Evaluation du risque CV chez le patient asymptomatique

Hôpital Pitié-Salpêtrière AP-HP

CARDIO RUN 2023

ACTION Group

Gilles Montalescot

Pr. Montalescot reports research funds for the Institution or fees from Abbott, Amgen, AstraZeneca, Axis, Bayer, BMS, Boehringer-Ingelheim, Boston-Scientific, Cell Prothera, CSL Behring, Idorsia, Leo-Pharma, Lilly, Medtronic, Novartis, Pfizer, Quantum Genomics, Sanofi, Terumo

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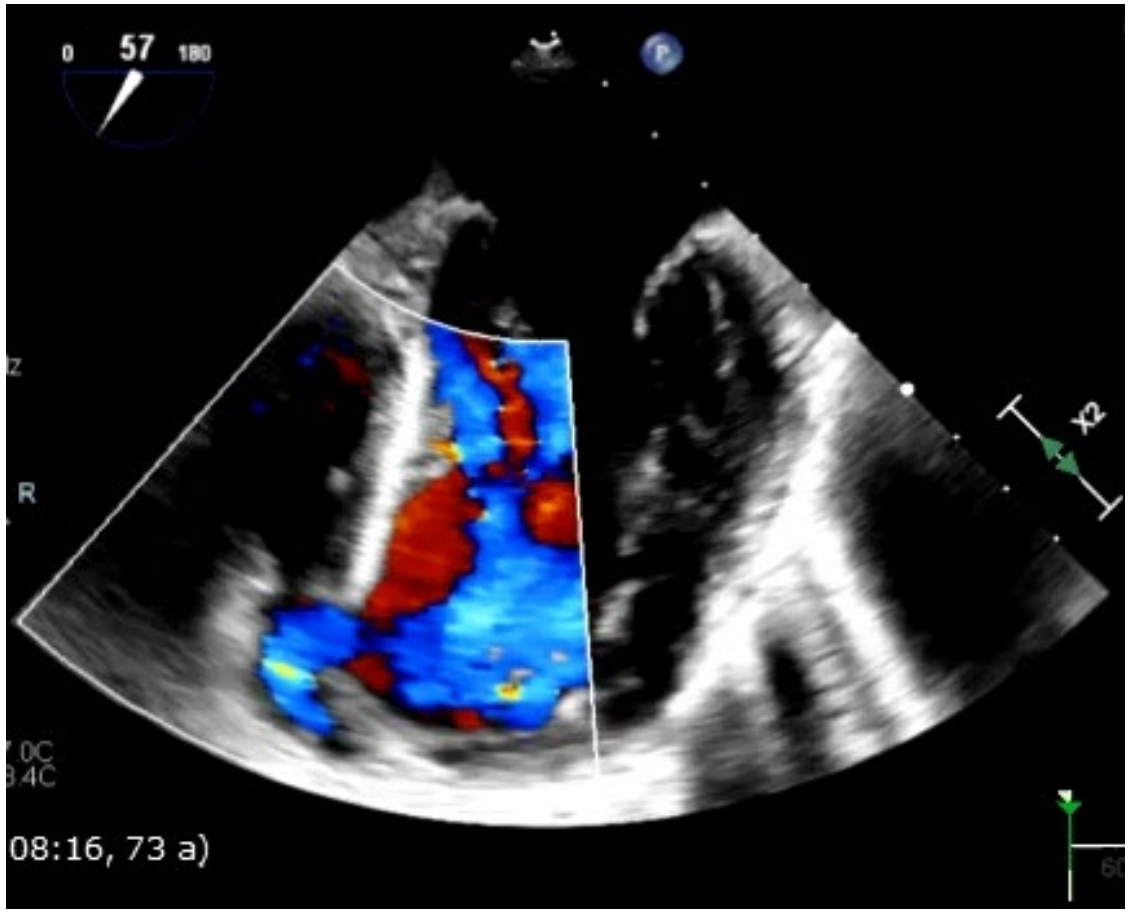
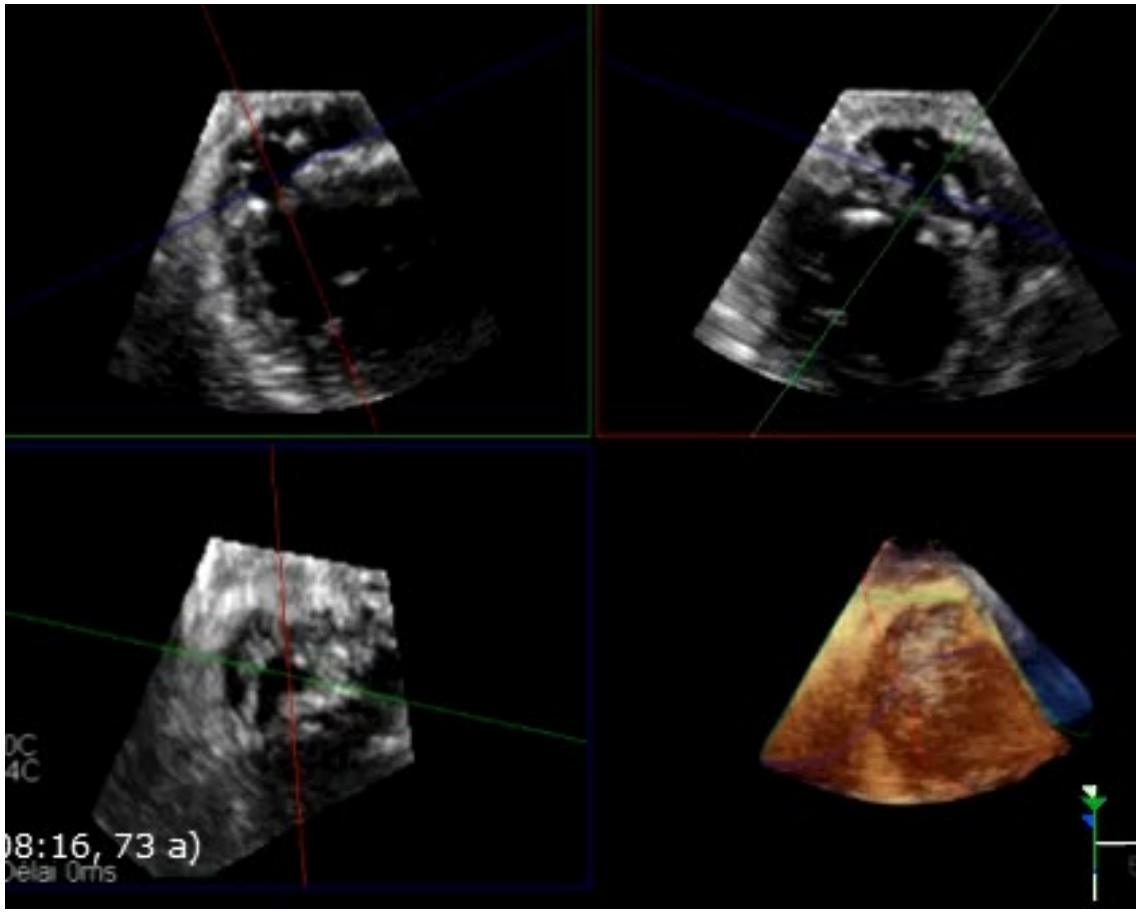
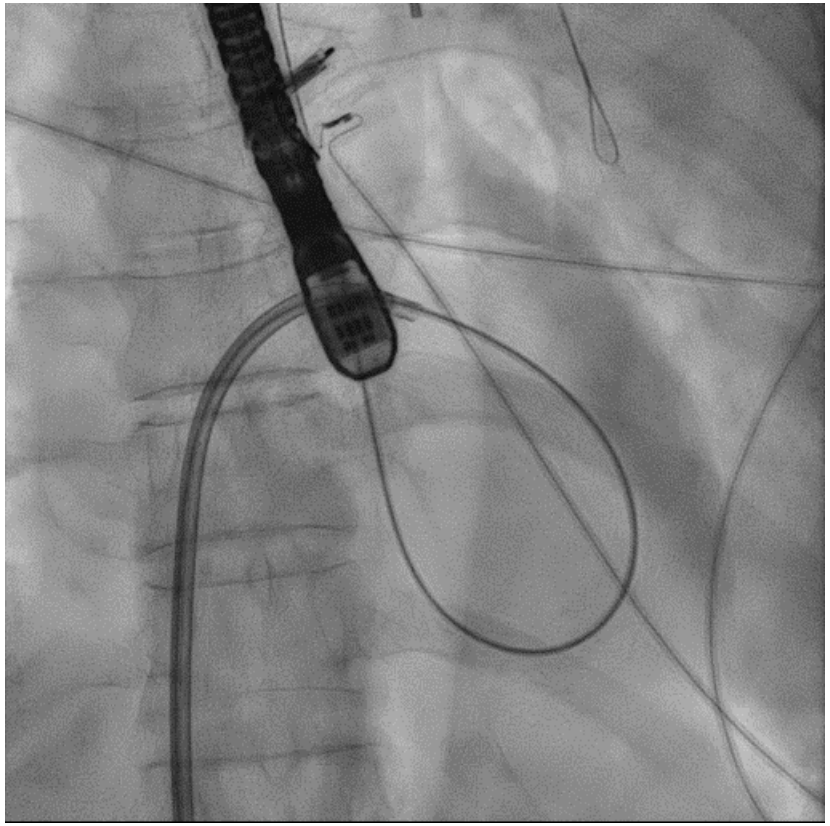
www.action-groupe.org

