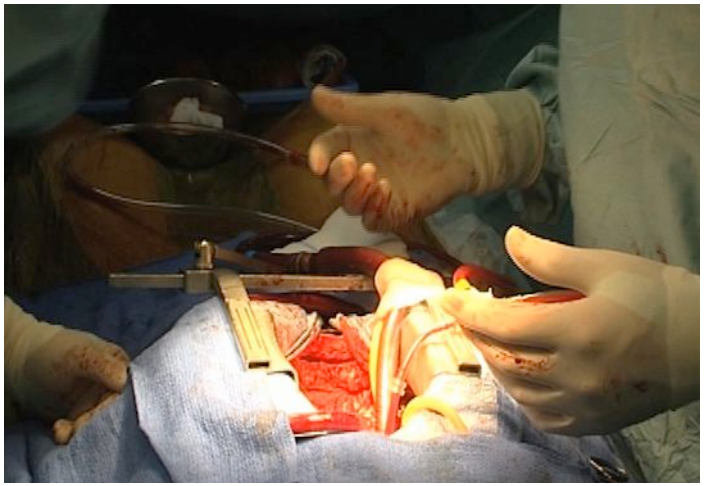
CENTRE DU
COEUR NICE

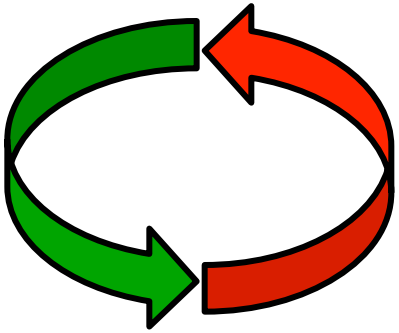
« La revascularisation du Tronc commun »

Dr Lara DABIRI
Dr Yacoub HABIB
Dr Philippe RICARD
Dr Renaud VIDAL

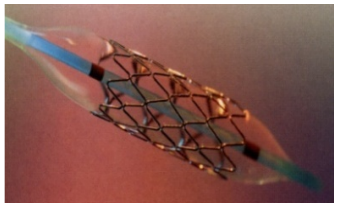
Clinique Saint George - NICE

Revascularisation du Tronc commun

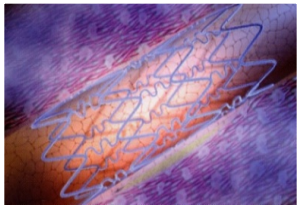




BMS
(Bare Metal Stent)



DES
(Drug Eluting Stent)



New DES
("Up grading")

Dual AAP
("New drugs")

Revascularisation du Tronc commun

Fréquence lésions TC :

- 29% de lésions TC chez patients revascularisés (1)
- 3 à 5% TC « non protégé » (=ULMCAD)
- Lésions TC : 25% ostiale / 19% médiane / 66% distale

Pronostic sombre si traitement médical :

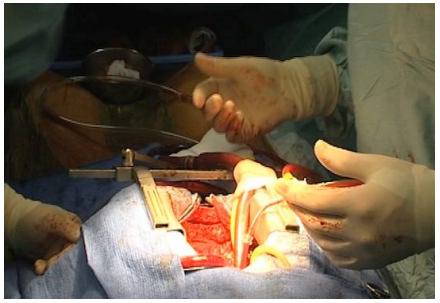
- Survie moyenne 6,6 années vs 13,3 années si PAC (2)
- 35% survivants à 12 ans (LMCAD) si médical seul

(1) Kappetein AP *et al*. Current percutaneous coronary intervention and coronary artery bypass grafting practices for three-vessel and left main coronary artery disease. Insights from the SYNTAX run-in-phase Eur J Cardiothorac Surg 2006;29:486-491.

(2) Caraciciolo EA *et al*. Comparaison of surgical and medical group survival in patients with left main equivalent coronary artery disease. Long-term CASS Experience
Circulation 91: 2335-2334

Revascularisation TC : Recommandations

I A



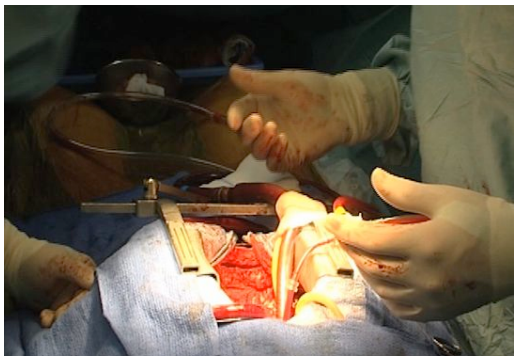
ACCF/AHA/ACC Guideline on percutaneous coronary intervention
Kuschner FG, Hand M, Smith SC Jr, *et al*. J Am Coll Cadiol. 2009;54:2205-2241.

En remontant l'histoire…

1978

KALTENBACH

2éme PATC coronaire réalisée dans le Monde….



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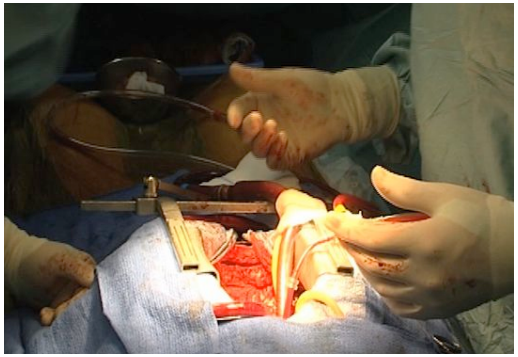
Results of contemporary coronary artery bypass grafting

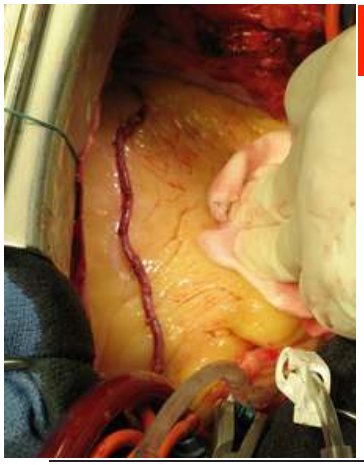
in left main coronary artery disease patients

Mortalité

Author	Year of surgery	*n*	Mortality (%) Hospital	30 days	1 year	2 years	3 years	4 years	5 years	7 years	10 years	15 years	20 years
Wu *et al.* [6]	2000	2161	–	–	–	–	–	–	–	29.2	–	–	–
Chang *et al.* [7]	2003–2009	309	–	–	–	–	–	14.6		–	–	–	–
Murzi *et al.* [8]	1996–2009	1096	–	–	3	–	–	–	12	–	29	–	–
Park *et al.* [9]	2000–2006	1138	–	–	4.8	8.1	10.5	12.3	13.6	–	–	–	–
Sabik *et al.* [10]	1971–1998	3803	2.6	2.4	6.4	–	–	–	17	–	36	56	72
Jönsson *et al.* [11]	1970–1999	1888	2.7	–	–	–	–	–	–	–	–	–	–
Lu *et al.* [12]	1997–2003	1197	2.8	3	5	6	–	–	–	–	–	–	–
Keogh *et al.* [13]	2003	5003	3	–	–	–	–	–	–	–	–	–	–
Dewey *et al.* [14]	1998–1999	728	–	4.2	–	–	–	–	–	–	–	–	–
Yeatman *et al.* [15]	1996–2000	387	2.4	–	–	5	–	–	–	–	–	–	–
Ellis *et al.* [16]	1990–1995	1585	2.3	–	–	–	15.6	–	–	–	–	–	–
Weighted average	–	15492	2.7	2.8	5.4	6.7	–	–	15.4	–	–	–	–

Taggart DP,Kaul S, Boden WE, *et al.*
Revascularisation for unprotected left main stem coronary artery stenosis or surgery.
J Am Coll Cardiol 2008;51:885-892.





AMIG-IVA

Perméabilité pontages

Mortality (%)

- J + 15 : 7% d' occlusion pontage
- 1 année: 10 à 20% occlusion greffons saphénes
- 10 ans : 50% greffons « dégénérés » ou occlus
- > 10 ans : 88 à 95% perméabilité AMIG/AMID (mais < 20% d'utilisation des 2 mammaires)

Brinker J *et al.*
The left main facts : faced, spun, but alas too few
J Am Coll Cardiol 2008;51:893-898.

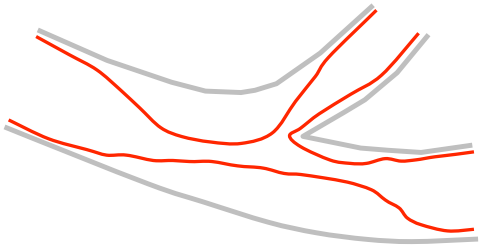
CENTRE DU COEUR NICE

percutaneous coronary intervention in left main coronary artery disease

Outcome	Stent type	Follow-up: 6–12 months	Follow-up: 2 years	Follow-up: 3 years
Mortality	DES	5.94% (4.73%–7.44%) n=2691	7.89% (6.07%–10.20%) n=4430	8.80% (6.20%–12.34%) n=2912
	BMS	7.24% (3.51%–14.33%) n=763	14.14% (8.96%–21.62%) n=1266	12.71% (6.94%–22.15%) n=959
MI	DES	6.26% (4.71%–8.27%) n=2356	3.90% (1.98%–7.55%) n=2182	4.04% (2.33%–6.91%) n=2516
	BMS	9.97% (6.09%–15.90%) n=157	3.06% (1.18%–7.69%) n=607	3.43% (1.87%–6.21%) n=752
TVR/TLR	DES	7.83% (5.95%–10.24%) n=2257	10.20% (8.55%–12.13%) n=4772	8.03% (5.62%–11.37%) n=2912
	BMS	16.95% (12.92%–21.92%) n=985	16.15% (13.93%–18.66%) n=1241	16.40% (12.23%–21.64%) n=959
MACE	DES	15.87% (12.93%–19.32%) n=2593	18.99% (14.92%–23.86%) n=2623	21.43% (14.85%–29.91%) n=1652
	BMS	39.31% (31.68%–47.50%) n=554	32.69% (17.72%–52.26%) n=441	31.60% (23.15%–41.47%) n=399

Pandya SB, Kim Y-H, *et al.*
Drug-eluting versus bare-metal stents in unprotected left main coronary artery stenosis a meta-analysis. JACC Cardiovasc Interv 2010;3:602-611.

FRIEND/TC-GACI



ATC TC par stent actif Taxus°

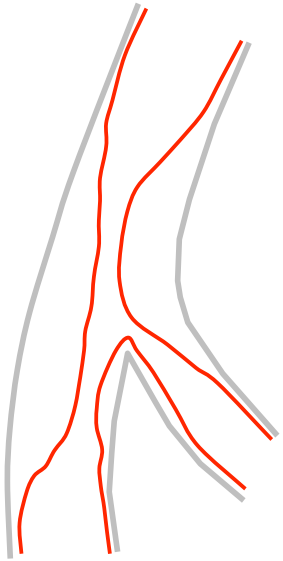
	IDM sans onde Q	IDM avec onde Q	Revascularis. vaisseau cible	AVC	Décès cardiaques	Décès toutes causes	Evénements majeurs	Angor stable
12 mois	2 %	1,3 %	2,7 %	-	2 %	2,7 %	8 %	/
18 mois	2 %	2,7 %	4,7 %	2 %	2 %	3,3 %	14 %	21 %
36 mois	2 %	3,3 %	6,1 %	2 %	2,7 %	6,7 %	21 %	3,3 %

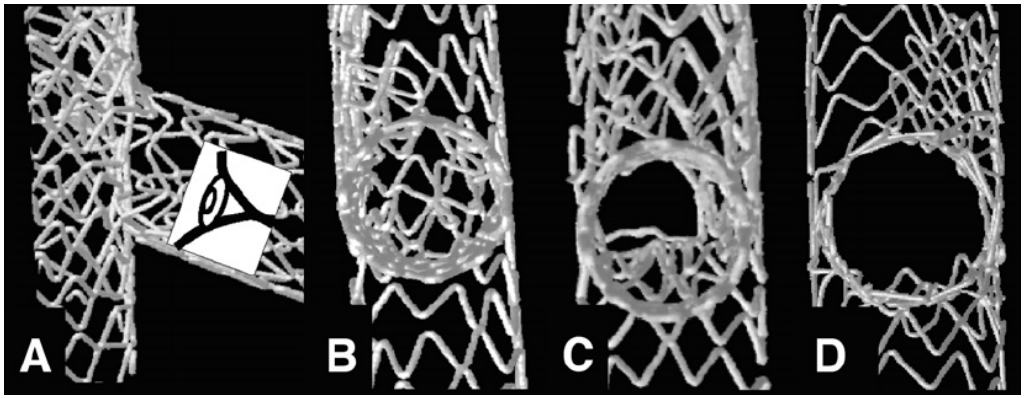
Didier Carrié[1]*, MD, PhD; Hélène Eltchaninoff[2], MD, PhD; Thierry Lefèvre[3], MD; Marc Silvestri[4], MD; Gilles Levy[5], MD; Eric Maupas[6], MD; Philippe Brunel[7], MD; Jean Fajadet[8], MD; Hervé Le Breton[9], MD; Martine Gilard[10], MD; Didier Blanchard[11], MD; Bernard Glatt[12], MD; for the FRIEND investigators

FRIEND/TC-GACI

Provisionnal T stenting :

« Faire le plus simple ! » pour le cas le plus complexe…



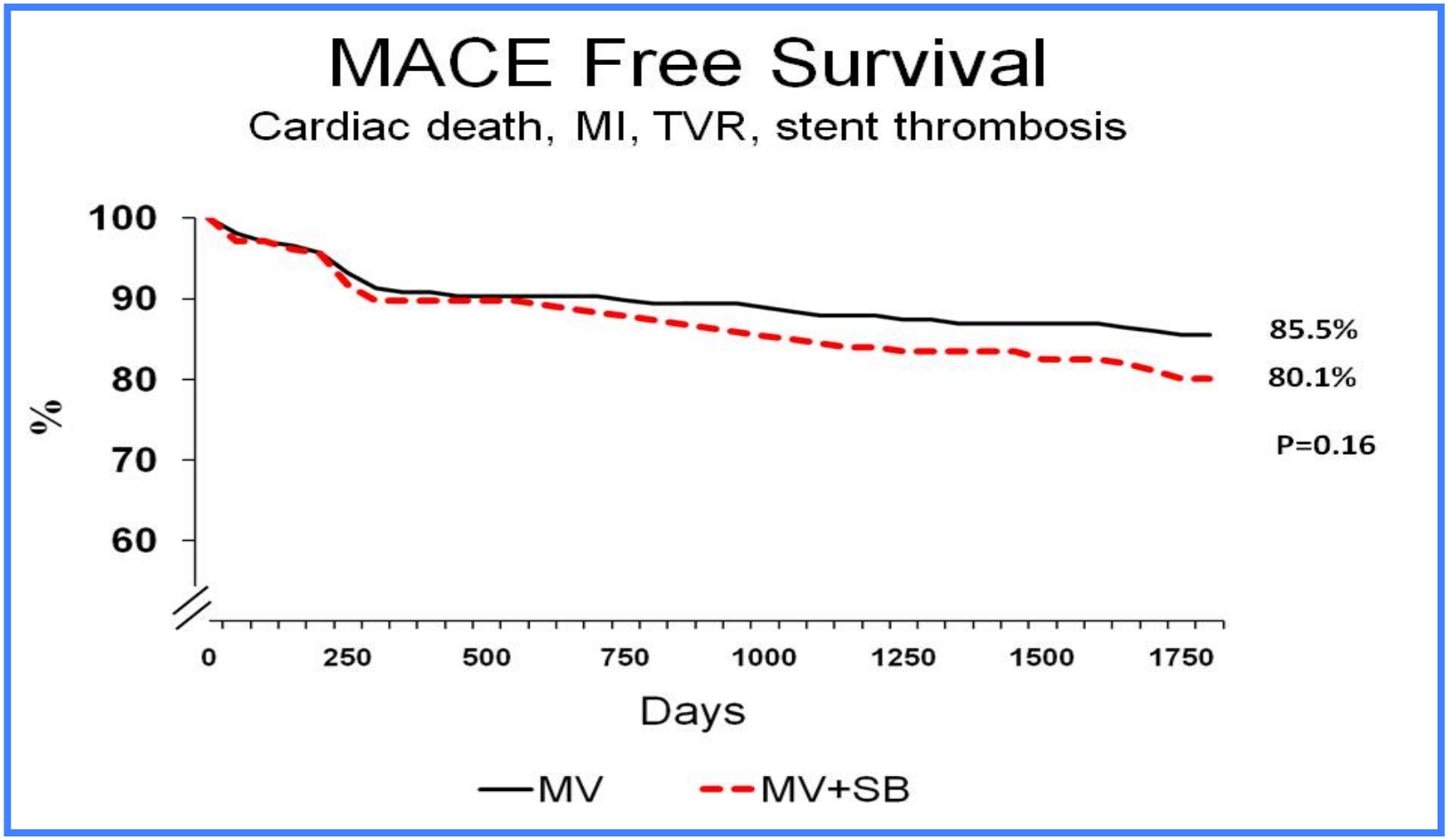


No Kiss 1 step Kiss 2 steps Kiss

Ormiston et al. J Am Coll Cardiol Intv 2008;1:351–7

Provisionnal T stenting :

« Faire le plus simple !! » pour le cas le plus complexe…



NORDIC I : Efficacité et sécurité 5 ans *Thuesen L et al. Presented at ACC 2011*

Registre

The NEW ENGLAND JOURNAL of MEDICINE

The MAIN-COMPARE

(Revascularisation for Unprotected Left Main Coronary Artery Stenosis : Comparaison of Percutaneous Coronary Angioplasty versus Surgical Revascularisation) registry

- 2000 à 2006 sur 12 centres
- Stent 1 102 pts / CABG : 1 138 pts

- Groupe stent : Choix patient/médecin ou risque CABG
- Groupe CABG (Diabéte 35% vs 30%) / >> de 3VD

