia Suppression Trial. *Am J Cardiol* 1994; 74: 674 – 680.

Lidocaïne







263. Piccini JP, Schulte PJ, Pieper KS, Mehta RH, White HD, Van de Werf F, Ardissino D, Califf RM, Granger CB, Ohman EM, Alexander JH. Antiarrhythmic drug therapy for sustained ventricular arrhythmias complicating acute myocardial
264. infarction. Crit Care Med 2011;39:78–83.

Prévention associée aux SCA : phase hospitalière

Beta-blocker treatment is recommended for recurrent polymorphic VT.	I	B
Intravenous amiodarone is recommended for the treatment of polymorphic VT.	I	C
Intravenous lidocaine may be considered for the treatment of recurrent sustained VT or VF not responding to beta-blockers or amiodarone or in the presence of contraindications to amiodarone.	IIb	C
Prophylactic treatment with anti-arrhythmic drugs (other than beta-blockers) is not recommended.	III	B
Oral treatment with beta-blockers should be considered during the hospital stay and continued thereafter in all ACS patients without contraindications.	IIa	B
Radiofrequency catheter ablation at a specialized ablation centre followed by the implantation of an ICD should be considered in patients with recurrent VT, VF or electrical storms despite complete revascularization and optimal	IIa	C

Mort subite phase **précoce post SCA**
48h-3 mois

- 35% de risque de mort subite si FEVG basse
- Pas de bénéfice significatif d'implanter un défibrillateur, excès de mortalité totale (DINAMIT MADIT II)

Flécaïnide

- CAST study 6jours-2 ans post SCA 1991
- ESV et FE<55%

eath and Cardiac Arrest (with Resuscitation) in the CAST, Accord-ing to Treatment Group.

	Encainide Group		Flecainide Group		Both Groups		Total
	Active Drug	Placebo	Active Drug	Placebo	Active Drug	Placebo	
	number of patients						
	432	425	323	318	755	743	1498
arrests	44	19	19	7	63	26†	89
arrest	42	15	18	6	60	21‡	81
tation	5	1	2	0	7	1	8
	29	12	14	4	43	16§	59
tation	3	1	2	0	5	1	6
ac to	13	3	4	2	17	5¶	22
tation	2	0	0	0	2	0	2
	2	4	1	1	3	5‖	8

ons of categories.

or Flecainide or Corresponding Placebo.
The number at risk is shown along the bottom.

these groups in mortality due to arrhythmia. There was a trend for more of the patients receiving active drug to have ventricular tachycardia or ventricular tachycardia degenerating into ventricular fibrillation on monitoring. More deaths due to arrhythmia in which asystole was the documented rhythm occurred in the active-treatment groups. There were also more patients receiving active drug in whom no monitoring was performed or for whom the monitored rhythm was unknown. Overall, the mean time from the onset of an event to monitoring was similar — 12.4±11.7 minutes in the active-drug groups and 12.1±8.3 minutes in the pla-

Table 3. First M

Rhythm
Ventricular tachyc
Ventricular tachyc ventricular fibril
Ventricular fibrillat
Asystole

Amiodarone

CAMIAT 1997:

- ESV post SCA, amiodarone 2ans vs placebo EMIAT
- Diminution 48% MSC et de 21 % de décès toutes causes NS
- 60% sous BB

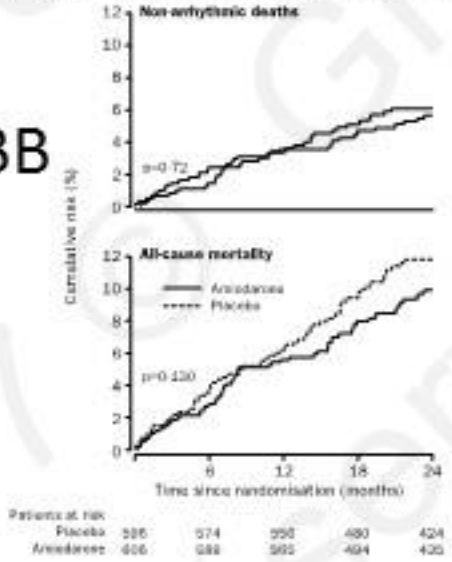


Figure 3: **Rates of all-cause mortality and non-arrhythmic death by intention-to-treat analysis**