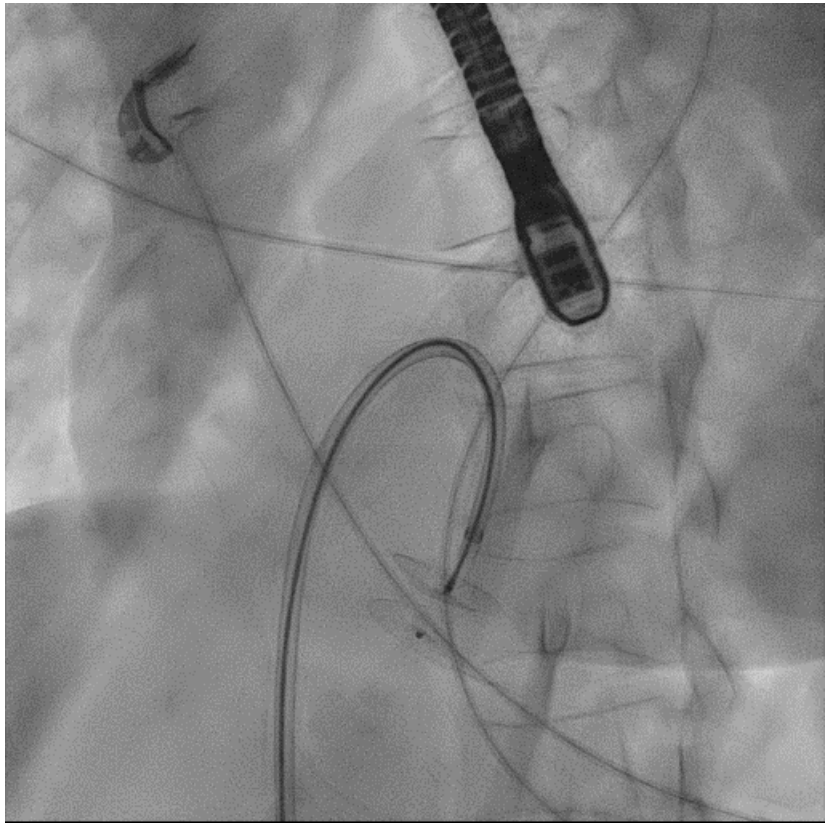
1er évènement CV souvent fatal!

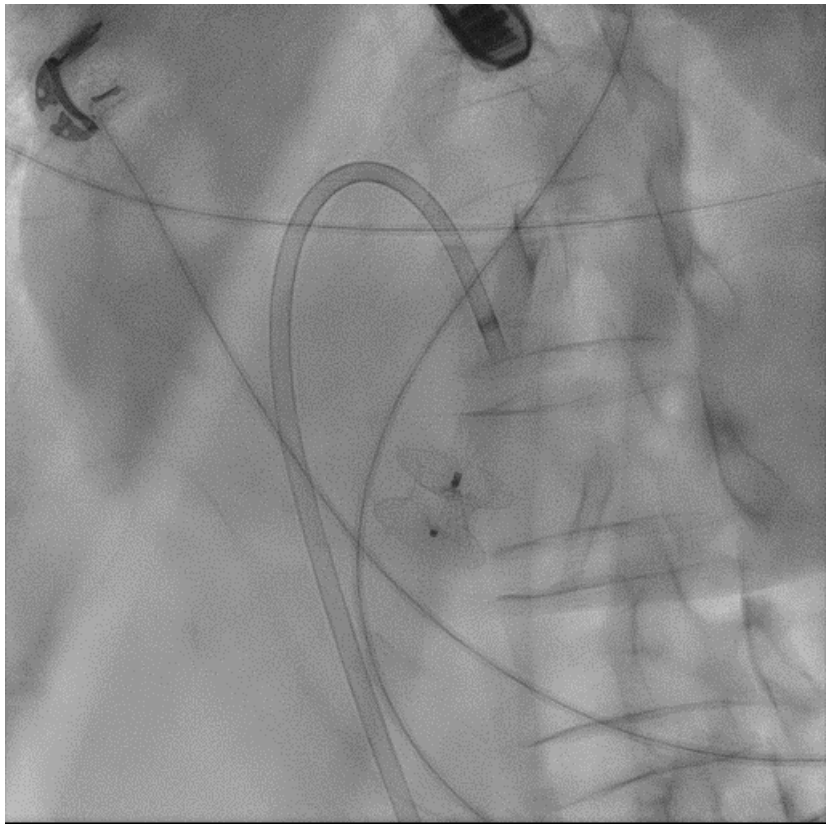
Patiente de 75 ans, infarctus antérieur tardif, choc

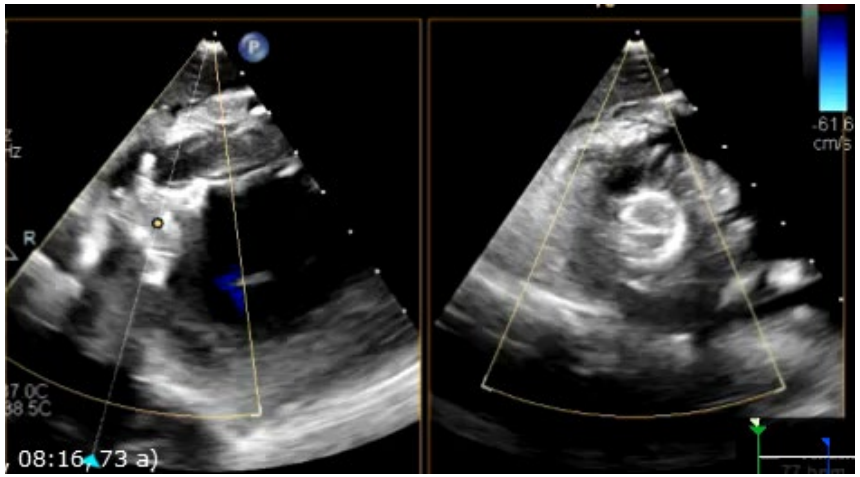






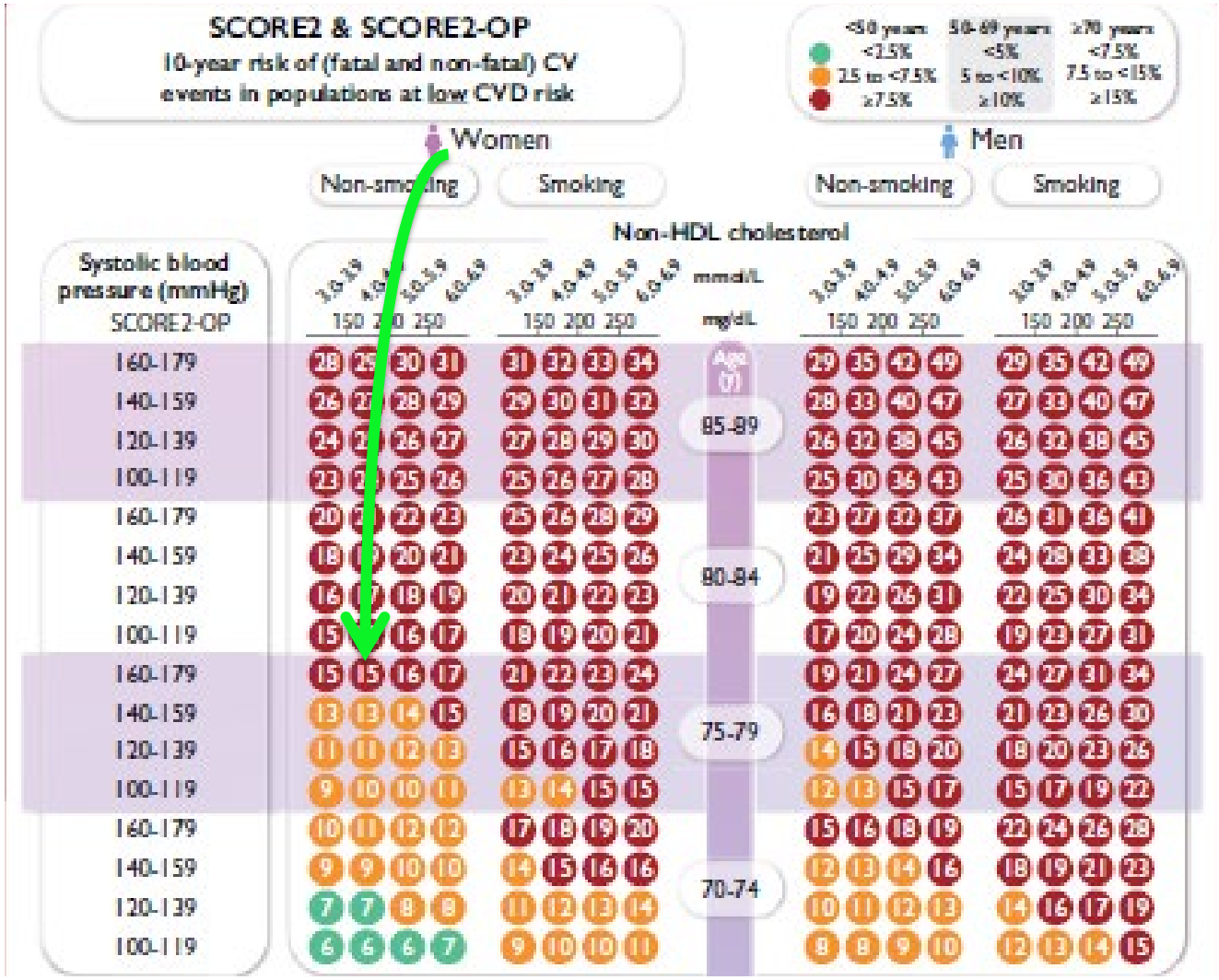





08:16:73 a)