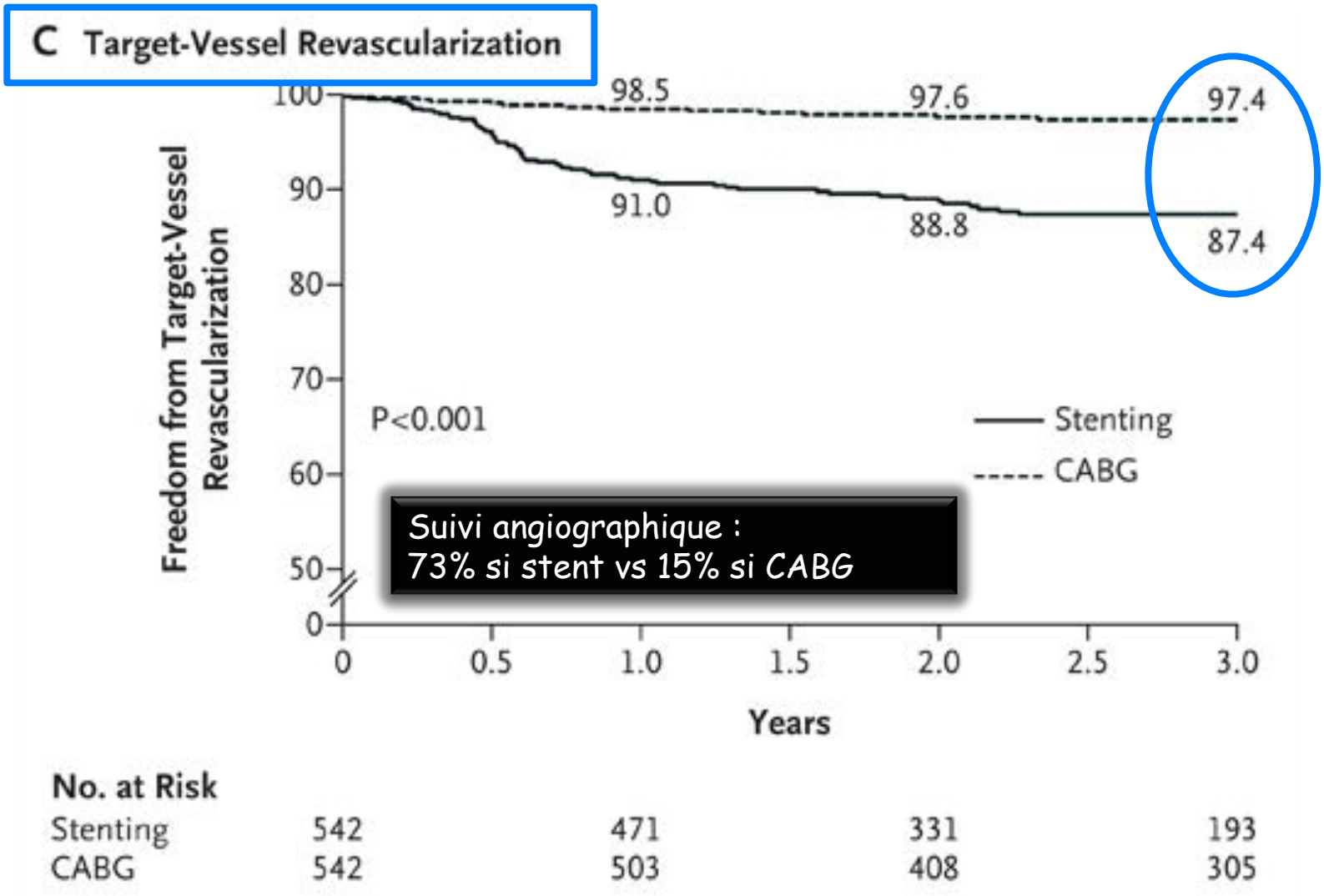
- Anatomie TC : bifurcation 54% CABG vs 49% stent

- Suivi 3 ans

Ki Bae Seung, Seun-Whan Lee *et al.*
Stents versus Coronary-Artery Bypass Grafting for Left Main Coronary Artery Disease
N Engl J Med 2008;358:1781-1792.

Registre

The MAIN-COMPARE



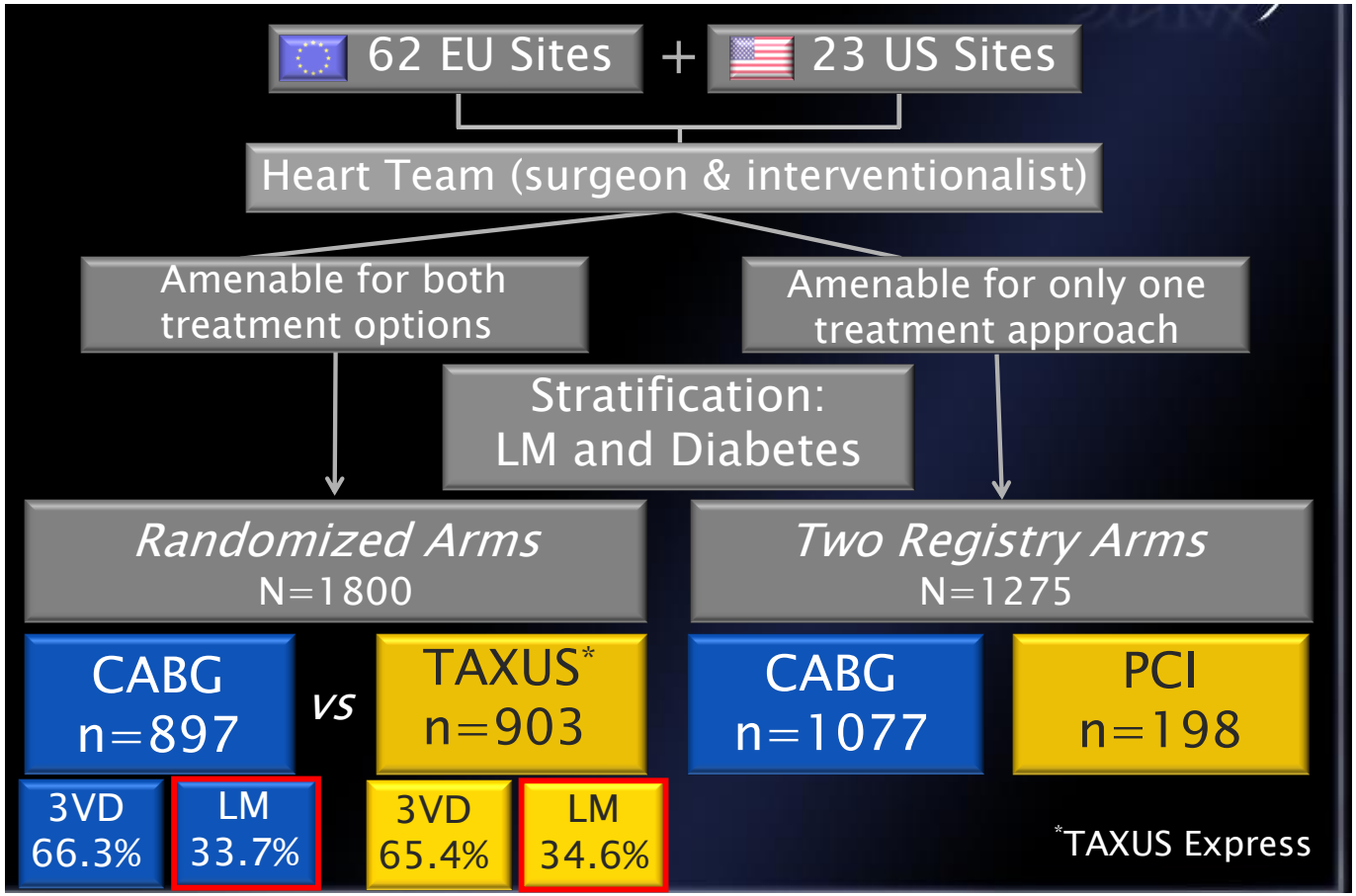
Suivi angiographique :
73% si stent vs 15% si CABG

N Engl J Med 2008;358:1781-1792.

Essai Randomisé

The SYNTAX study

(The SYNergy between « PCI » with TAXus and cardiac surgery)



AHJ American Heart Journal

Ong AT, Serruys PW, Mohr FW, Morice MC, *et al.*
Am Heart J 2006;151:1194-1204.

Essai Randomisé

SYNTAX

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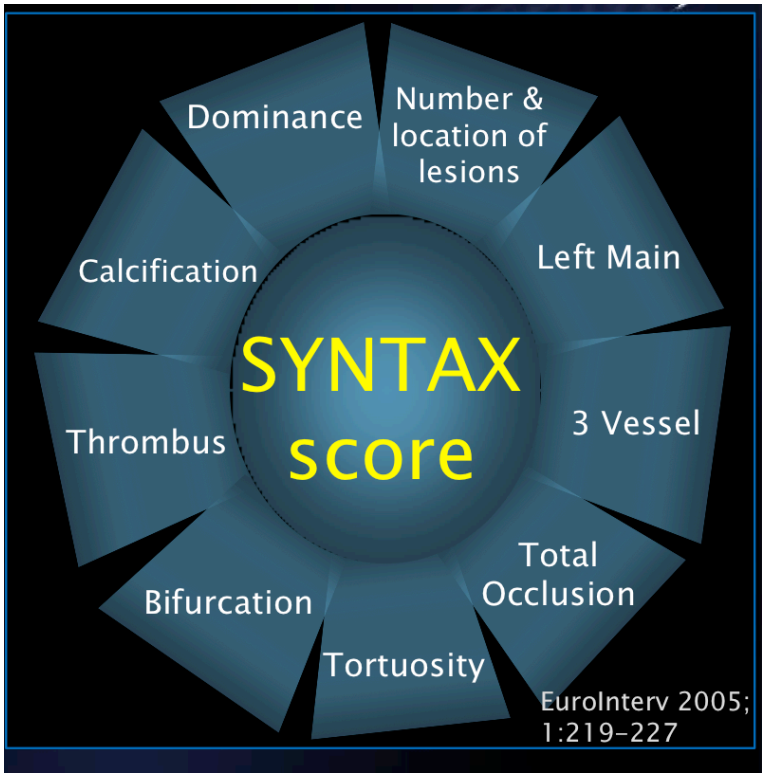
SYNTAX score : Déterminer probabilité risque en fonction données angiographiques



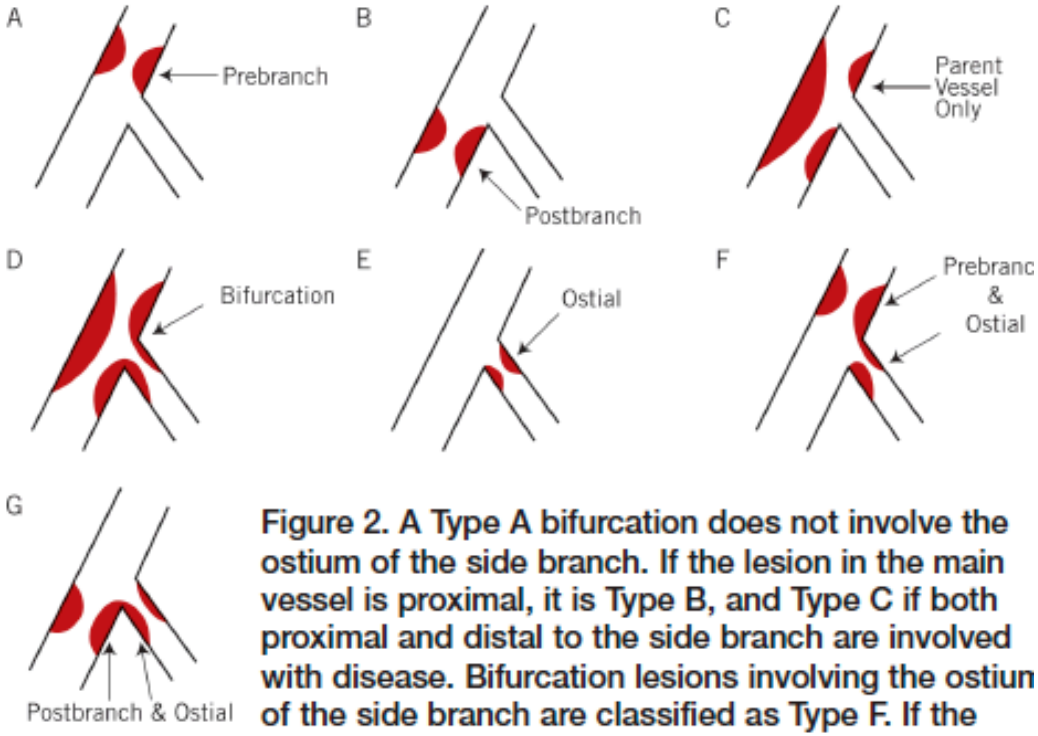


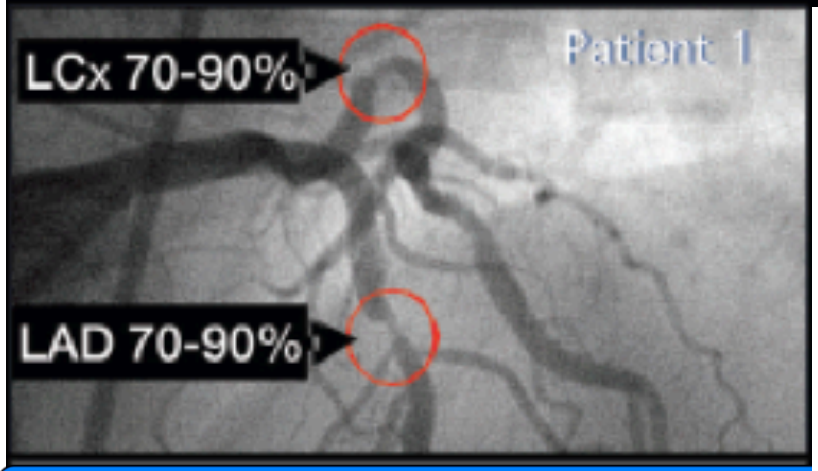
Figure 2. A Type A bifurcation does not involve the ostium of the side branch. If the lesion in the main vessel is proximal, it is Type B, and Type C if both proximal and distal to the side branch are involved with disease. Bifurcation lesions involving the ostium of the side branch are classified as Type F. If the lesion in the main branch is proximal, it is Type G, and Type D if both proximal and distal to the side branch are involved. If only the ostium of the side branch is narrowed, such a lesion is considered Type E.

Reprinted from Sianos G, Morel MA, Kappetein AP, et al. The SYNTAX score: an angiographic tool grading the complexity of CAD. *EuroInterv* 2005; 1: 219-227. Copyright © 2009, with permission from Europa Edition.

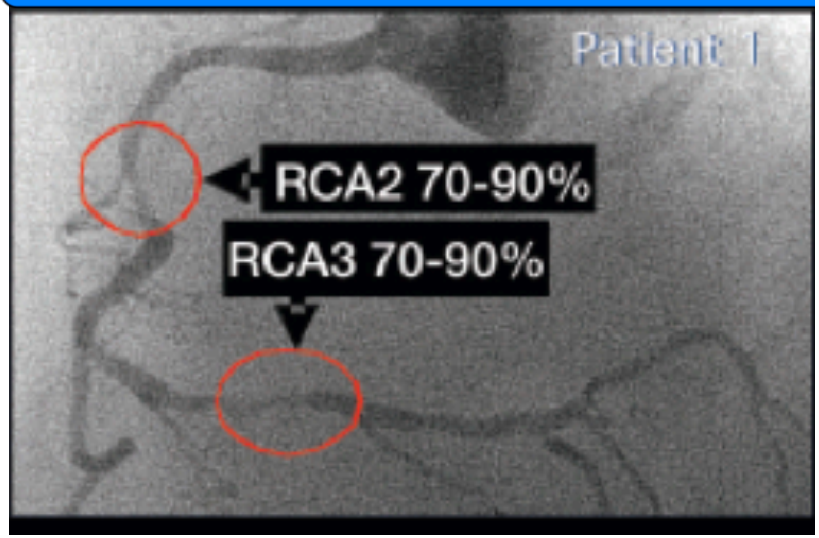
WWW.syntaxscore.com

Essai Randomisé

THERE IS '3-VESSEL DISEASE' AND '3-VESSEL DISEASE'