EMIAT 1997 :

- FE<40% post SCA
- Diminution MSC mais pas de diminution mortalité toutes causes
- 44% sous BB

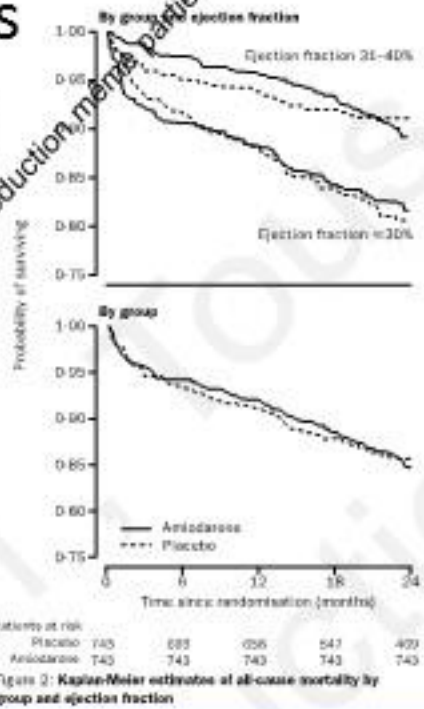
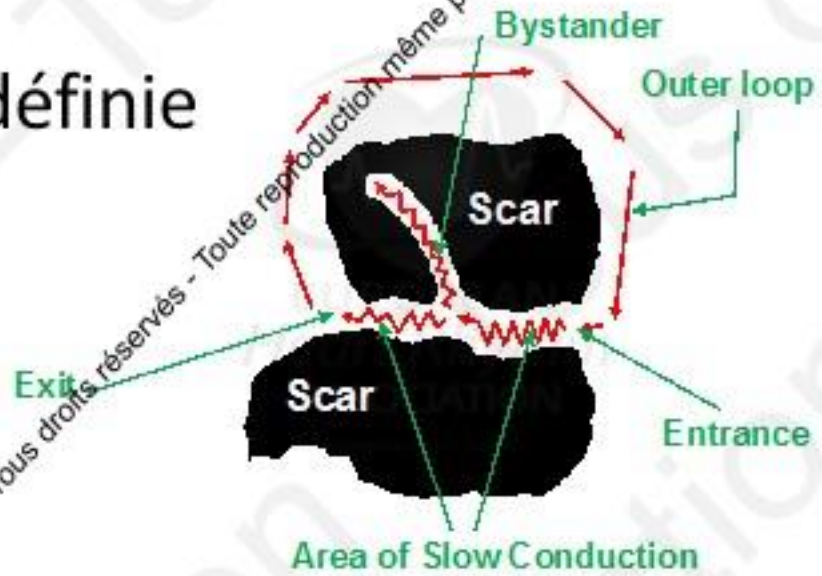


Figure 2: **Kaplan-Meier estimates of all-cause mortality by group and ejection fraction**

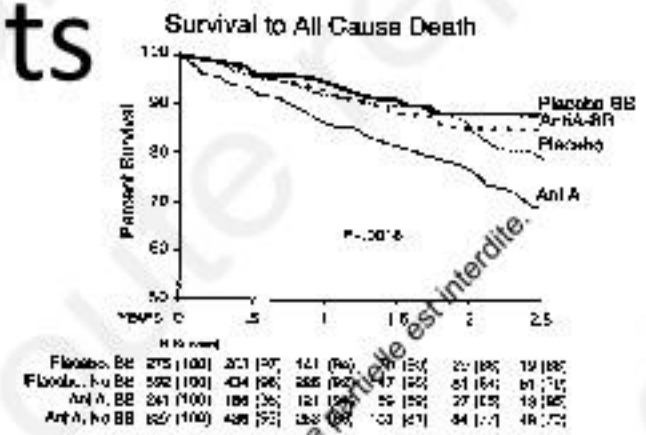
Mort subite et **maladie coronarienne stable**