Evènement évitable?? Prévention non en place…

Et si on s'était vu avant l'infarctus du myocarde…



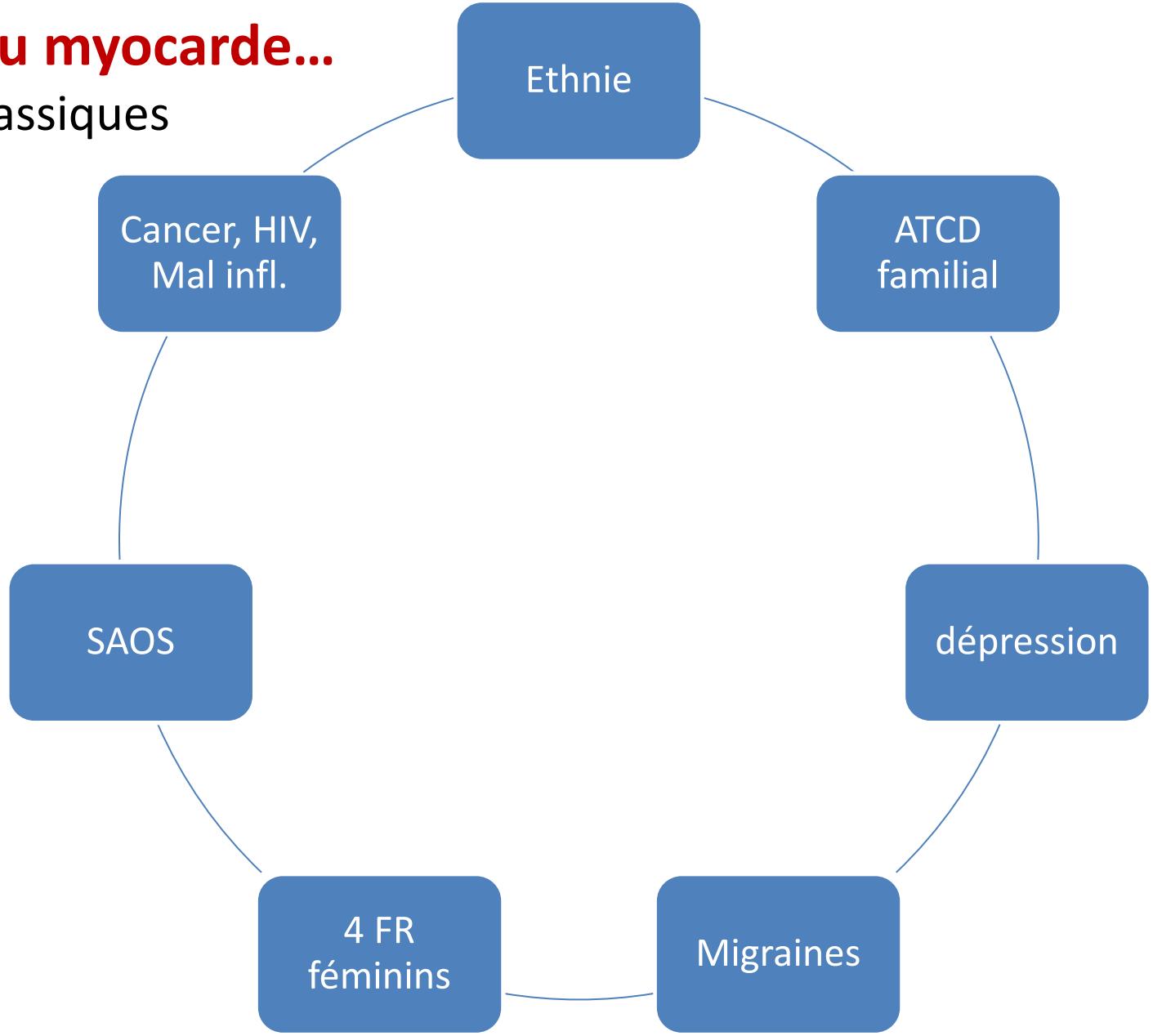
~20%

- Obésité (PA > 88F 102H)
- Inflammation, mal infl. , HIV
- Ethnicité
- ATCD familial maladie CV précoce
- Dépression, anxiété, stress (RR 1.2-2.0)
- IPS < 0.9
- eGFR<60 mL/min/1.73 m2
- Albumine/creatinine urinaire (> 30mg/g)
- Lp(a)
- FA
- Sténose carotide sur US >50%
- Score calcique
- Coro-scan
- Cancer
- Ins Cardiaque
- BPCO – SAOS
- Fragilité / low socio-eco
- Migraines

- ✓ Ovaires polykystiques
- ✓ Endométriose
- ✓ HTA / diab grossesse
- ✓ Ménopause (précoce)

Si on s'était vu avant l'infarctus du myocarde…

Interrogatoire au-delà des FR classiques



Si on s'était vu avant l'infarctus du myocarde…

BMI calculé et PM mesuré

Normal Weight Metabolically Healthy

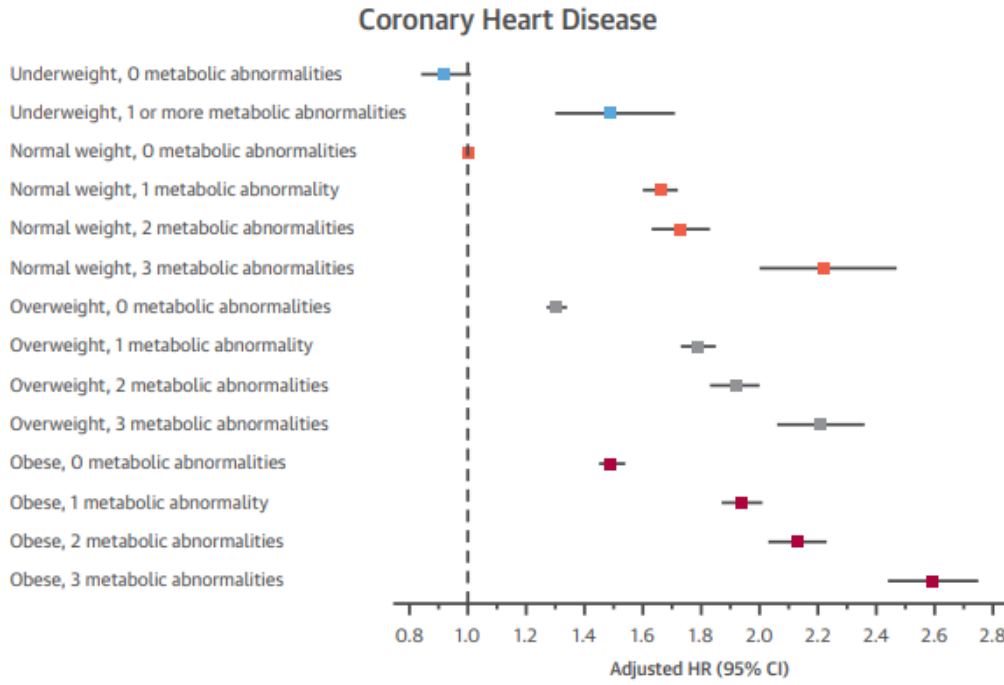
- BMI 18.50-24.99 kg/m²
- No Dyslipidemia
- No Hypertension
- No Type 2 Diabetes

Obese Metabolically Healthy

- BMI ≥30.00 kg/m²
- No Dyslipidemia
- No Hypertension
- No Type 2 Diabetes

Cardiovascular Disease

- 49% Increased Risk of Coronary Heart Disease
- 7% Increased Risk of Cerebrovascular Disease
- 96% Increased Risk of Heart Failure



Caleyachetty et al. JACC, 2017

Si on s'était vu avant l'infarctus du myocarde…

Bilan aurait inclus le RAC, la CRP, les TG et la Lp(a)

GFR categories (ml/min per 1.73 m²) Description and range				Persistent albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30–300 mg/g 3–30 mg/mmol	>300 mg/g >30 mg/mmol
	G1	Normal or high	⩾90		Monitor	Refer*
	G2	Mildly decreased	60–89		Monitor	Refer*
	G3a	Mildly to moderately decreased	45–59	Monitor	Monitor	Refer
	G3b	Moderately to severely decreased	30–44	Monitor	Monitor	Refer
	G4	Severely decreased	15–29	Refer*	Refer*	Refer
	G5	Kidney failure	<15	Refer	Refer	Refer