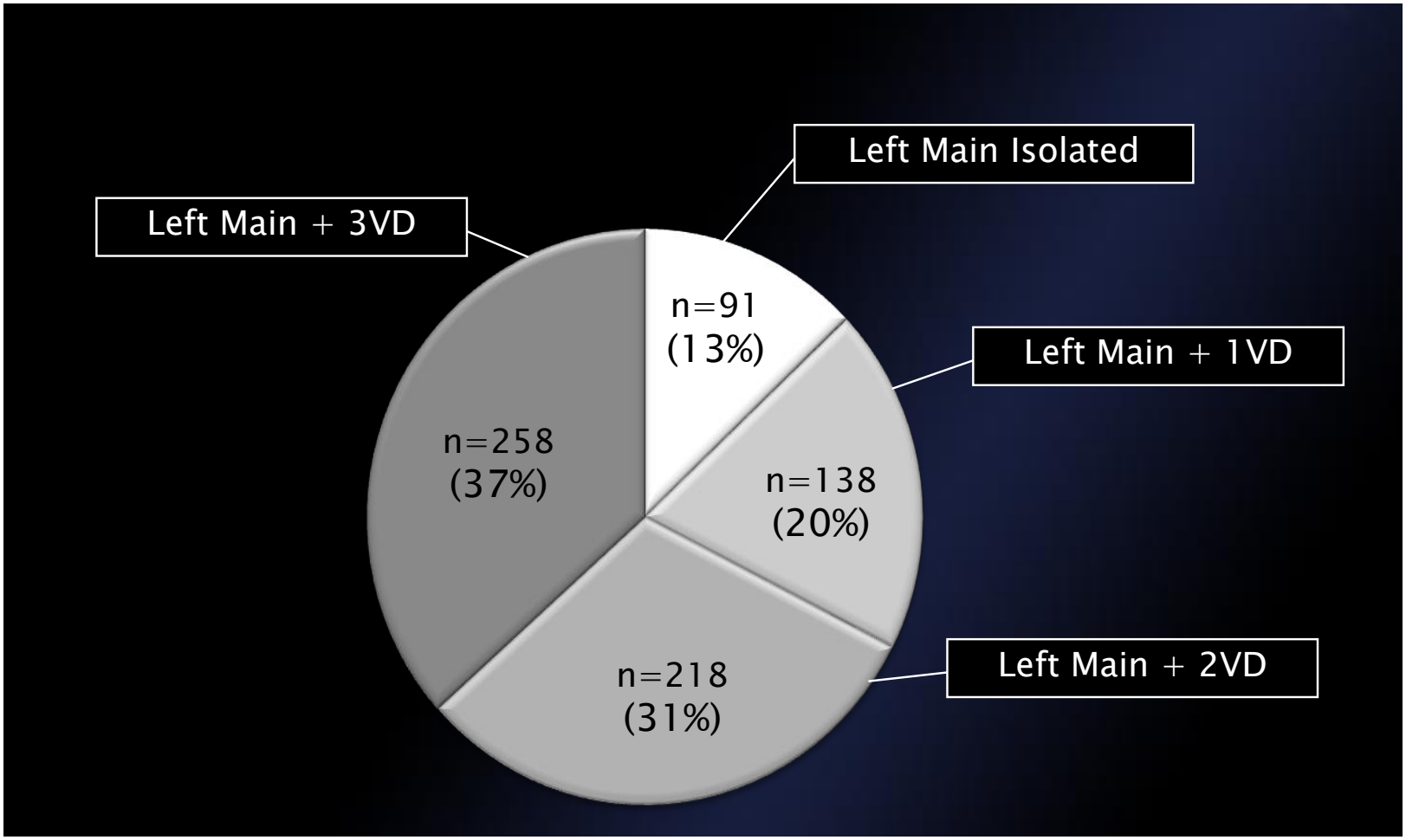


Syntax score = 21



Patient Characteristics (I)

Left Main Subset: Randomized Cohort



Essai Randomisé

Résultats à 1 AN

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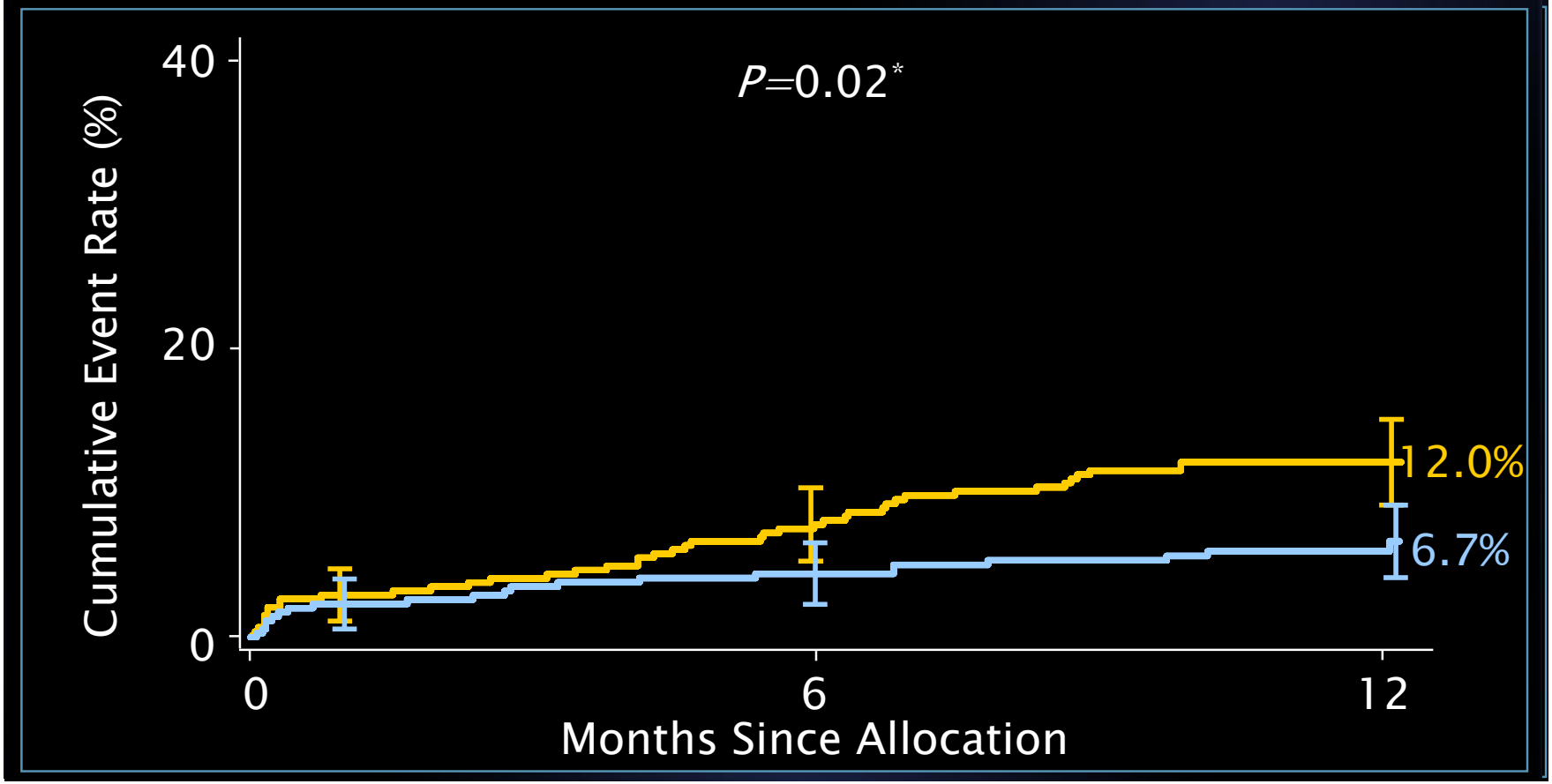
Revascularization* to 12 Months