- Remodeling ventriculaire et insuffisance cardiaque
- Cicatrice favorise la réentrée
- Limite temporelle du risque indéfinie



Beta Bloquants

- Effet anti ischémique et anti arrythmique
- CAST 1994



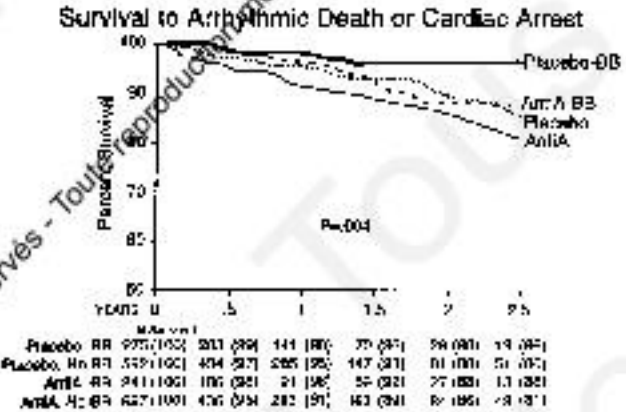


FIGURE 1. Kaplan-Meier survival of 1,735 CAST patients with an ejection fraction ≤ 40% stratified for treatment with antiarrhythmic (AntiA) therapy or placebo and β blockers (BB) during 2.5 years of follow-up. (b) the end point was all-cause death; (bottom) the end point was arrhythmic death or nonfatal cardiac arrest. (Reproduced with permission

5. Kennedy HL, Brodsky MA, Barker AH, Bergstrand R, Huther ML, Bean- lands DS, Bigger JT, Goldstein S, for the CAST Investigators. Beta-blocker therapy in the Cardiac Arrhythmia Suppression Trial. *Am J Cardiol* 1994; 74: 674 – 680.

Traitement de l'insuffisance cardiaque

Recommendations to prevent or delay the development of overt heart failure or prevent death before the onset of symptoms

Recommendations	Class[a]	Level[b]	Ref[c]
Treatment of hypertension is recommended to prevent or delay the onset of HF and prolong life.	I	A	126, 129, 150, 151
Treatment with statin is recommended in patients with or at high-risk of CAD whether or not they have LV systolic dysfunction, in order to prevent or delay the onset of HF and prolong life.	I	A	137–140, 152
Counselling and treatment for smoking cessation and alcohol intake reduction is recommended for people who smoke or who consume excess alcohol in order to prevent or delay the onset of HF.	I	C	131–133
Treating other risk factors of HF (e.g. obesity, dysglycaemia) should be considered in order to prevent or delay the onset of HF.	IIa	C	134, 141, 153–155
Empagliflozin should be considered in patients with type 2 diabetes in order to prevent or delay the onset of HF and prolong life.	IIa		130
ACE-I is recommended in patients with asymptomatic LV systolic dysfunction and a history of myocardial infarction, in order to prevent or delay the onset of HF and prolong life.	I	A	5, 144, 145
ACE-I is recommended in patients with asymptomatic LV systolic dysfunction without a history of myocardial infarction, in order to prevent or delay the onset of HF.	I	B	5
ACE-I should be considered in patients with stable CAD even if they do not have LV systolic dysfunction, in order to prevent or delay the onset of HF.	IIa	A	142
Beta-blockers is recommended in patients with asymptomatic LV systolic dysfunction and a history of myocardial infarction, in order to prevent or delay the onset of HF or prolong life.	I	B	146
ICD is recommended in patients: a) with asymptomatic LV systolic dysfunction (LVEF ≤30%) of ischaemic origin, who are at least 40 days after acute myocardial infarction, b) with asymptomatic non-ischaemic dilated cardiomyopathy (LVEF ≤30%), who receive OMT therapy, in order to prevent sudden death and prolong life.	I	B	149, 156–158