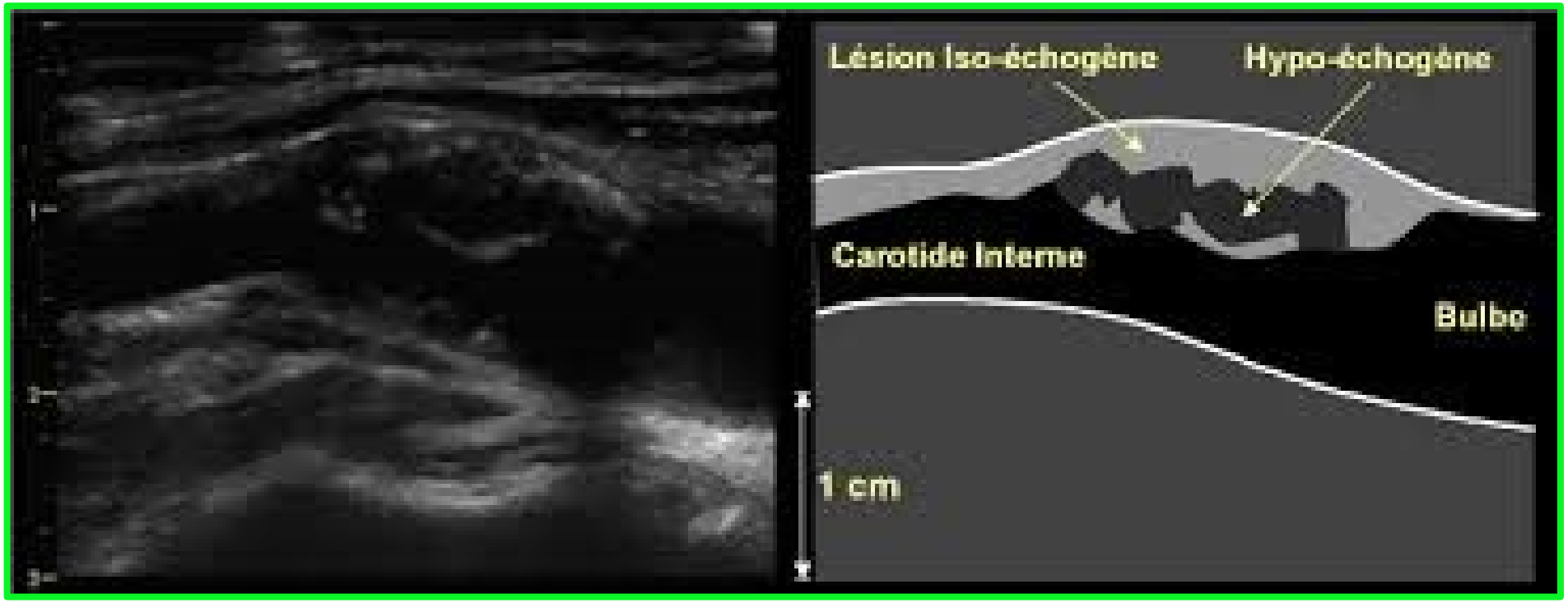
Referral decision making by GFR and albuminuria. *Referring clinicians may wish to discuss with their nephrology service depending on local arrangements regarding monitoring or referring.

Classification and prognosis of chronic kidney disease (CKD) from 2012 KDIGO (Kidney Disease Improving Global Outcomes) guidelines.
GFR indicates glomerular filtration rate. Adapted from the Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group

KDIGO guidelines 2012

Si on s'était vu avant l'infarctus du myocarde…

On aurait cherché l'athéroslérose infraclinique

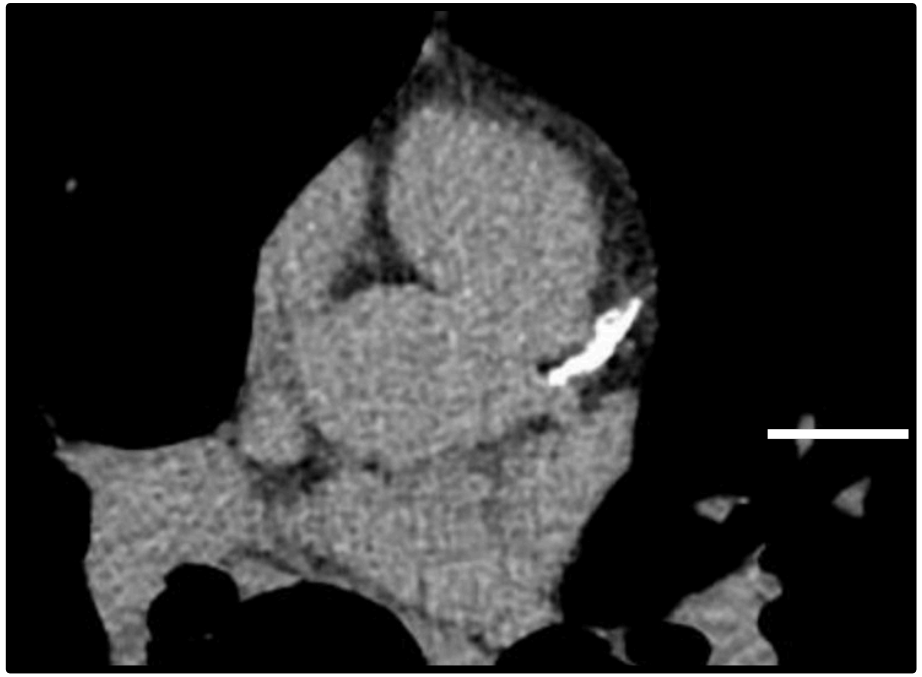


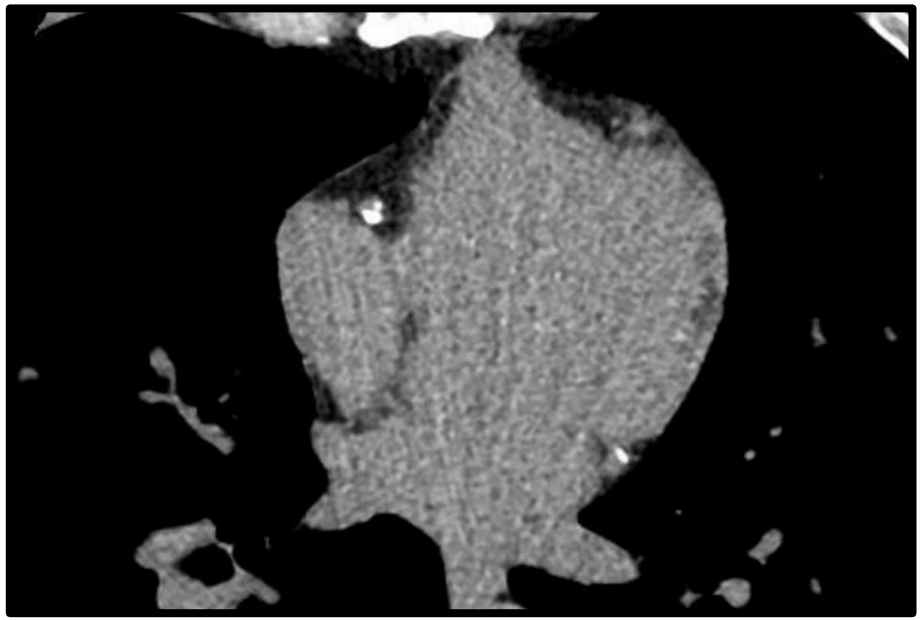
CAC scoring may be considered to improve risk classification around treatment decision thresholds. Plaque detection by carotid ultrasound is an alternative when CAC scoring is unavailable or not feasible.[103,104]	IIb	B

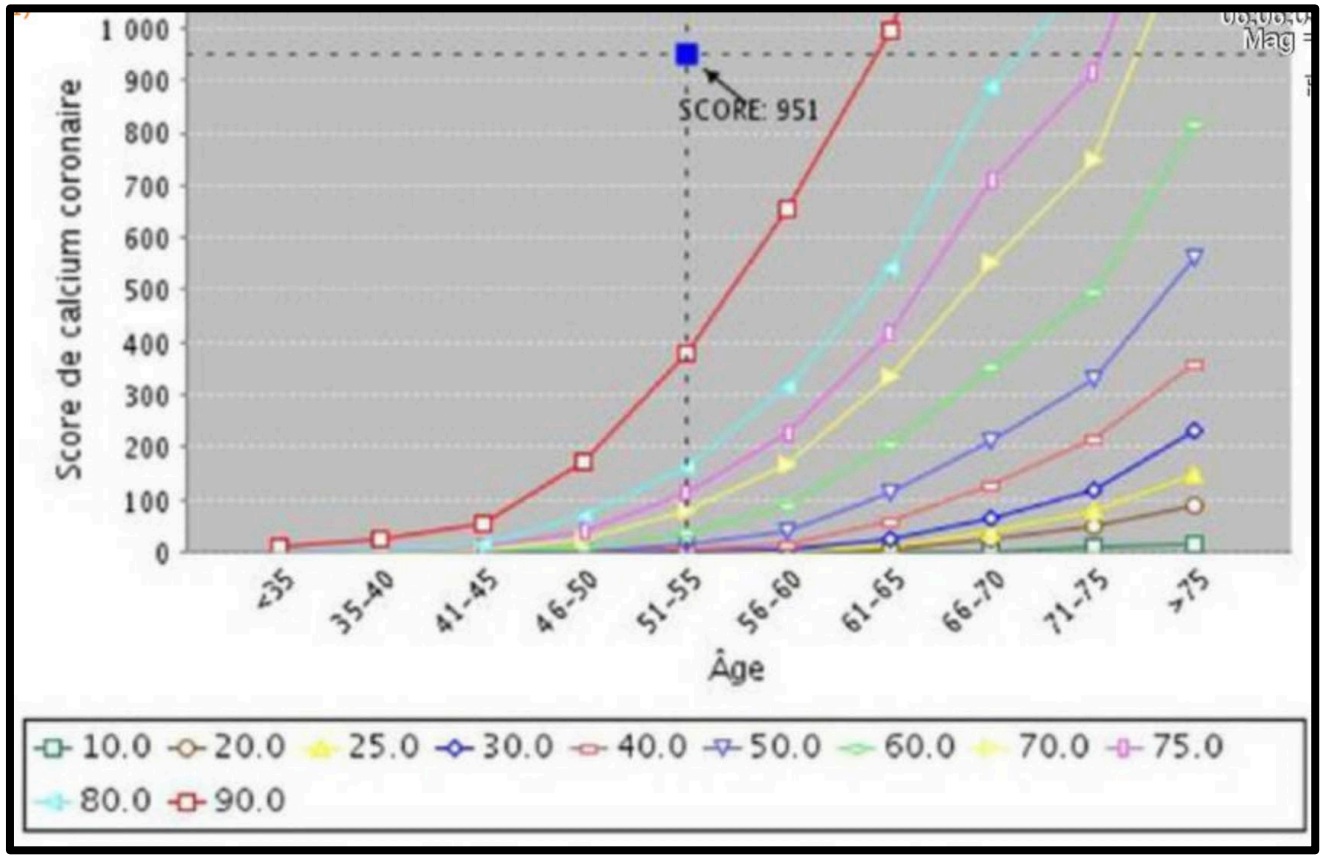
European Heart Journal (2021) 42, 3227 3337

Si on s'était vu avant l'infarctus du myocarde…

CAC??