Left Main Subset

SYNTAX



Essai Randomisé

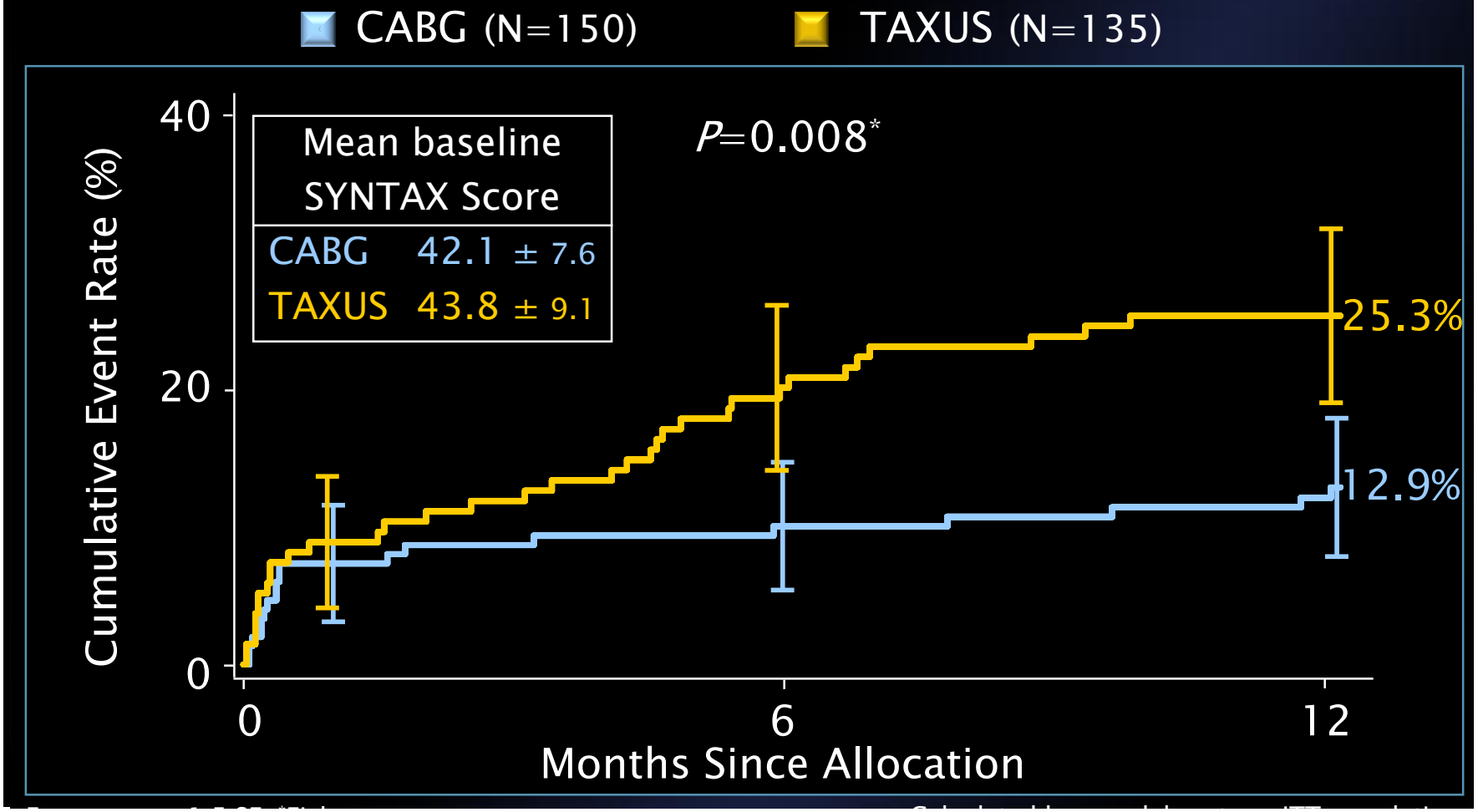
Résultats à 1 AN

CENTRE DU COEUR NICE

MACCE to 12 Months by SYNTAX Score Tertile

High Scores (≥33) Left Main Subset

SYNTAX

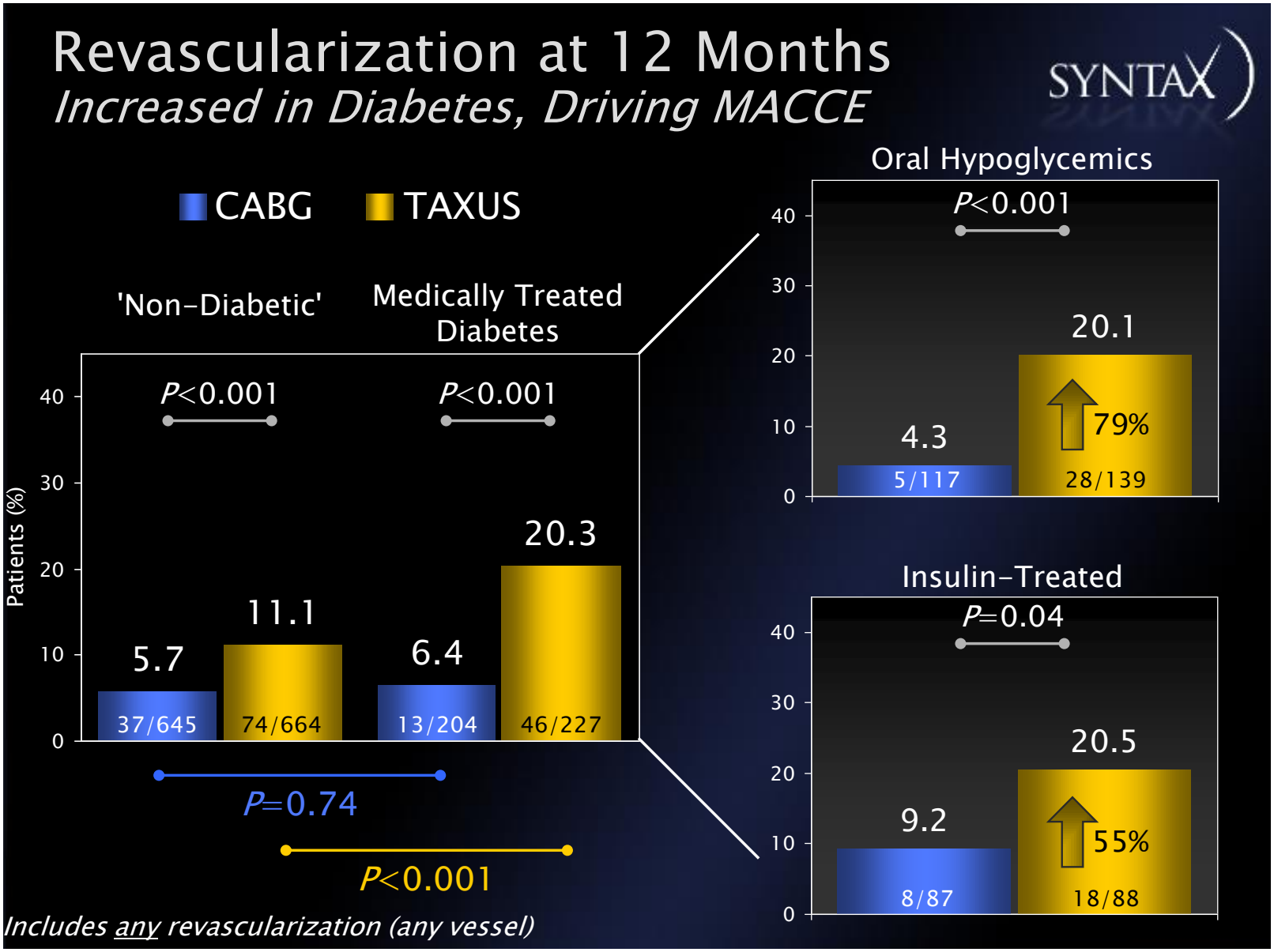


Essai Randomisé

DIABETIQUES

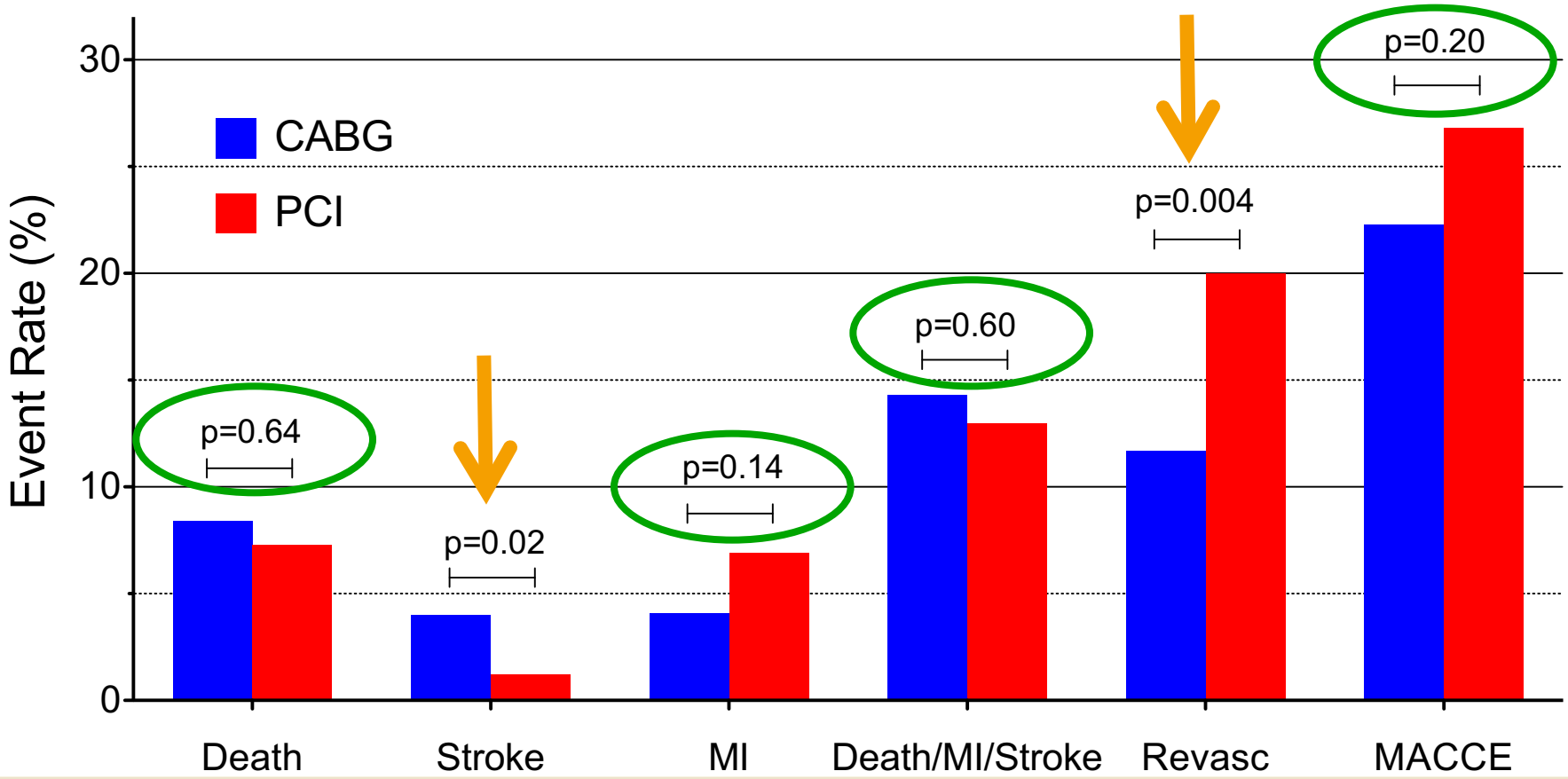
Résultats à 1 AN

CENTRE DU COEUR NICE



Essai Randomisé

Résultats à 3 ANS



3-Year Clinical Outcomes in Patients With Left Main Disease in the SYNTAX Trial,

Left Main Percutaneous Coronary Intervention

Paul S. Teirstein, MD, Matthew J. Price, MD

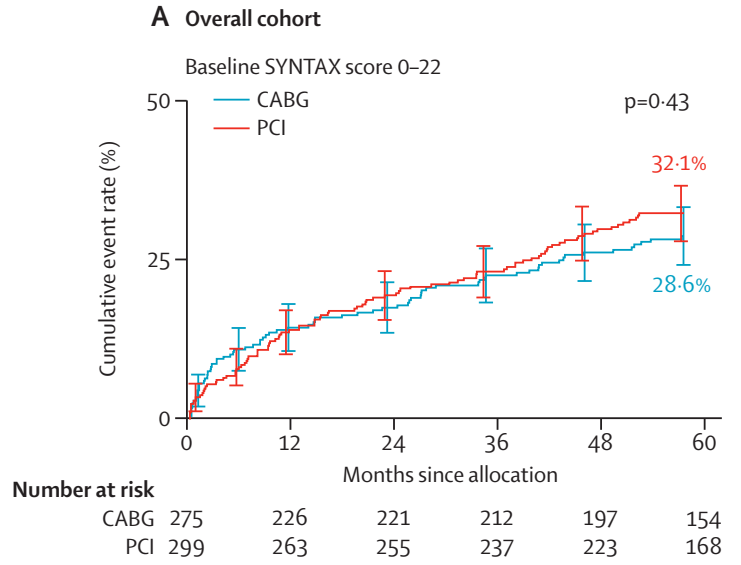
La Jolla, California

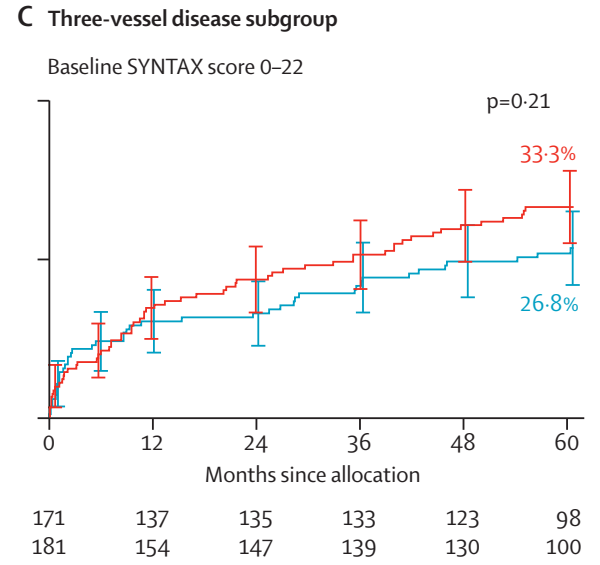
JACC Vol. 60, No. 17, 2012
October 23, 2012:1605–13

Résultats à 5 ANS…

MACCE selon le SYNTAX score +++

SYNTAX score 0-22 (angiographiquement « simples »)





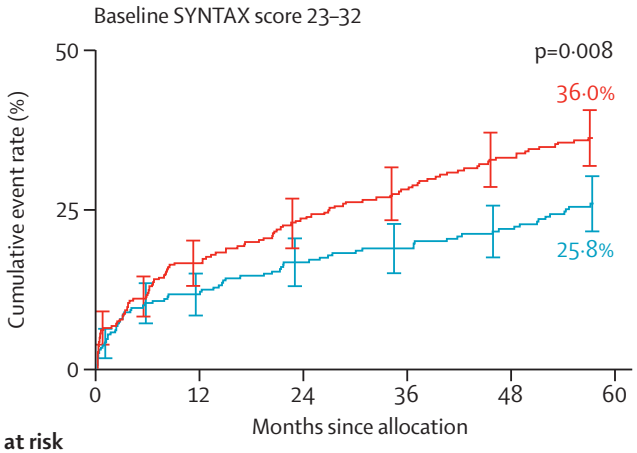
FW Mohr, MC Morice, AP Kappetein, *et al.*
Coronary artery bypass grtaft surgery versus percutaneous coronary intervention ion patients with three-vessel disease and left main coronary disease : 5-year follow-up of the randomised, clinical SYNTAX trial Lancet 2013;381:629-38.

Résultats à 5 ANS…

MACCE selon le SYNTAX score +++

SYNTAX score 22-32 (angiographiquement « intermédiaires »)

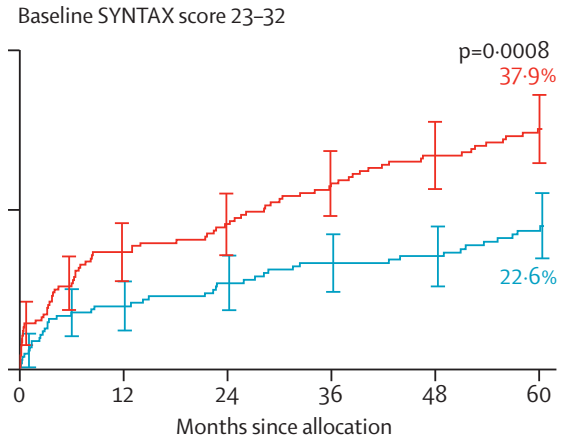
A Overall cohort



Number at risk

CABG	300	251	248	230	219	172
PCI	310	257	256	236	221	173

C Three-vessel disease subgroup



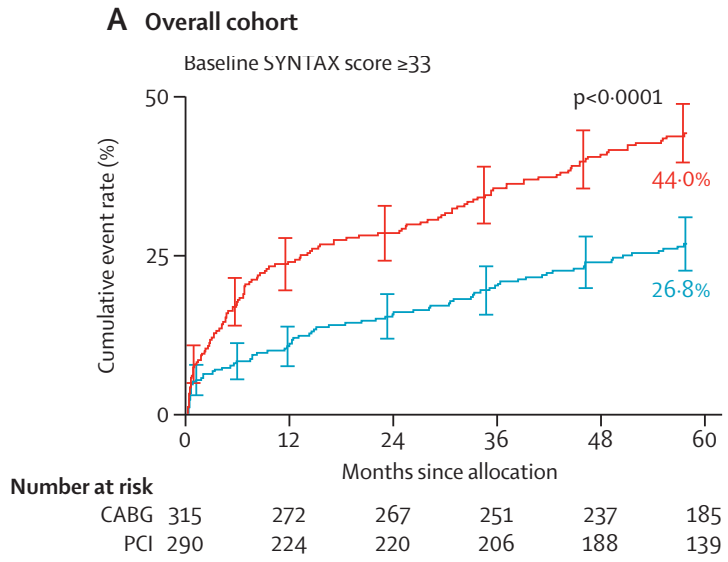
	208	176	174	164	153	121
	207	166	166	157	143	114

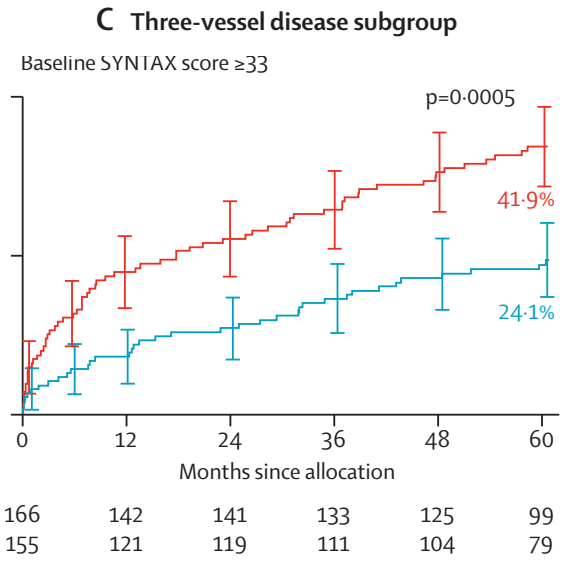
FW Mohr, MC Morice, AP Kappetein, *et al.*
Coronary artery bypass grtaft surgery versus percutaneous coronary intervention ion patients with three-vessel disease and left main coronary disease : 5-year follow-up of the randomised, clinical SYNTAX trial Lancet 2013;381:629-38.

Résultats à 5 ANS…

MACCE selon le SYNTAX score +++

SYNTAX score > 33 (angiographiquement «complexes»)

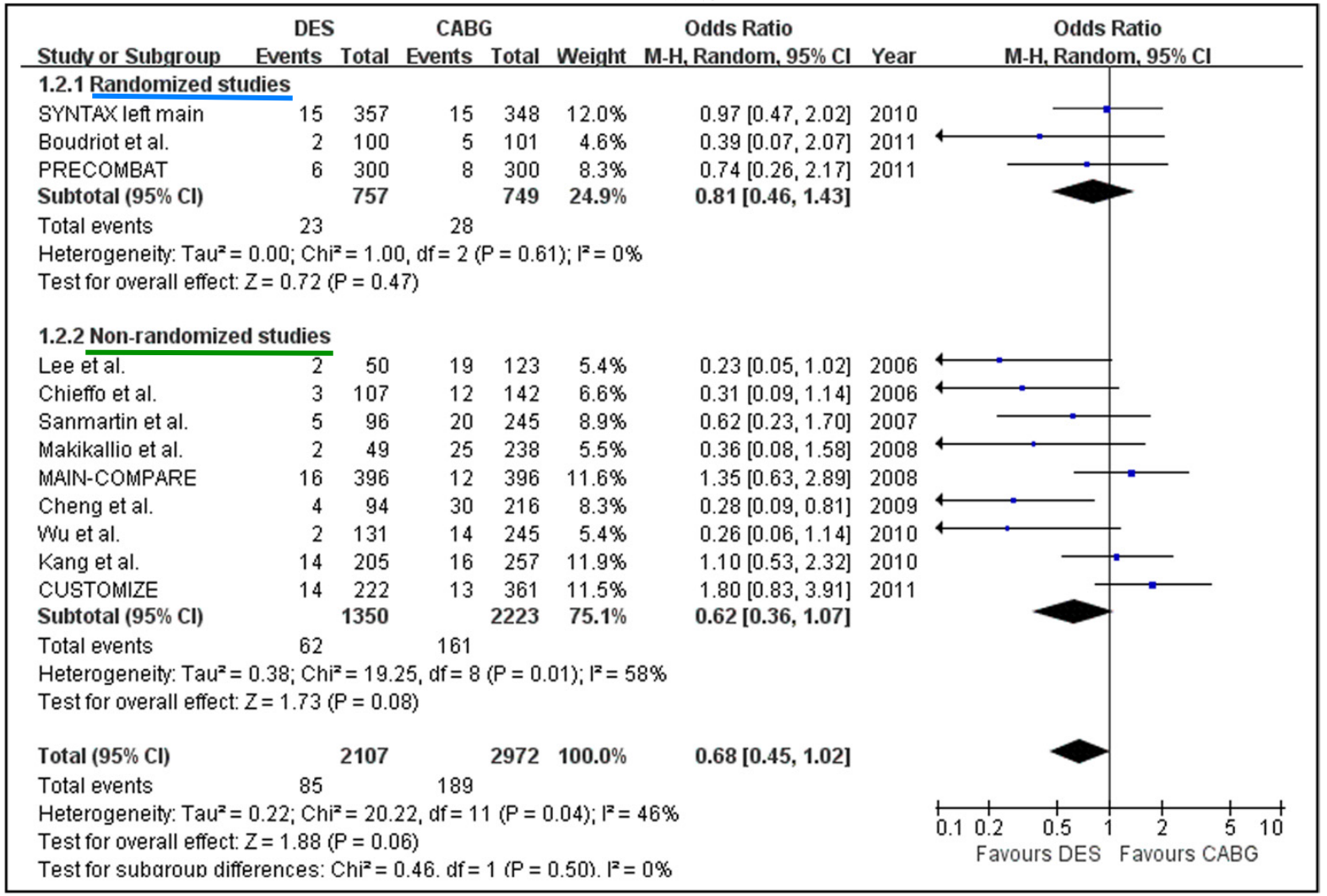




FW Mohr, MC Morice, AP Kappetein, *et al.*
Coronary artery bypass grtaft surgery versus percutaneous coronary intervention ion patients with three-vessel disease and left main coronary disease : 5-year follow-up of the randomised, clinical SYNTAX trial Lancet 2013;381:629-38.

Méta-analyse

Mortalité



Jae-Sik Jang, Kyu-Nam Choi, *et al.*
Meta-Analysis of Three Randomized Trials and Nine Observational Studies Comparing Drug-Eluting Stents vs CABG for Unprotected Left Main Coronary Artery Disease
Am J Cardiol 2012;110:1411-1418.

Méta-analyse

Mortalité / IDM / AVC

Study or Subgroup	DES Events	DES Total	CABG Events	CABG Total	Weight	Odds Ratio M-H, Random, 95% CI	Year
Lee et al.	2	50	26	123	4.3%	0.16 [0.04, 0.68]	2006
Chieffo et al.	5	107	22	142	7.2%	0.27 [0.10, 0.73]	2006
Sanmartin et al.	5	96	25	245	7.3%	0.48 [0.18, 1.30]	2007
MAIN-COMPARE	20	396	16	396	10.4%	1.26 [0.64, 2.48]	2008
Makikallio et al.	3	49	41	238	5.7%	0.31 [0.09, 1.06]	2008
Cheng et al.	9	94	27	216	9.1%	0.74 [0.33, 1.64]	2009
SYNTAX left main	25	357	32	348	11.9%	0.74 [0.43, 1.28]	2010
Kang et al.	20	205	23	257	10.9%	1.10 [0.59, 2.06]	2010
Wu et al.	7	131	24	245	8.4%	0.52 [0.22, 1.24]	2010
PRECOMBAT	10	300	12	300	8.5%	0.83 [0.35, 1.95]	2011
CUSTOMIZE	18	222	15	361	10.0%	2.04 [1.00, 4.13]	2011
Boudriot et al.	5	100	9	101	6.2%	0.54 [0.17, 1.67]	2011
Total (95% CI)		**2107**		**2972**	**100.0%**	**0.70 [0.49, 1.00]**	
Total events	129		272				

Heterogeneity: Tau² = 0.20; Chi² = 23.78, df = 11 (P = 0.01); I² = 54%

Test for overall effect: Z = 1.97 (P = 0.05)

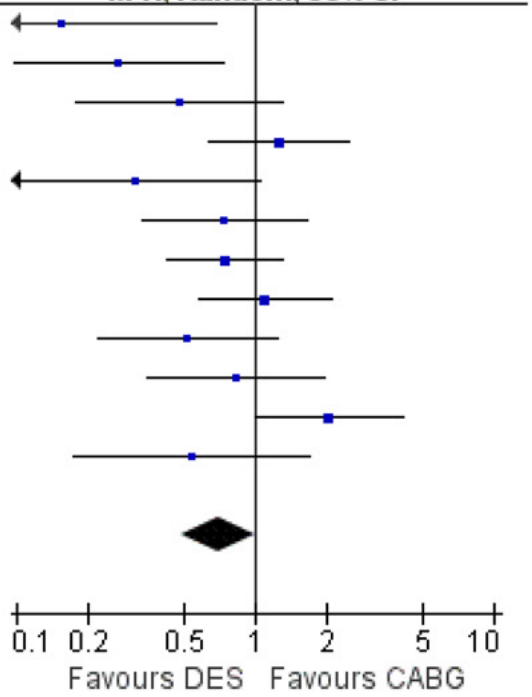


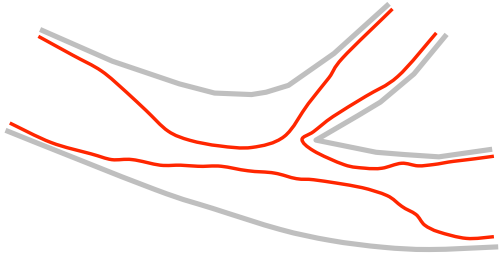
Figure 3. Forest plot of odds ratio for composite end points in patients treated with drug-eluting stents versus coronary artery bypass grafting. Composite end points were mortality, myocardial infarction, or stroke. Abbreviations as in Figure 2.

Jae-Sik Jang, Kyu-Nam Choi, *et al.*
Meta-Analysis of Three Randomized Trials and Nine Observational Studies Comparing Drug-Eluting Stents vs CABG for Unprotected Left Main Coronary Artery Disease
Am J Cardiol 2012;110:1411-1418.

Méta-analyse

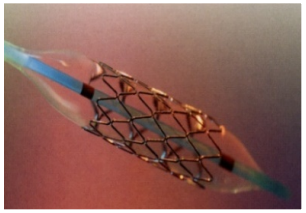
Target Vessel Revascularisation (TVR)

Jae-Sik Jang, Kyu-Nam Choi, *et al.*
Meta-Analysis of Three Randomized Trials and Nine Observational Studies Comparing Drug-Eluting Stents vs CABG for Unprotected Left Main Coronary Artery Disease
Am J Cardiol 2012;110:1411-1418.

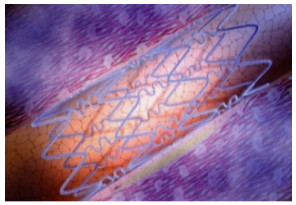


Revascularisation du Tronc Commun :

Influence Bifurcation sur le choix du stent ?



BMS
(Bare Metal Stent)



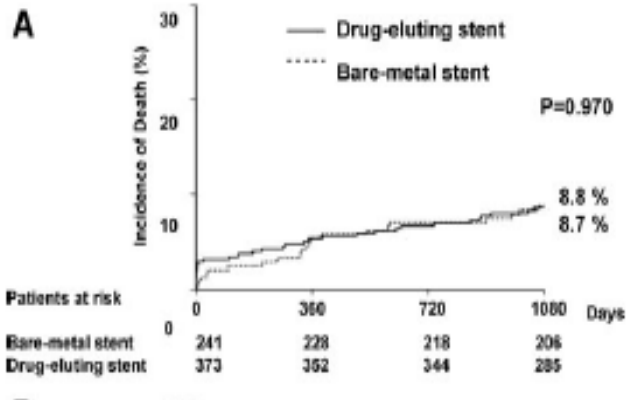
DES
(Drug Eluting Stent)

Young-Hak Kim, Duk-Woo Park, *et al.*
Long-Term Safety and Effectiveness of Unprotected Left Main Coronary Stenting With Drug-Eluting Stents Compared With Bare-Metal Stents
Circulation 2009;120:400-407.