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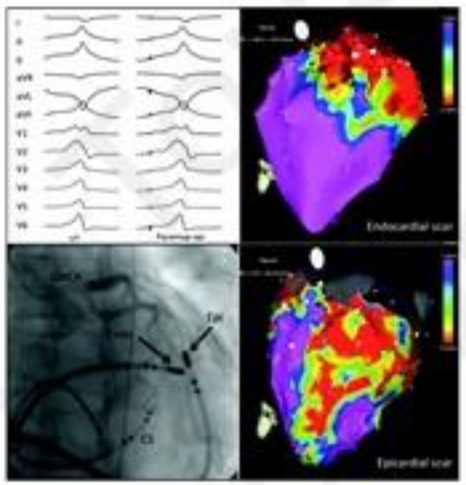
Angiotensin–Neprilysin Inhibition vs. Enalapril

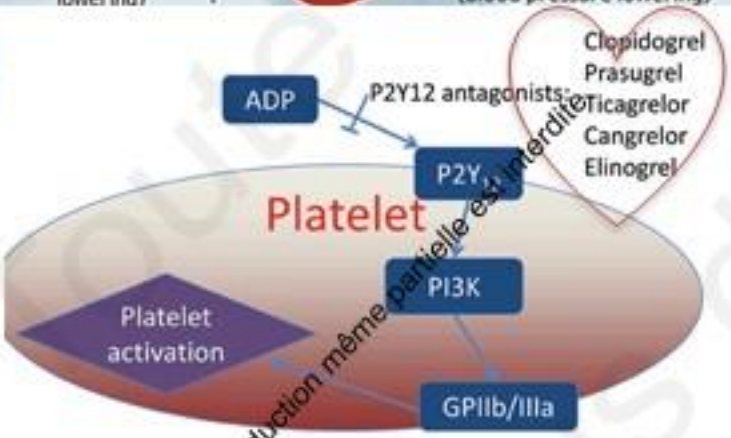
Table 2. Primary and Secondary Outcomes.*

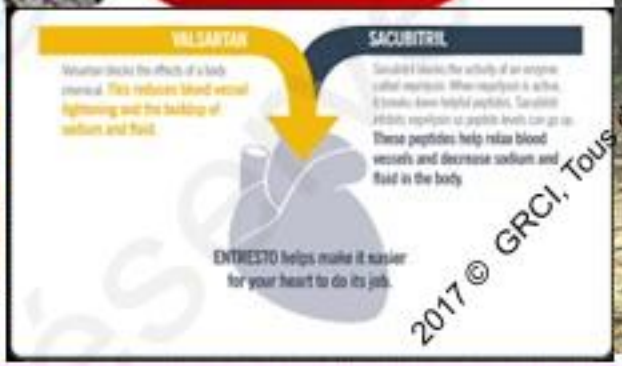
Outcome	LCZ696 (N=4187)	Enalapril (N=4212)	Hazard Ratio or Difference (95% CI)	P Value
Primary composite outcome — no. (%)				
Death from cardiovascular causes or first hospitalization for worsening heart failure	914 (21.8)	1117 (26.5)	0.80 (0.73–0.87)	<0.001
Death from cardiovascular causes	558 (13.3)	693 (16.5)	0.80 (0.71–0.89)	<0.001
First hospitalization for worsening heart failure	537 (12.8)	658 (15.6)	0.79 (0.71–0.89)	<0.001
Secondary outcomes — no. (%)				
Death from any cause	711 (17.0)	835 (19.8)	0.84 (0.76–0.93)	<0.001
Change in KCCQ clinical summary score at 8 mo†	−2.99±0.36	−4.63±0.38	1.64 (0.63–2.65)	0.001
New-onset atrial fibrillation‡	84 (3.1)	83 (3.1)	0.97 (0.72–1.31)	0.83
Decline in renal function§	94 (2.2)	108 (2.6)	0.86 (0.65–1.13)	0.28

n engl j med 371;11 nejm.org september 11, 2014

- Traitement médical au long cours indispensable
- Mais insuffisant si facteurs de risque en raison de l'incidence élevée de mort subite dans ce groupe à risque







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