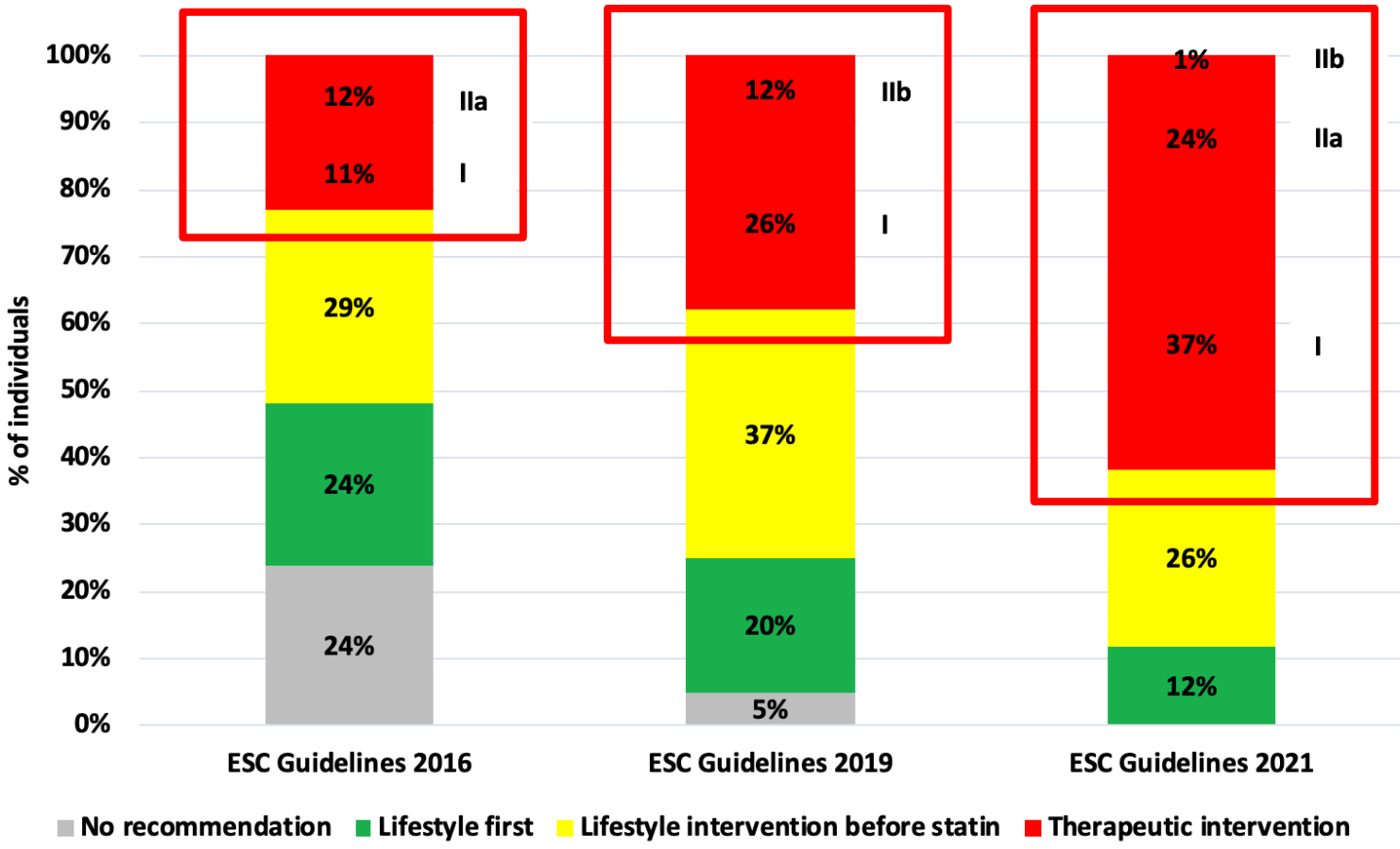






Si on s'était vu avant l'infarctus du myocarde…

Eligibilité **primaire aux statines**



Augmentation de l'éligibilité directe entre **2016** et **2021**

Sulman, Zeitouni et al. Eur Heart J Cardiovasc Pharmacother. 2022:pvac021.

61,8% des individus éligibles d'emblée à une statine avant l'évènement

Si on s'était vu avant l'infarctus du myocarde…

La prévention aurait été mise en place…

An ultimate[c] LDL-C goal of <1.4 mmol/L (55 mg/dL) and LDL-C reduction of ≥50% from baseline should be considered in apparently healthy persons <70 years at very high risk.[21,22,522]	IIa	C
An ultimate[c] LDL-C goal of <1.8 mmol/L (70 mg/dL) and LDL-C reduction of ≥50% from baseline should be considered in apparently healthy persons <70 years at high risk.[21,22,522]	IIa	C

Aspirine

Chez les personnes en apparence saines, de moins de 70 ans, à (très) haut risque cardiovasculaire, plus d'études sont nécessaire s.

Jusqu'à lors, les décisions chez ces patients doivent être prises au cas par cas en balançant le risque ischémique vs hémorragique

European Heart Journal (2021) 42, 3227 3337

Quid du coroscan?

Use of cardiac CT in the USA

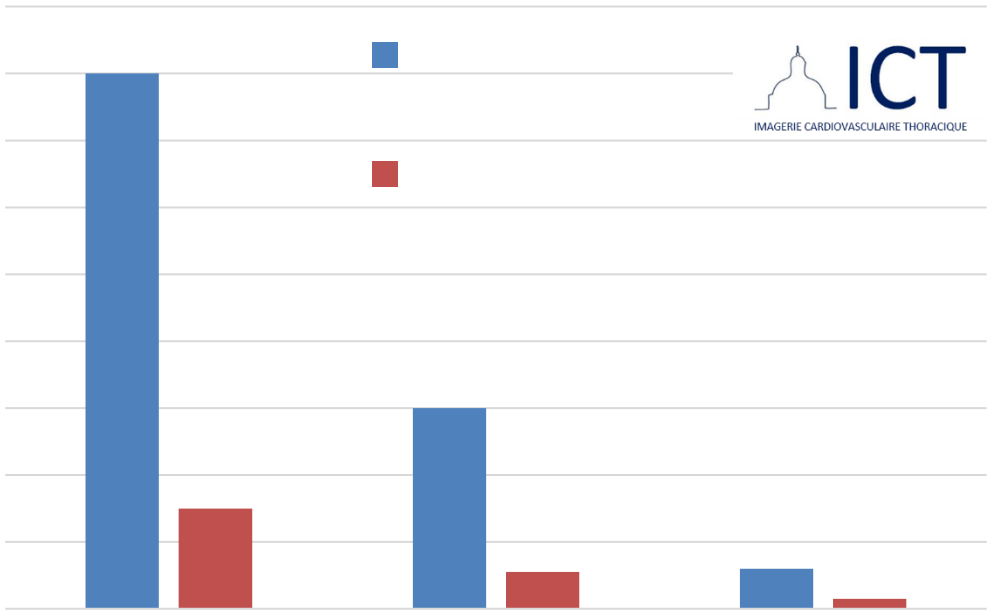
Medicare 2010-2019

+355%

TDM en 2023

Dose de rayonnement

Dose divisée par 5 à 10

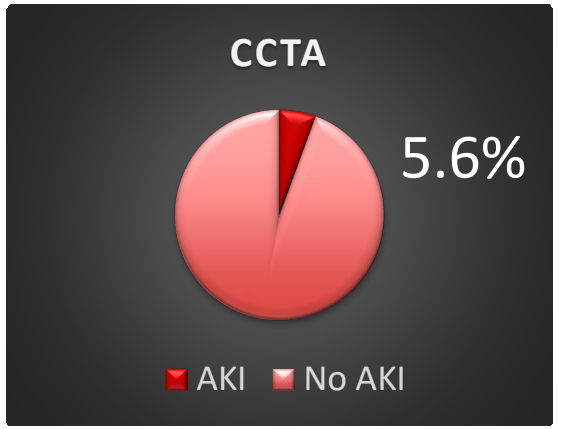


Produits de contraste iodés par voie IV

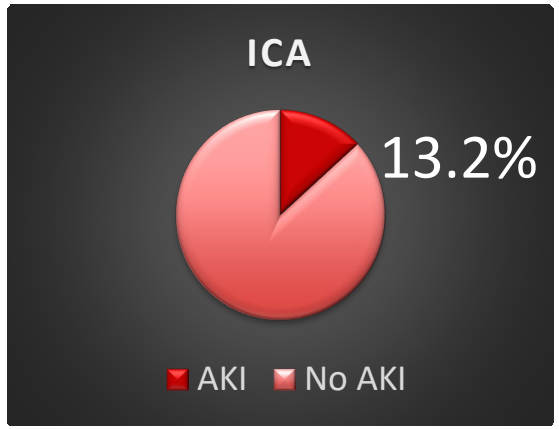
Use of Intravenous Iodinated Contrast Media in Patients with Kidney Disease: Consensus Statements from the American College of Radiology and the National Kidney Foundation

Radiology

Matthew S. Davenport, MD • Mark A. Perazella, MD • Jerry Yee, MD • Jonathan R. Dillman, MD, MS • Derek Fine, MD • Robert J. McDonald, MD, PhD • Roger A. Rodby, MD • Carolyn L. Wang, MD • Jeffrey C. Weinreb, MD