Young-Hak Kim, Duk-Woo Park, *et al.* Circulation 2009;120:400-407.

CENTRE DU COEUR NICE

TC sans Bifurcation



Décès à 3 ans

TC avec Bifurcation

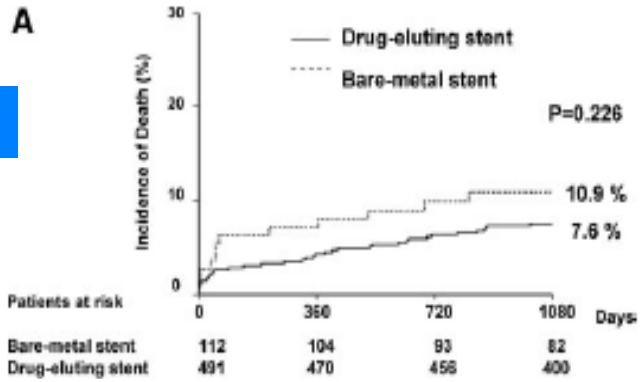


Figure 2. Kaplan–Meier incidence curves of outcomes in patients with nonbifurcation LMCA lesions. A, Three-year inci-

Figure 3. Kaplan–Meier incidence curves of outcomes in patients with bifurcation LMCA lesions. A, Three-year incidences

QUID de la revascularisation du Tronc commun chez le sujet agé ?

Comparative One-Year Effectiveness of Percutaneous Coronary Intervention Versus Coronary Artery Bypass Grafting in Patients <75 Versus ≥75 Years With Unprotected Left Main Disease (from the CUSTOMIZE Registry)

Variable	<75 Years Old			≥75 Years Old		
	PCI (n = 241)	CABG (n = 451)	p Value	PCI (n = 84)	CABG (n = 118)	p Value
Age (years)	62.0 ± 8.2	62.5 ± 8.6	0.41	78.8 ± 2.9	78.1 ± 2.9	0.14
Men	83.0%	82.7%	1.00	67.9%	66.9%	1.00
Systemic hypertension	65.6%	71.2%	0.15	79.8%	80.5%	1.00
Hypercholesterolemia*	59.3%	54.1%	0.21	56.0%	56.8%	1.00
Smoking	45.2%	52.5%	0.08	34.5%	29.7%	0.56
Diabetes mellitus	34.4%	41.2%	0.10	29.8%	39.0%	0.23
Creatinine >2 mg/dl	2.1%	0.9%	0.34	8.3%	3.4%	0.23
European System for Cardiac Operative Risk Evaluation score	3.9 ± 2.2	4.0 ± 2.5	0.53	8.5 ± 2.4	7.3 ± 2.2	<0.001
Lesion location						
Ostium	31.5%	15.8%	<0.001	44.0%	14.0%	<0.001
Shaft	15.4%	5.0%	<0.001	11.9%	9.3%	0.74
Distal	53.1%	79.2%	<0.001	44.1%	76.7%	<0.001
SYNTAX Score	24.9 ± 11.1	32.2 ± 12.6	<0.001	26.3 ± 10.2	36.4 ± 12.3	<0.001
Complete revascularization†	49.3%	77.4%	<0.001	36.8%	66.0%	<0.001

Davide Capodano, *et al* From the CUSTOMIZE regitry Am J cardiol 2012;110:1452-1458.

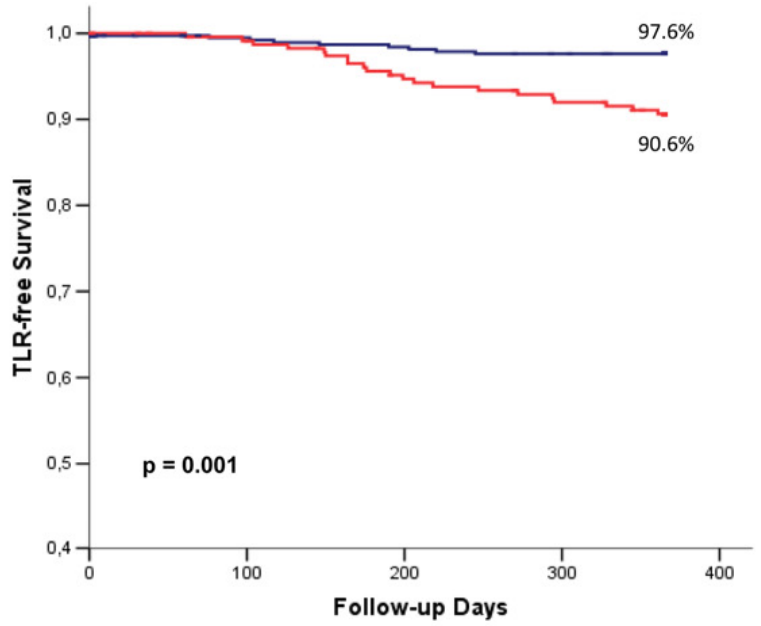
Comparative One-Year Effectiveness of Percutaneous Coronary Intervention Versus Coronary Artery Bypass Grafting in Patients <75 Versus ≥75 Years With Unprotected Left Main Disease (from the CUSTOMIZE Registry)

TLR

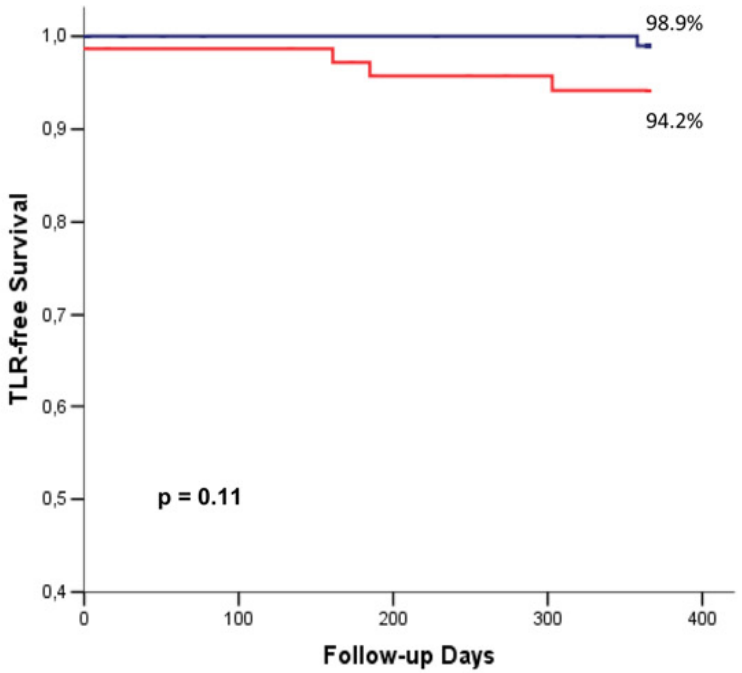
< 75 ans

> 75 ans

C



C



CABG
PCI

Davide Capodano, *et al* From the CUSTOMIZE regitry Am J cardiol 2012;110:1452-1458.

QUID de la revascularisation du Tronc commun dans un SCA ?

European Heart Journal
doi:10.1093/eurheartj/ehp353

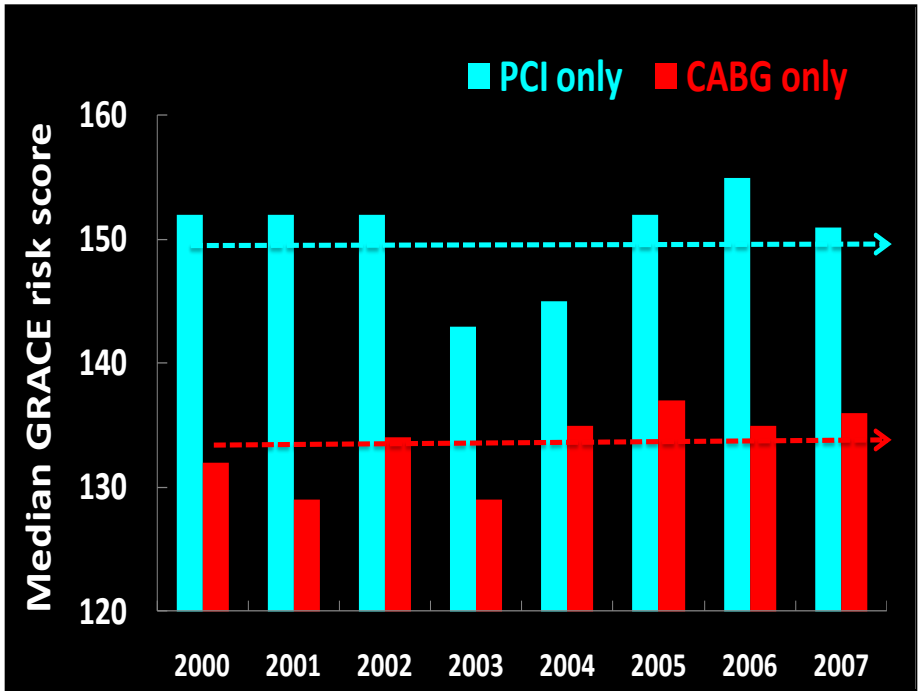
FASTTRACK
ESC CLINICAL TRIAL UPDATE

Unprotected left main revascularization in patients with acute coronary syndromes

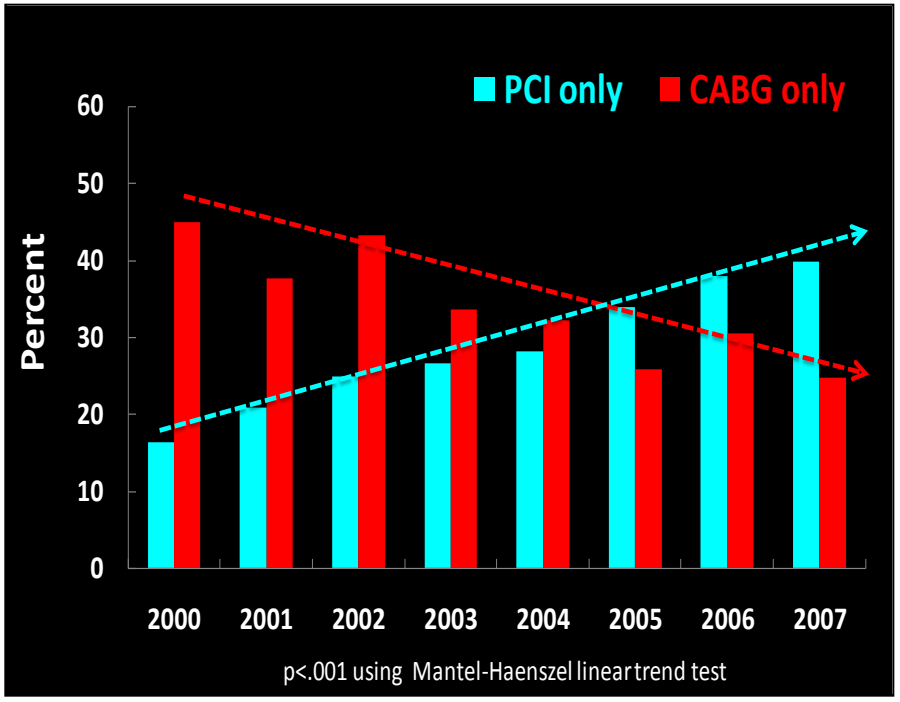
Authors: Gilles Montalescot, David Brieger, Kim A. Eagle, Frederick A. Anderson Jr, Gordon FitzGerald, Michael S. Lee, Ph Gabriel Steg, A´ lvaro Avezum, Shaun G. Goodman, and Joel M. Gore for the GRACE Investigators

ULMCD Revascularization in ACS

Temporal Trends in Severity of ACS

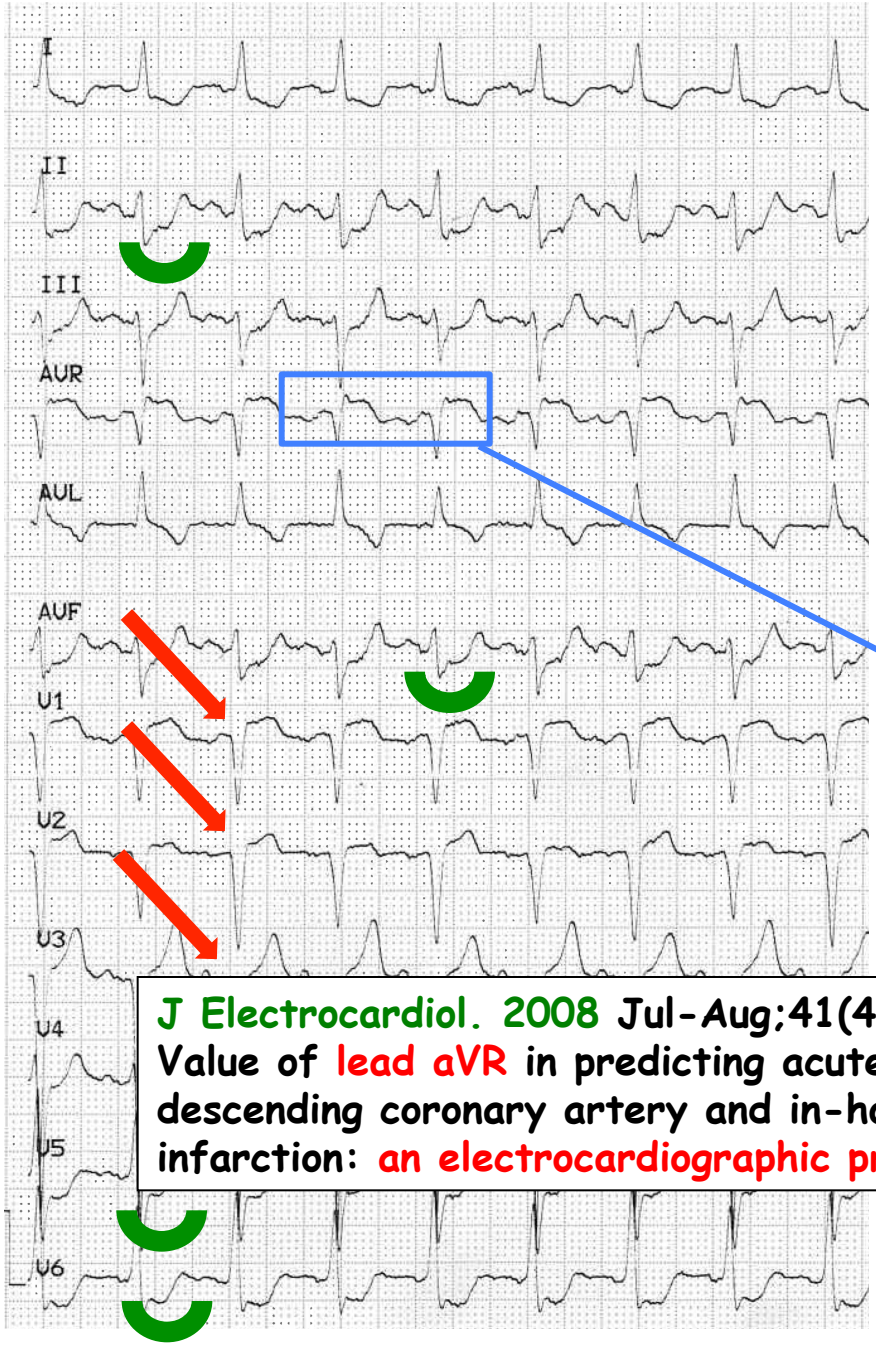


Temporal Trends in Type of Revascularization



% de patients non revascularisés : stable entre 2000 et 2007 (39 vs 35%)

Le score de gravité est plus élevé dans le groupe PCI / groupe CABG
De + en + de patients sont traités par PCI

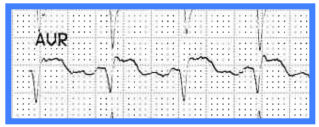


Le 15 Juillet 2013 vers 1 h du matin..

Homme 53 ans…
Sd douloureux thoracique TNT -
Troponine +

Sus décalage ST aVR +++

J Electrocardiol. 2008 Jul-Aug;41(4):335-41.
Value of lead aVR in predicting acute occlusion of proximal left anterior descending coronary artery and in-hospital outcome in ST-elevation myocardial infarction: an electrocardiographic predictor of poor prognosis.



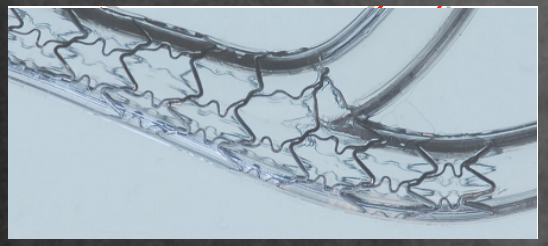
Marginale G

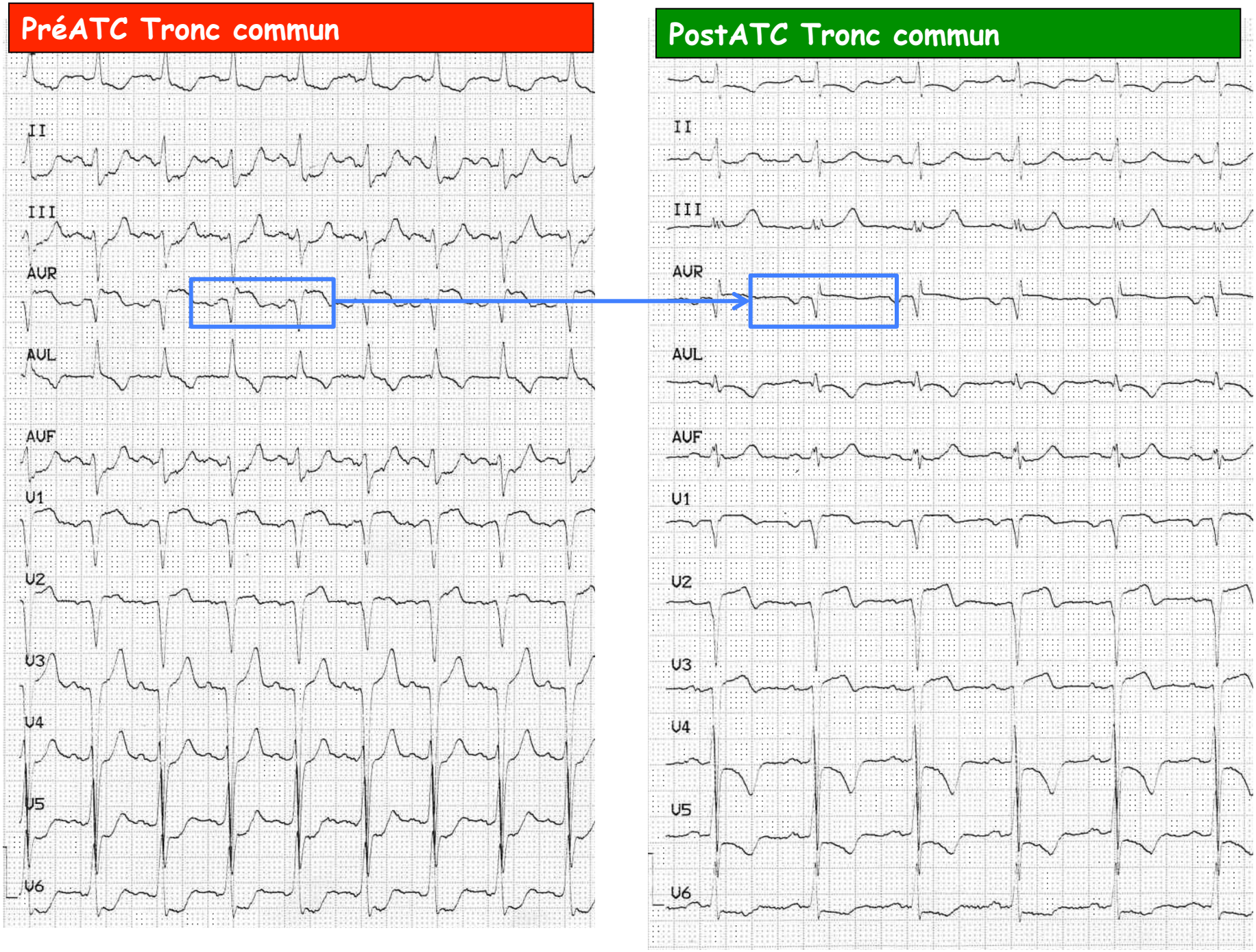
IVA

IVA

Marginale G

IVA




PréATC Tronc commun
II
III
AUR
AUL
AUF
U1
U2
U3
U4
U5
U6
PostATC Tronc commun
II
III
AUR
AUL
AUF
U1
U2
U3
U4
U5
U6

Mr MAL…. 92 ans

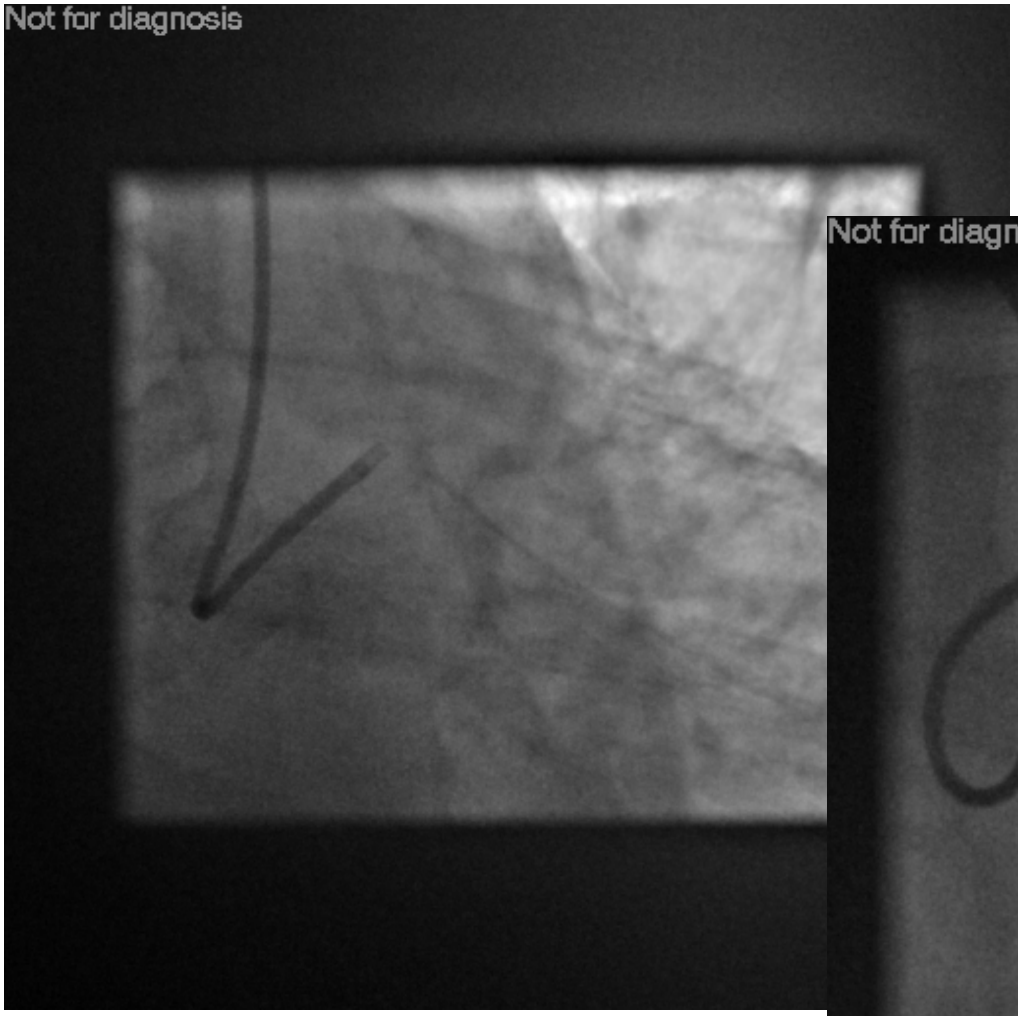
SCA avec Troponine 9

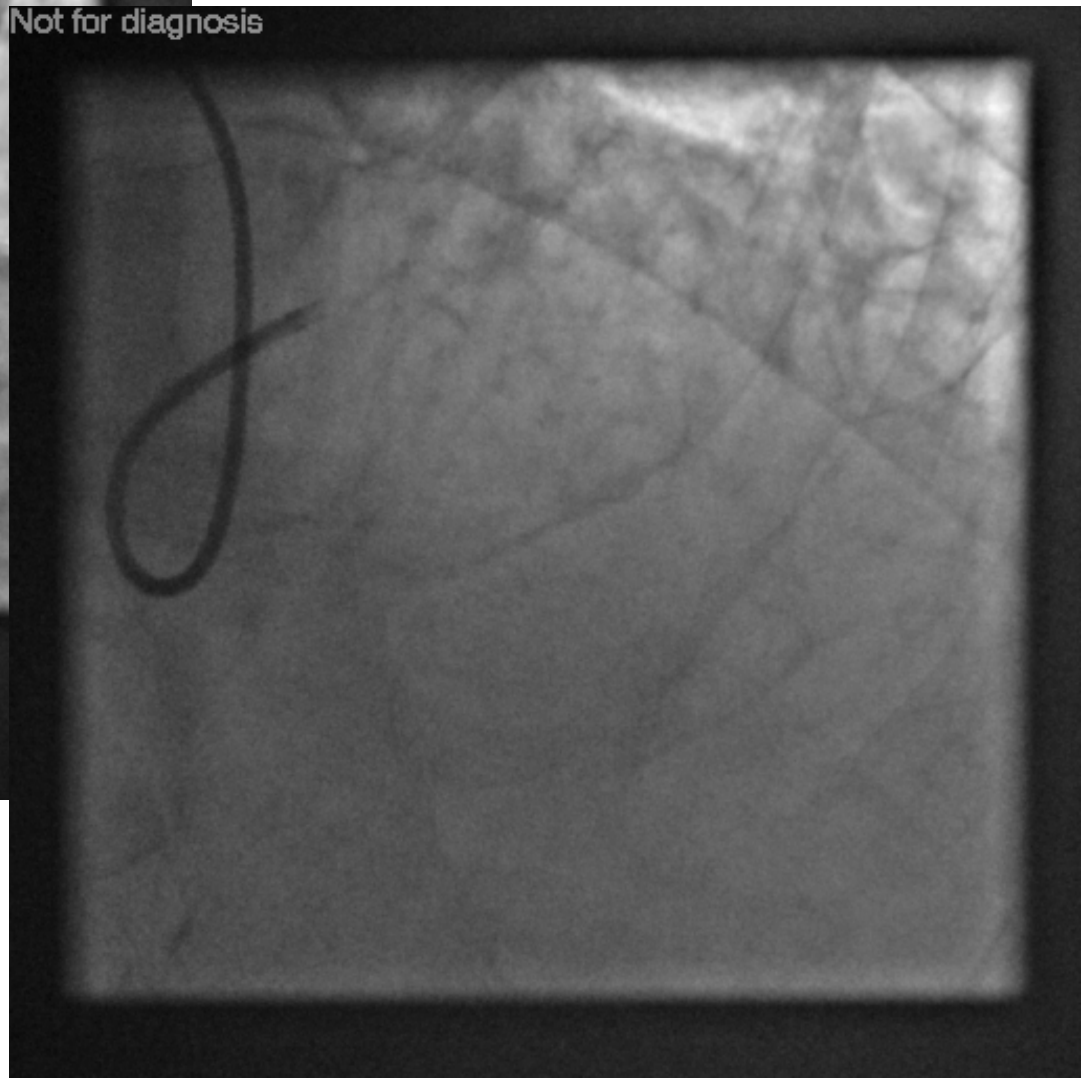
+ 1 mm aVR …
Lésion sous endocardique antérieure étendue
Séquelle INF limitée