N=320, prospective study



Schönenberger E. Radiology 2019

Diagnostic performance of CT & MRI

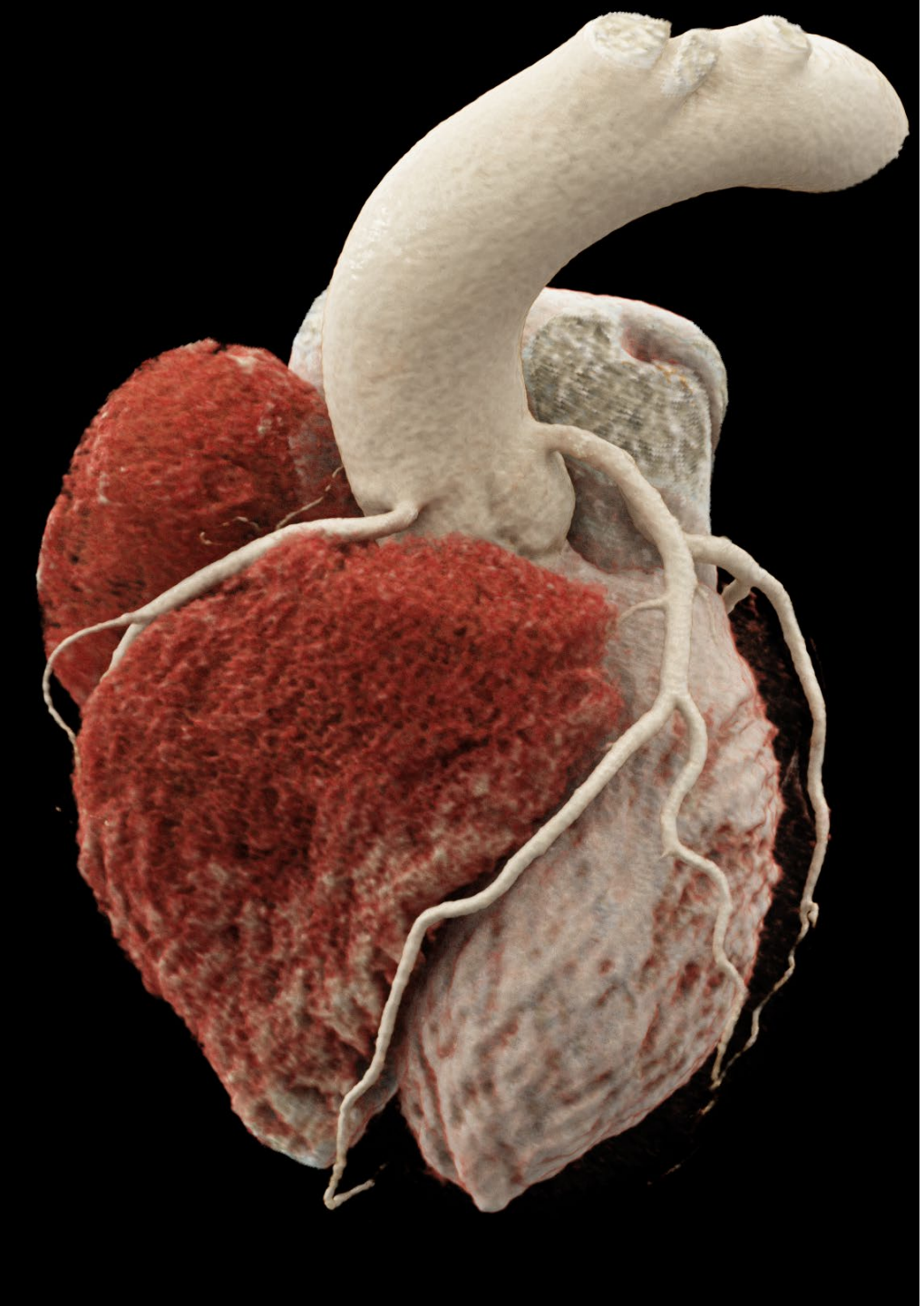
	Anatomically significant CAD		Functionally significant CAD	
	Sensitivity	Specificity	Sensitivity	Specificity
CCTA	97 %	78 %	93 %	53 %
Stress MRI	90 %	80 %	89 %	87 %

Meta analysis of N=132 studies for anatomy (n=28664) and N=23 studies (N=4131) with FFR

Stress ECG has poor diagnostic performance
Stress MRI comparable to PET and superior to stress Echo & SPECT

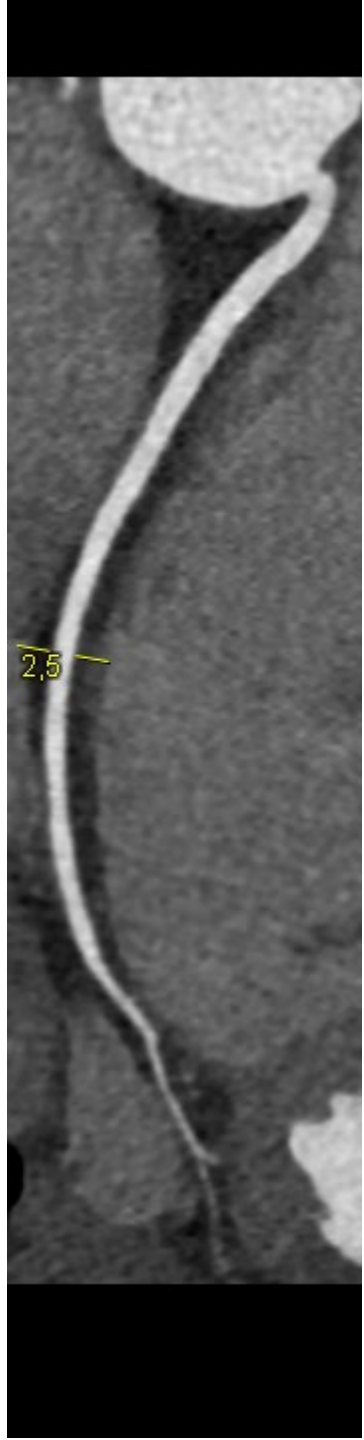
CCTA+FFR$_{CT}$ vs. ICA+FFR : Se=89%, Sp=90%, AUC 0.84 (Collet C. EHJ 2018)
Stress Perfusion CT : Se=88%, Sp=80% (Takx RA Circ CVI 2015)

Knuuti et al. EHJ 2018



Coronary CTA

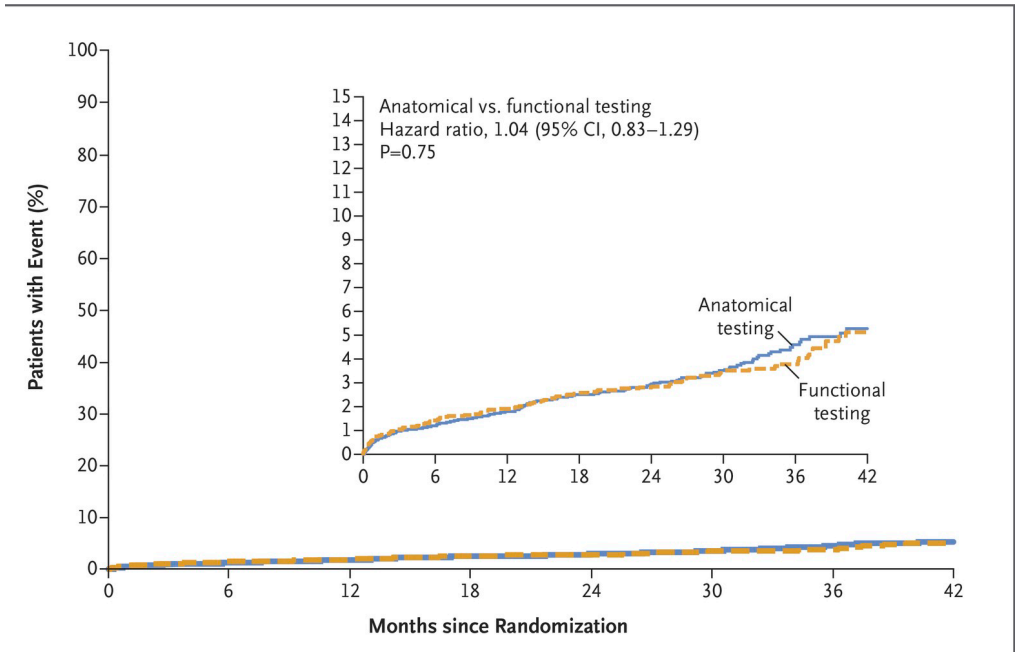
NPP = 99 %



CCTA and patient outcome

N=10003

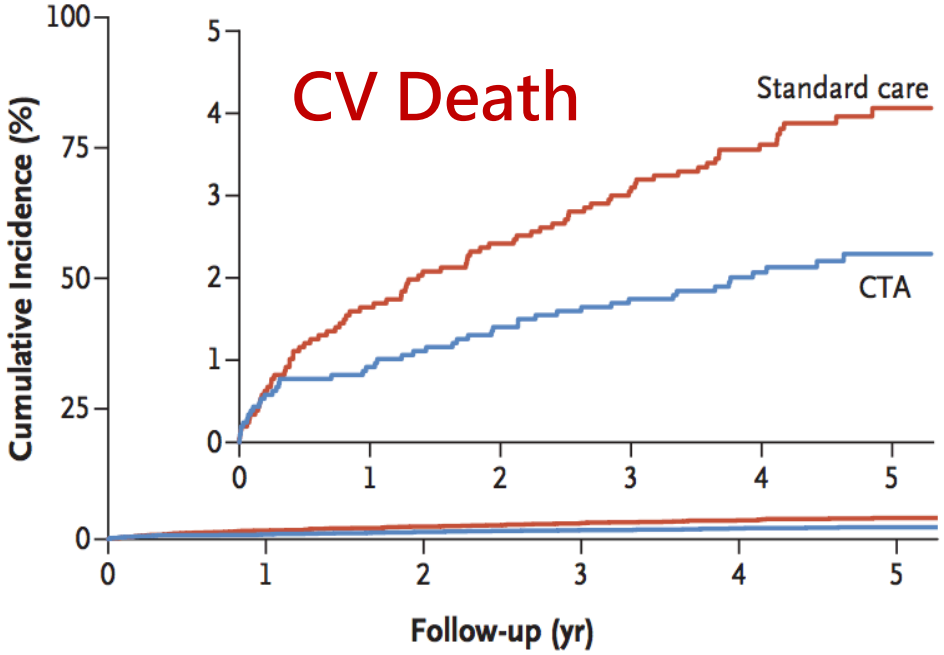
Low CAD events 3%/25 months



PROMISE (NEJM 2015)