BNP > 450

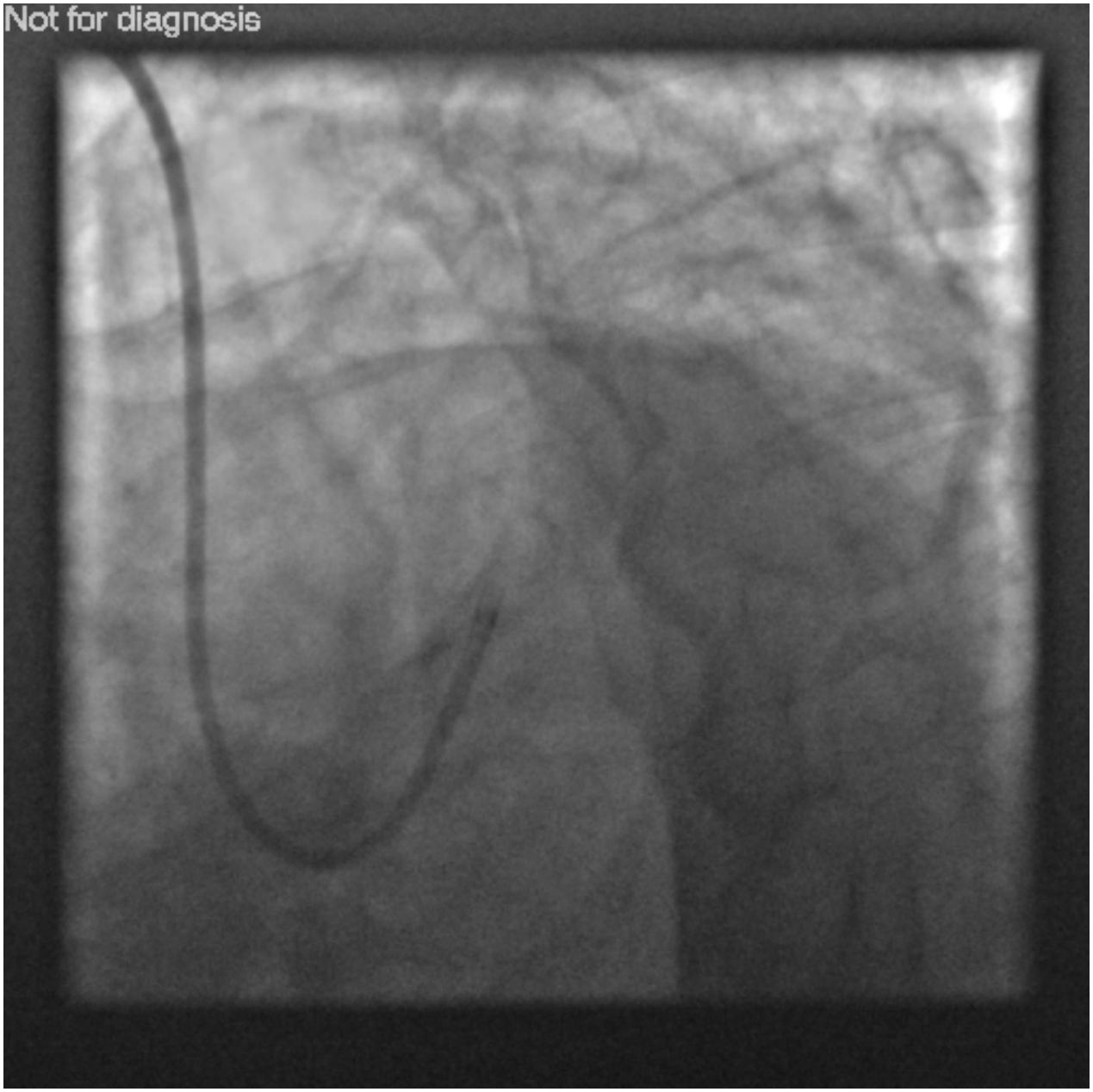
Occlusion ostiale CDTE

Mr MAL…. 92 ans

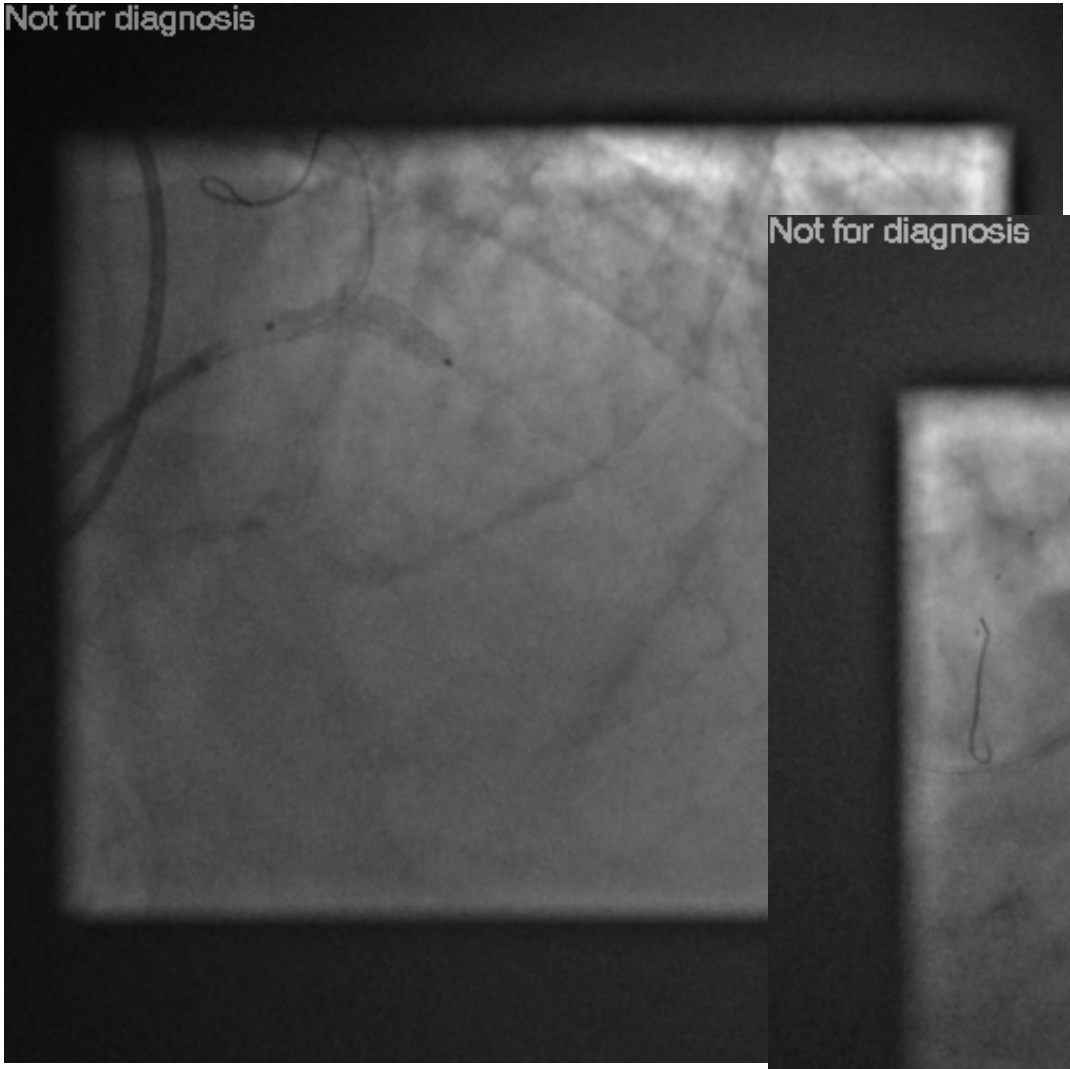


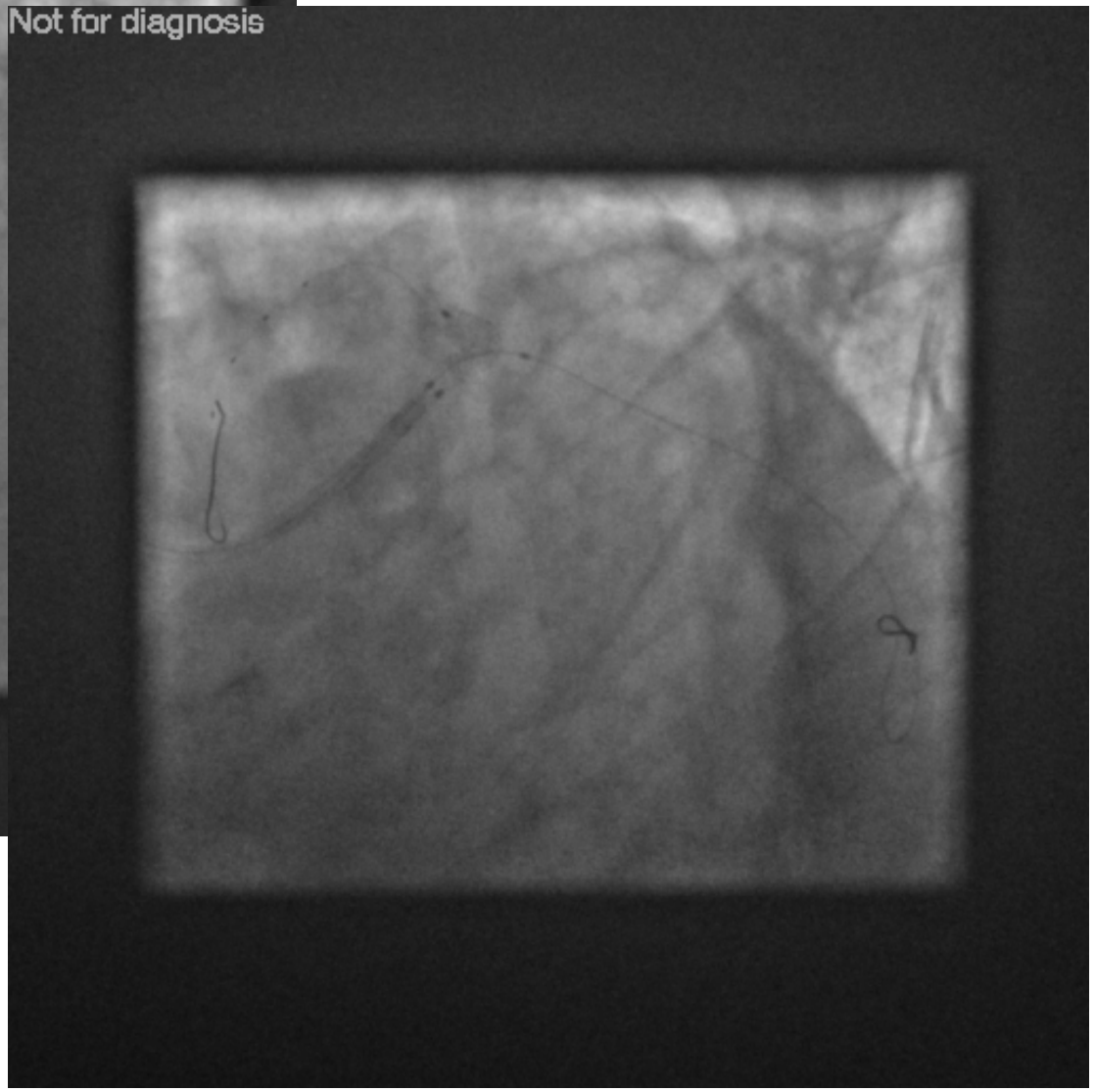


Mr MAL…. 92 ans

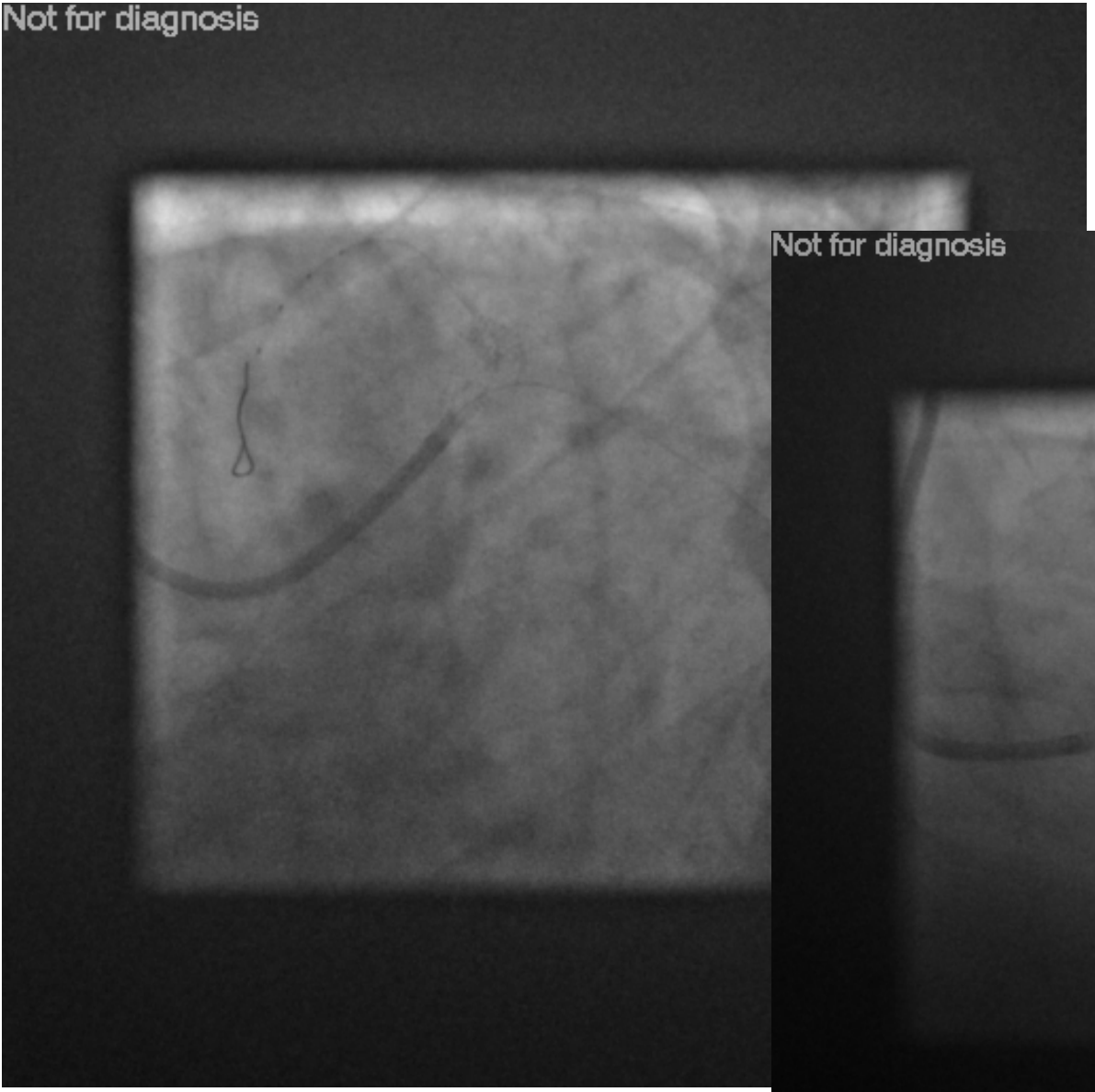


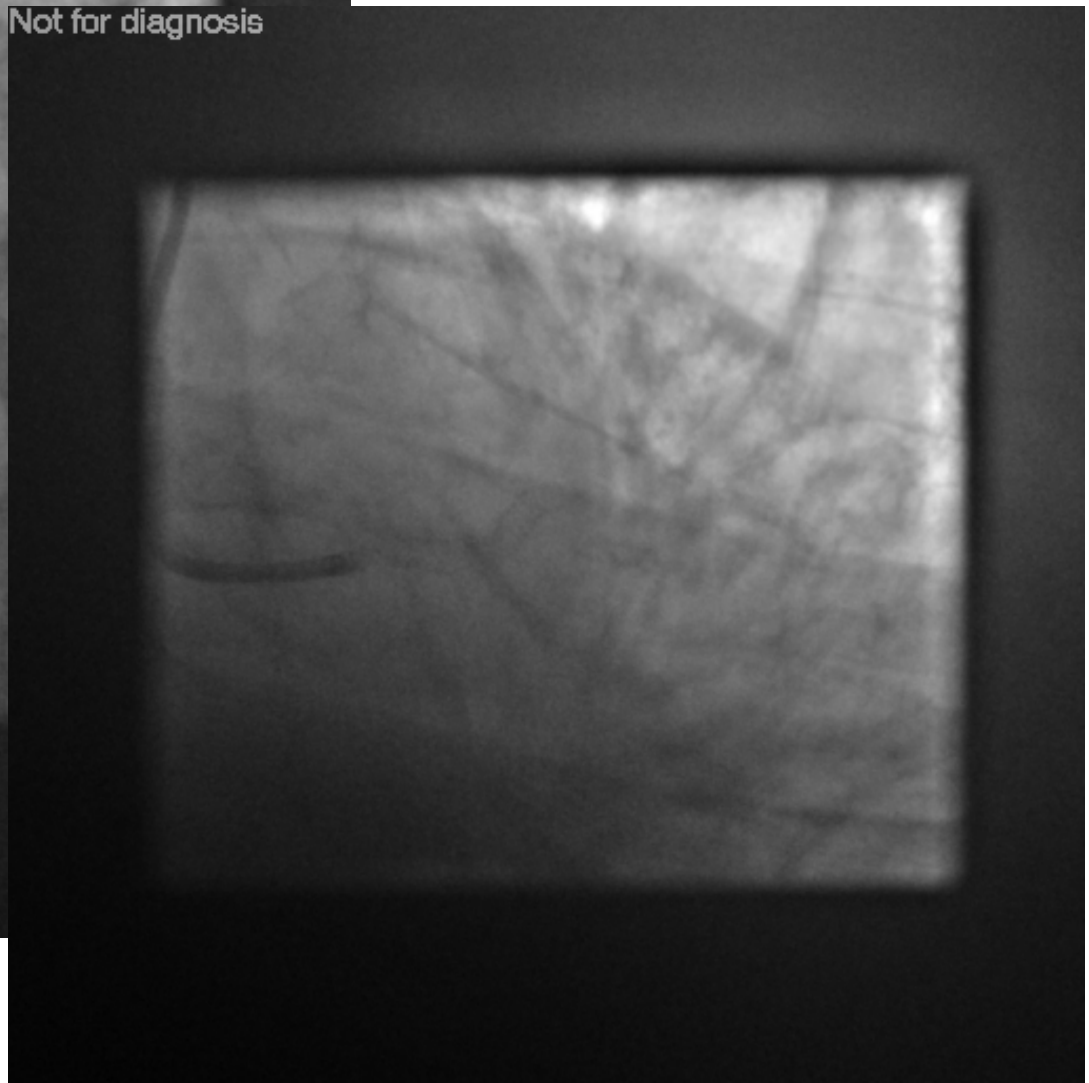
Mr MAL…. 92 ans



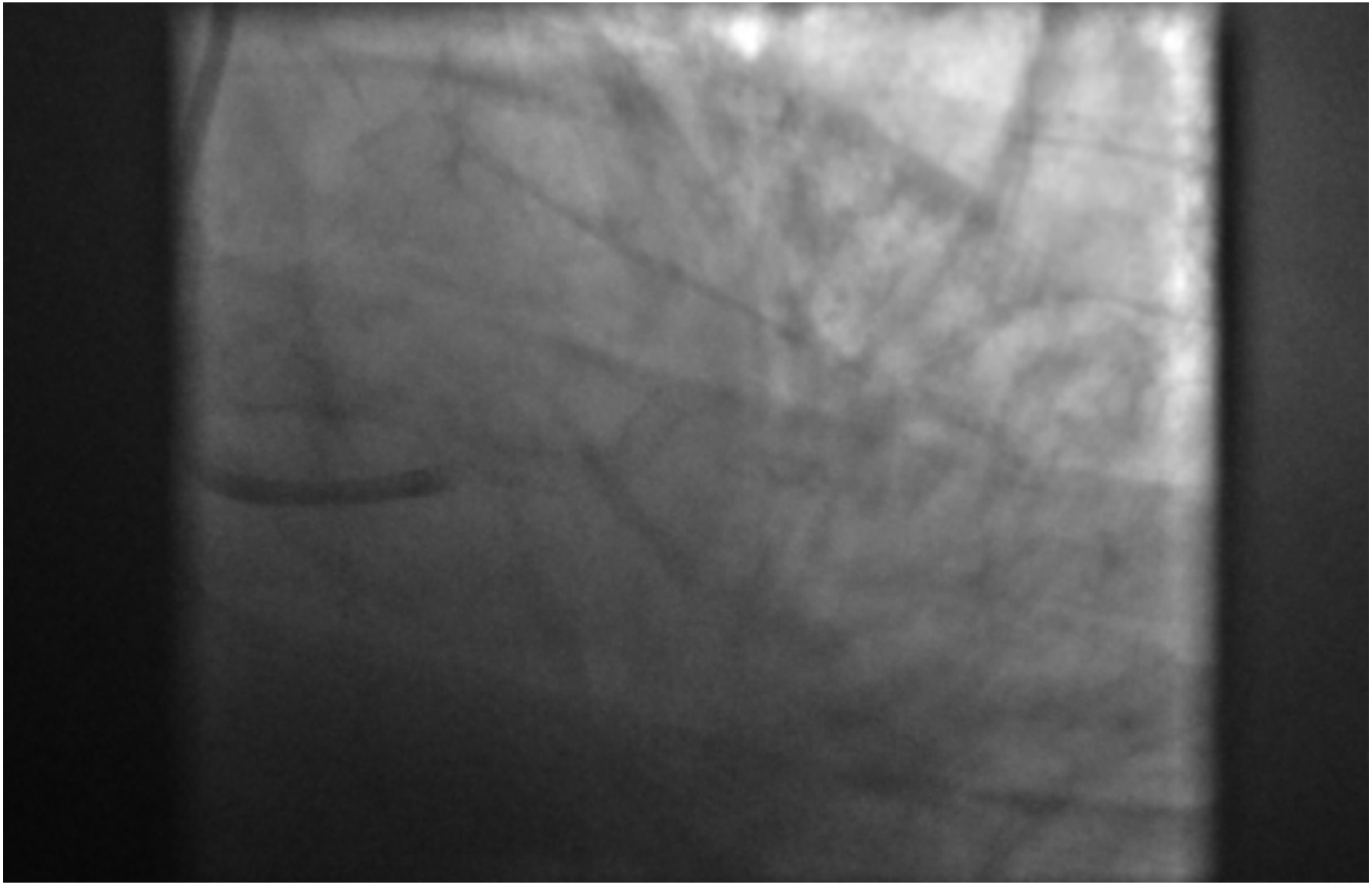


Mr MAL…. 92 ans



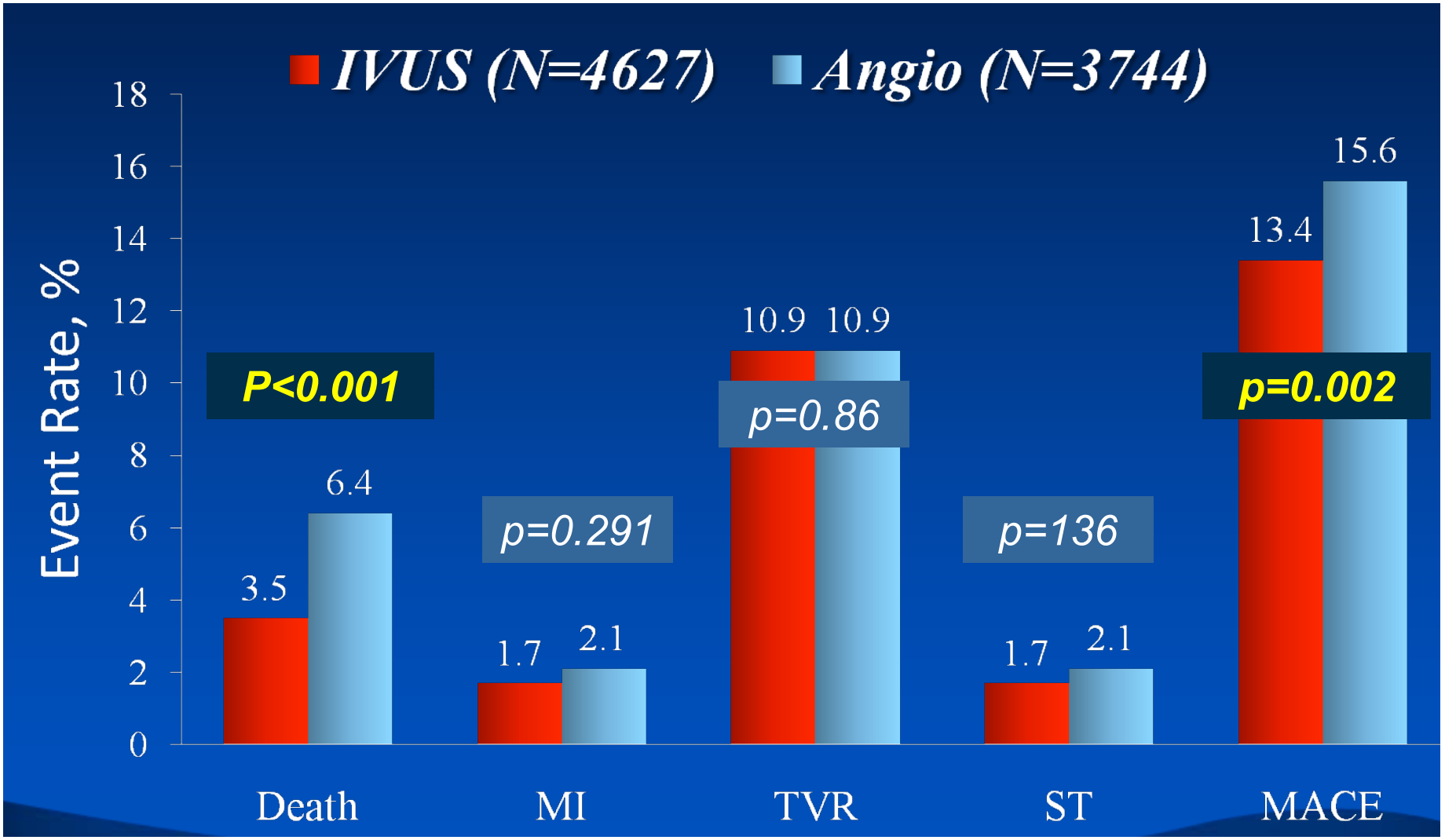


Mr MAL…. 92 ans



Ehographie endocoronaire (IVUS)

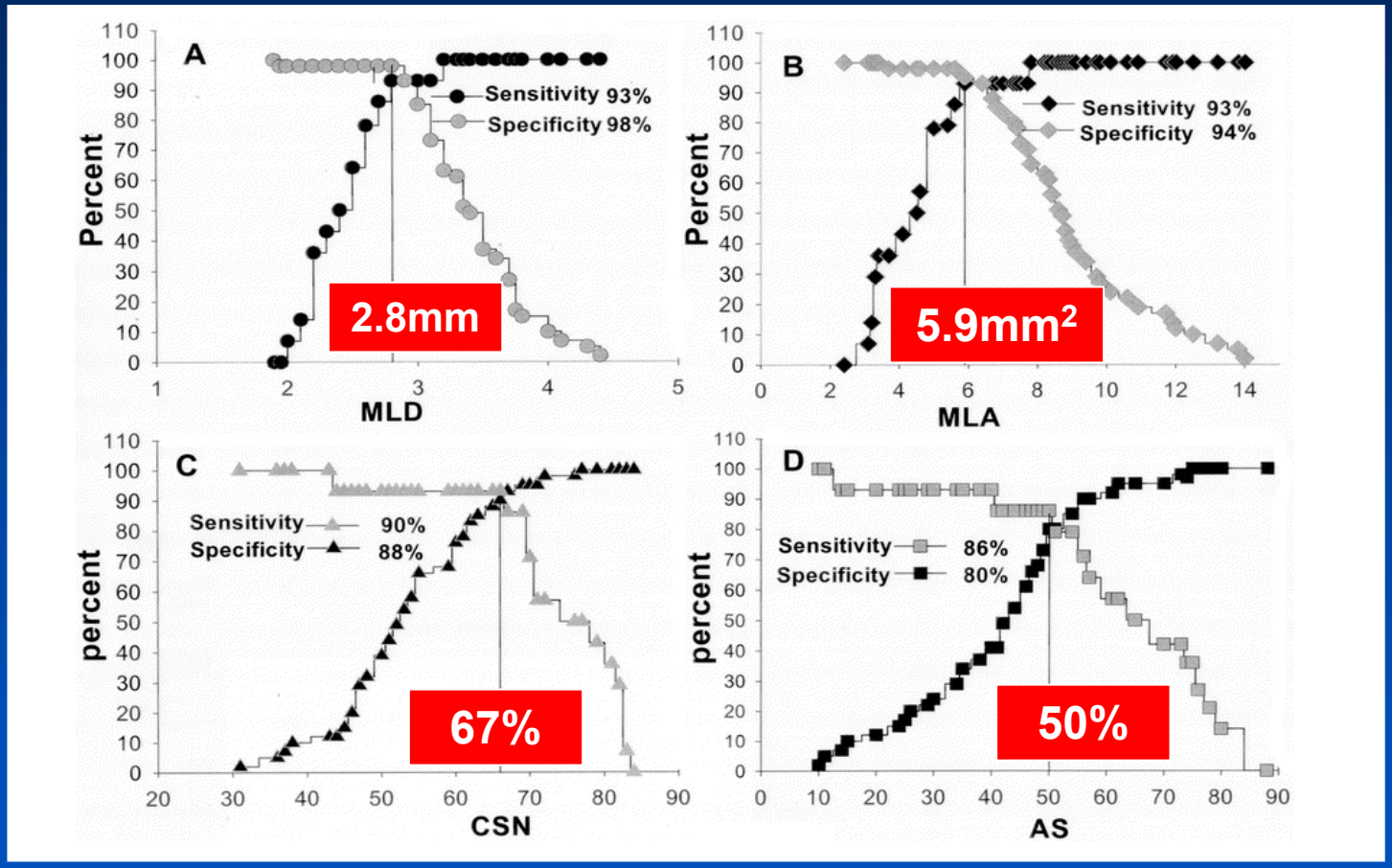
IVUS-Guided LM Stenting



Park SJ, Kim YH et al. Circulation Cardiovasc Interven 2009;2:167

We can treat the LM disease in a case of MLA < 6.0 mm^2

Prediction of FFR (0.75) with IVUS parameter

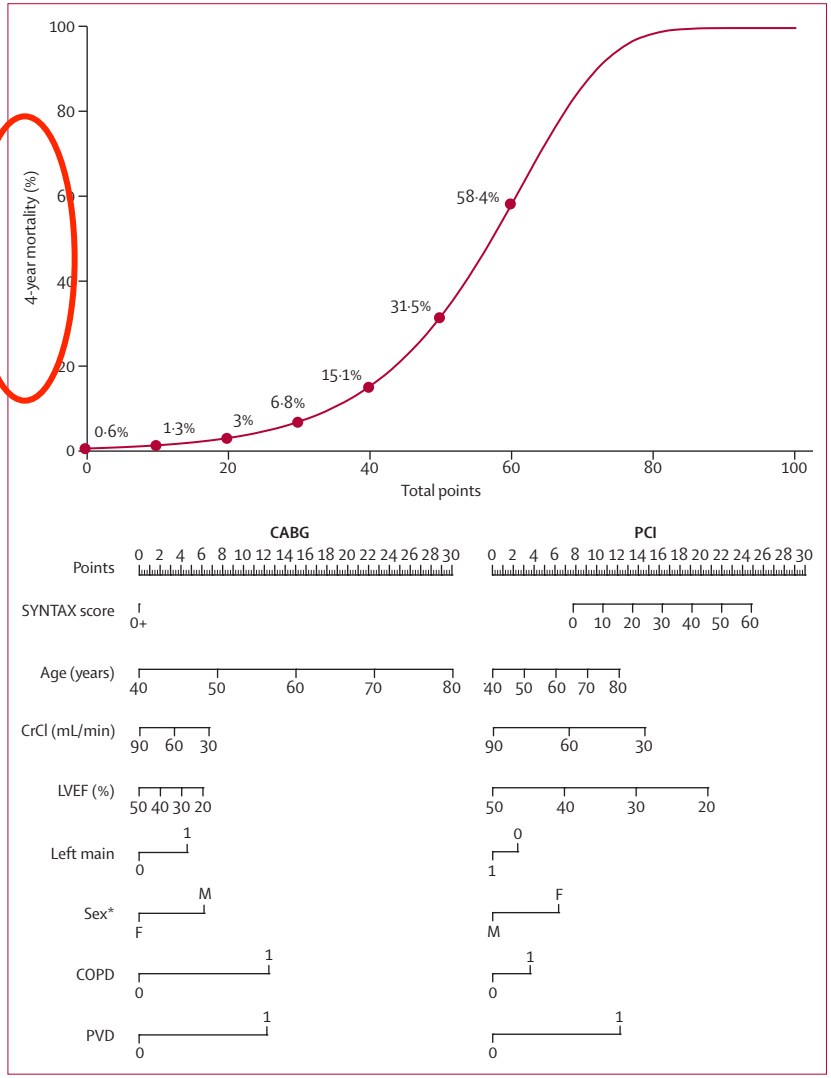


Jasti V et al. Circulation 2004;110:2831

QUID de la selection « optimale » du patient ?

Etablir le risque préopératoire +++
Evaluer le pronostic à moyen terme …

SYNTAX score II



Homme 60 ans
Syntax score 30 et ULMACD
Clearance creat. 60ml/mn
FEVG 50% et BPCO (=COPD)

Vasim Farooq, David van Klaveren, *et al.*
Anatomical and clnical caracteristics to guide decision making between coornary artery bypass surgery and PCI for individual patients : development and validation on SYNTAX score II
Lancet 2013;381:639-650.

Revascularisation TC Recommandations en 2010

ESC Myocardial Revascularization Guidelines

Subset of coronary artery disease by anatomy	Favors CABG	Favors PCI
Left main (isolated or 1-vessel disease [VD], ostium/shaft)	I A	IIa B
Left main (isolated or 1VD, distal bifurcation)	I A	IIb B
Left main + 2VD or 3VD, SYNTAX Score ≤ 32	I A	IIb B
Left main + 2VD or 3VD, SYNTAX Score ≥ 33	I A	III B

Task Force on Myocardial Revascularisation of the ESC and the European Association for Cardio-Thoracic Surgery (EACTS); European Association for Percutaneous Cardiovascular Interventions (EAPCI), Wijns W,Kolh P,Danchin N et al. Eur Heart J 2010;31:2501-55

European Heart Journal Advance Access published August 29, 2014

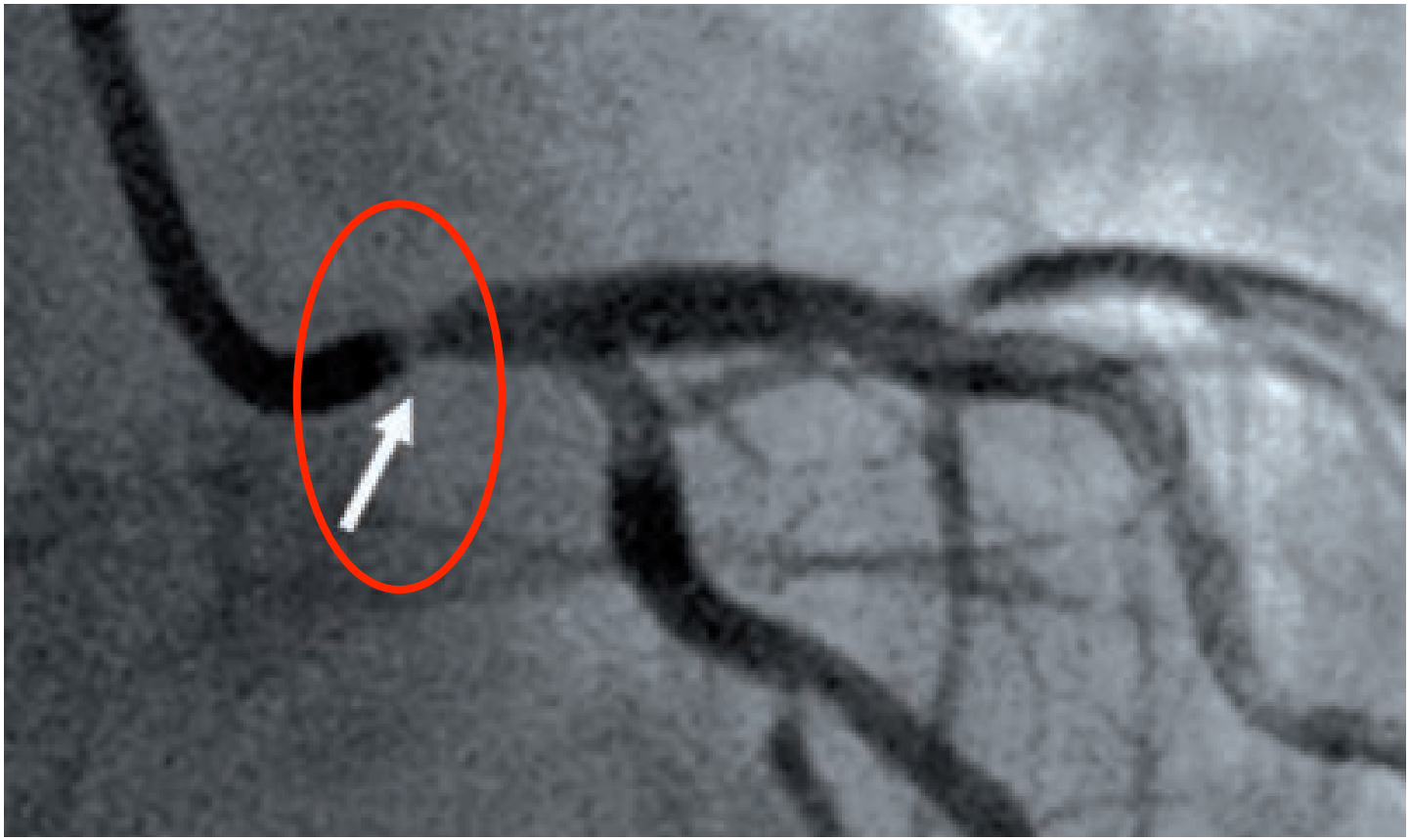
European Heart Journal
doi:10.1093/eurheartj/ehu278

ESC/EACTS GUIDELINES

2014 ESC/EACTS Guidelines on myocardial revascularization

Recommendations according to extent of CAD	CABG		PCI	
	Class[a]	Level[b]	Class[a]	Level[b]
Left main disease with a SYNTAX score ≤ 22.	I	B	I	B

CONCLUSION



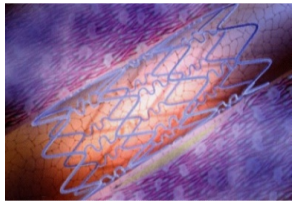
CONCLUSION

Revascularisation coronaire tronc commun par ATC est parfois une solution « élégante et appropriée » :

1. **Concertation médicochirurgicale** sereine / objective honnête et contradictoire

2. Patients « sélectionnés » +++
   - comorbidité / aspects lésionnels / anatomie...
   - Garantie d'exécution de l'option choisie +++

DES («last» génération) vs PAC « tout artériel »



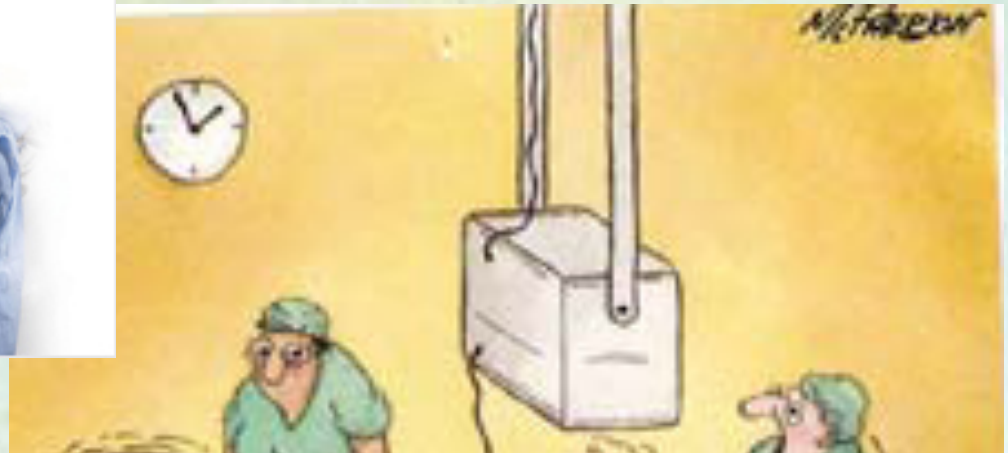
RAISONABLE

- Risque chirurgical **élevé** +++
- SYNTAX score **peu** élevé
  (< 22 voire < 32…)
- Sténose TC ostiale/Bifurcation
- Bithérapie AAP prolongée +++
- Acceptation angio / coroTDM

PREMATURE

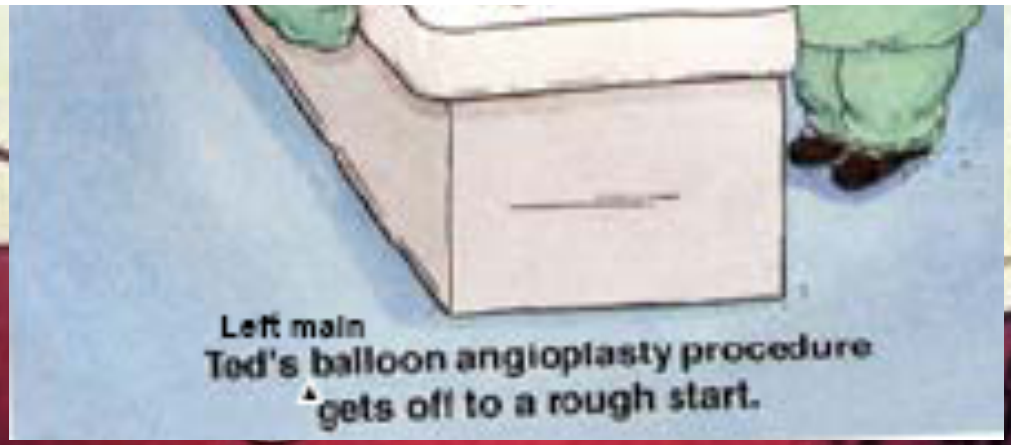
- Faible risque chirurgical +++
  (Euroscore)
- SYNTAX score élevé (> 33)
- Sténose Tronc commun distal et atteinte tritronculaire
- Option probable d'utilisation 2 stents (provisional T stenting)

Option 1ére DES vs BMS : Diminution risque revascularisation +++ sans augmentation risque de décès et/ou IDM y compris lésions de bifurcations du TC



Une bonne indication (raisonnable) d'angioplastie du Tronc Commun …

… Reste une mauvaise indication de chirurgie !



Left main
Ted's balloon angioplasty procedure
gets off to a rough start.