CCTA vs. functional test

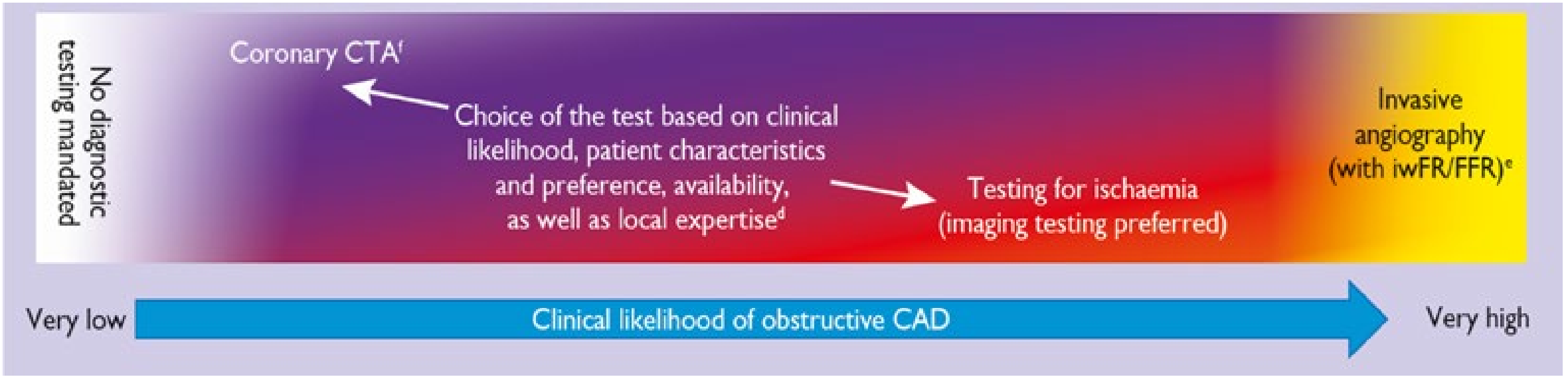
N=4146 Median FU = 5 years



Scot-Heart Study

NEJM 2018

Diagnostic approach in suspected CAD



Indications coroscanner chez patient « asymptomatique ou atypique »

Recommandé première ligne

Bilan préopératoire de chirurgie non cardiaque à haut risque / patient à haut risque CV
Anomalies de naissance coronaire
Test fonctionnel non conclusif (deuxième ligne)

Approprié

Eliminer maladie coronaire dans une autre pathologie cardiaque
Greffés cardiaques (MCG)

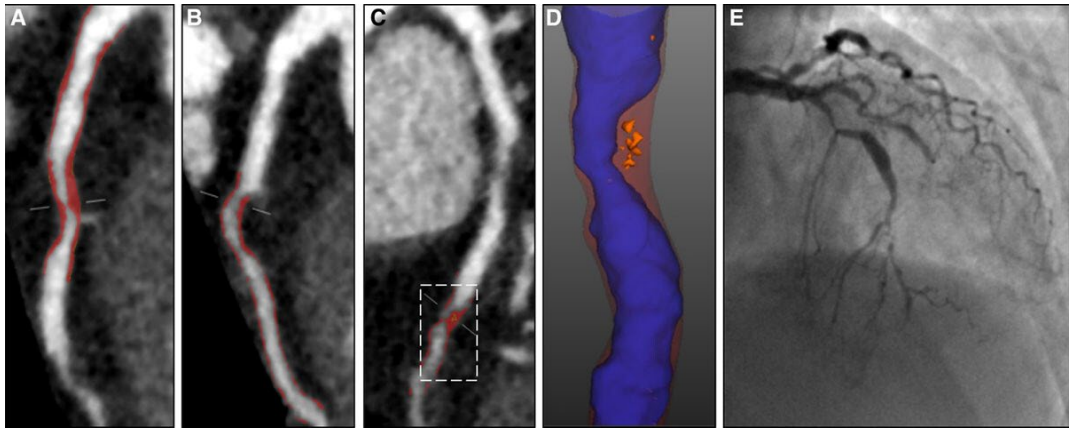
Peut être approprié

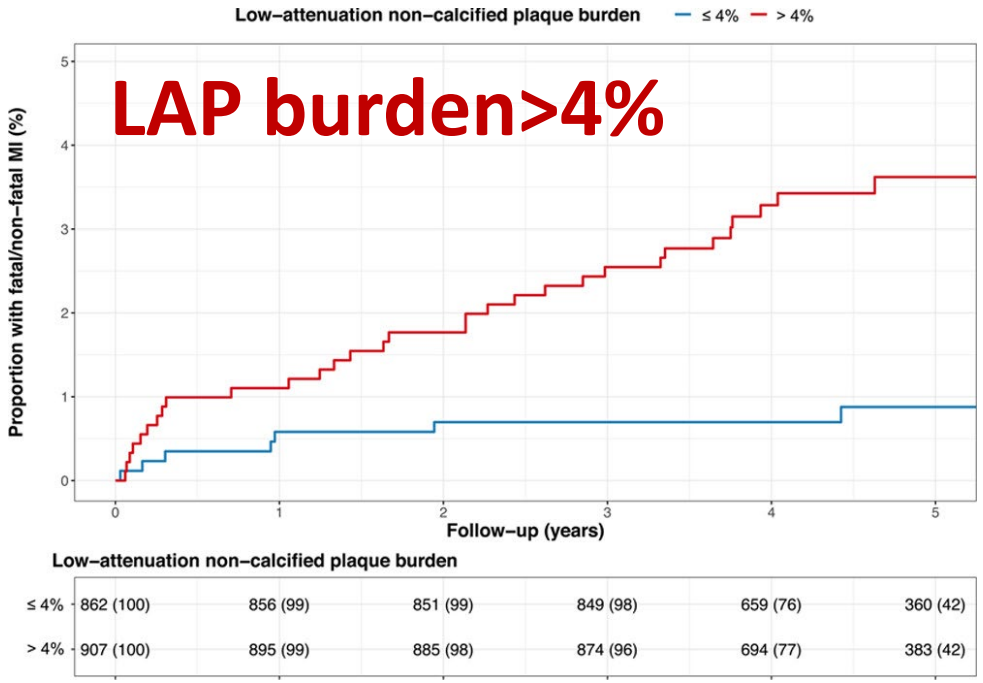
Patients asymptomatiques sélectionnés à haut risque de plaque hypodense
CAD RADS ¾ : scanner Perfusion Stress ou FFR_{CT}

Non Calcified Coronary Plaque in CCTA

SCOT-HEART Study

- Low-attenuation plaque (<30UH) was the strongest predictor of MI
- Superior to CV risk scores, CAC and coronary stenoses
- Patients with a LAP burden >4% were 5 times more likely to have MI.

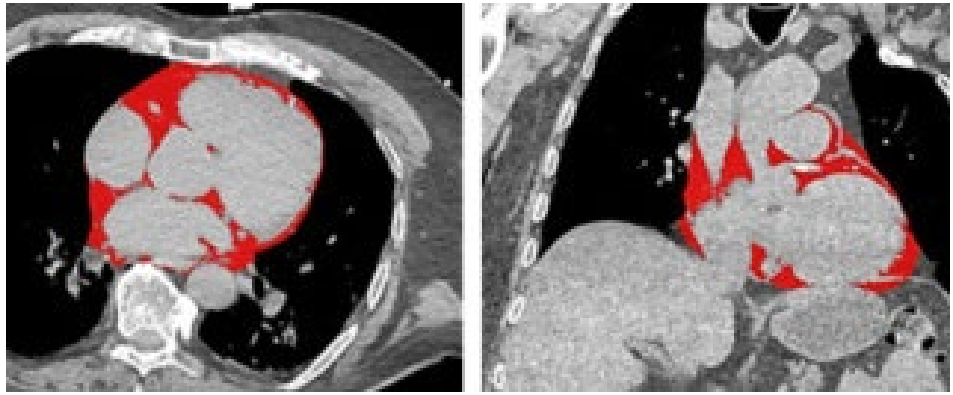




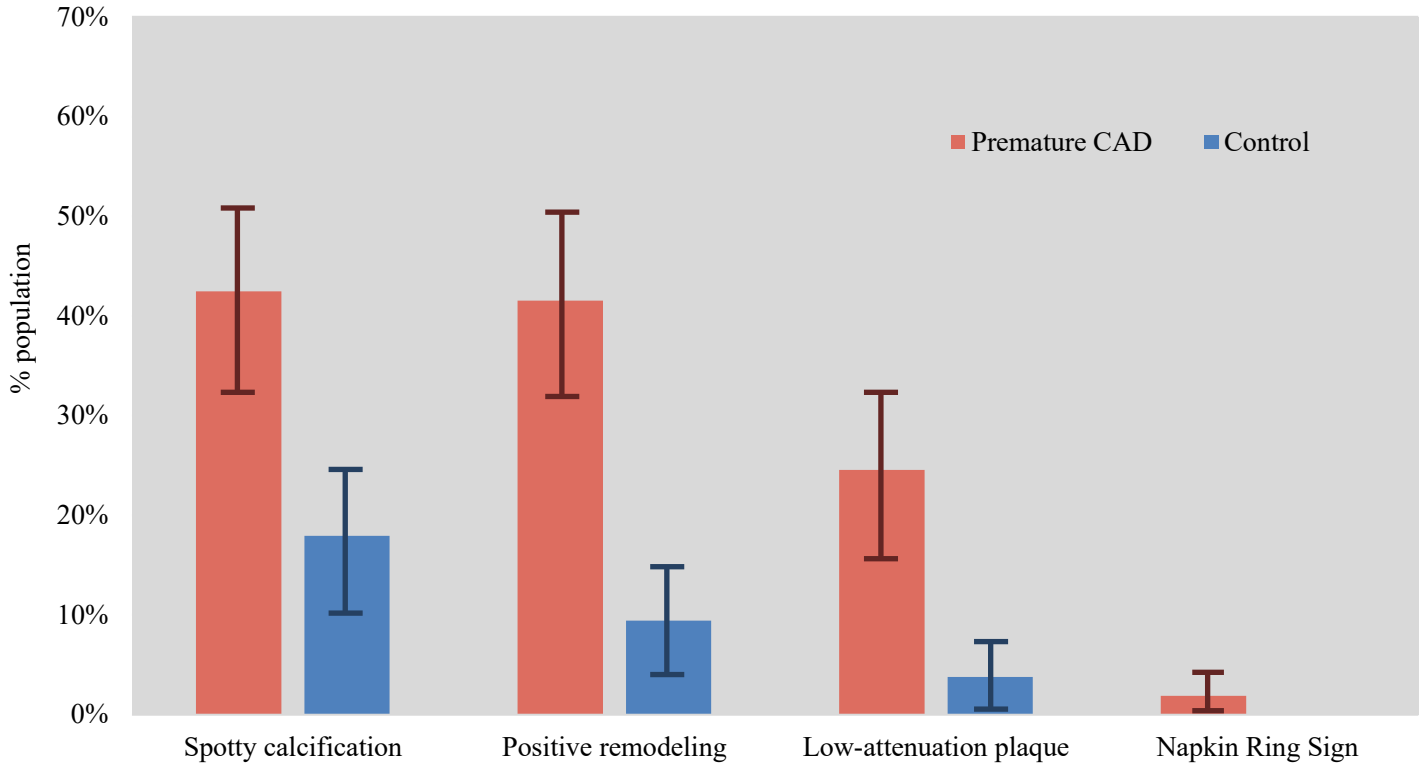
N=1769

Median FU=4.7 yrs

CCTA in premature CAD

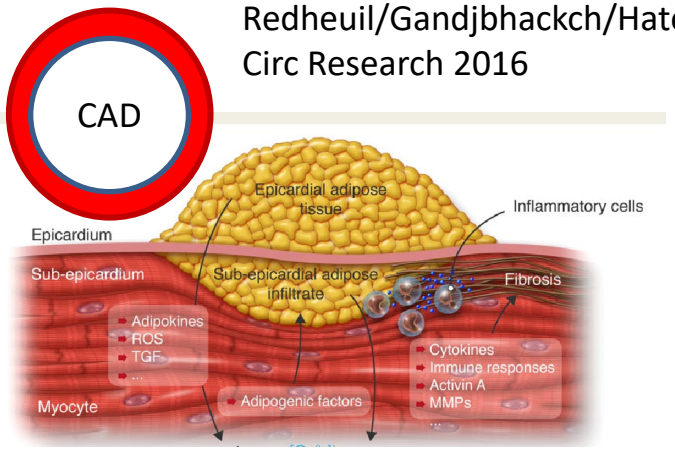


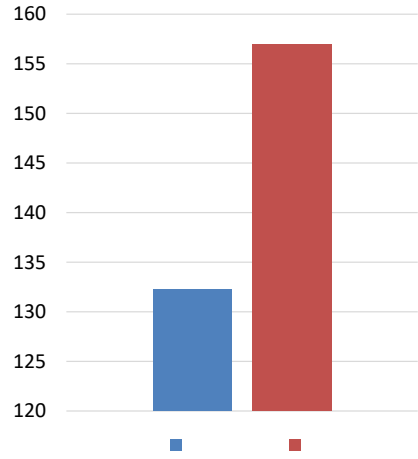
Relationship between CT-defined vulnerability and ischemic recurrence in pCAD



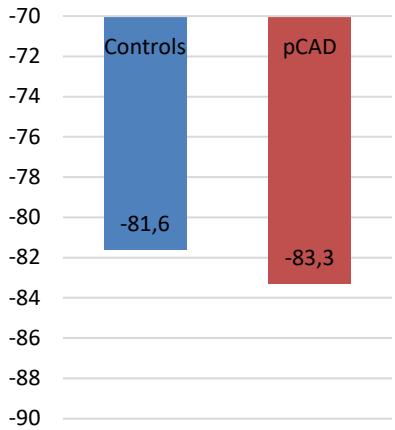
Rahoual G. et al. EHJ cvi 2023

Redheuil/Gandjbhackch/Hatem
Circ Research 2016

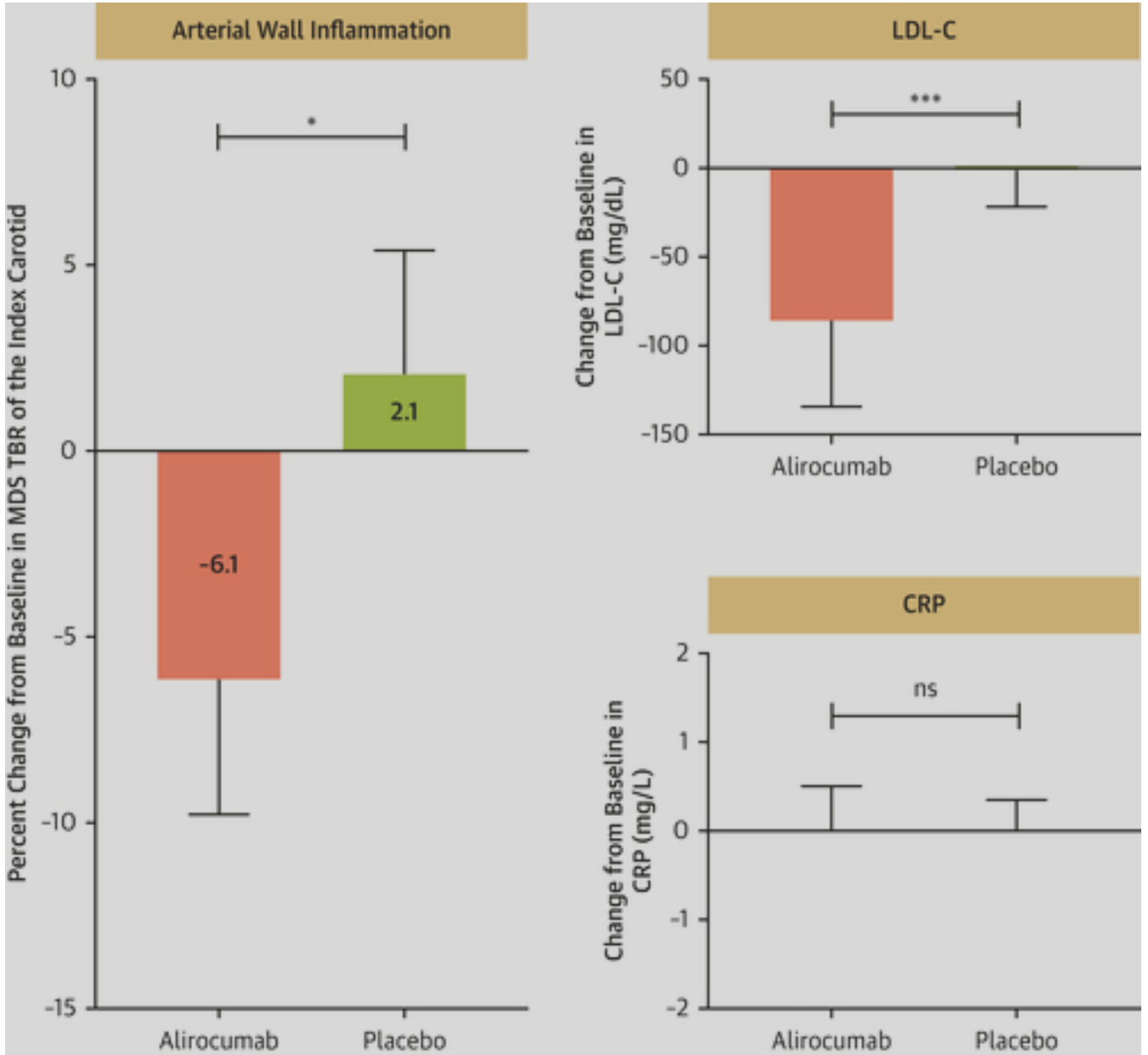




EAT density, HU



Arterial wall inflammation



Renate M. Hoogeveen et al. J Am Coll Cardiol Img 2019;12:2571-73.

Conclusions

Les consultations de prévention ne sont pas simples!
Les scores guident les décisions
L'affinement du risque se fait sans score
La prise en charge relève de la DMP et bien comprise