

# Techniques incontournables de l'angioplastie coronaire: Le patient diabétique

Jean-Guillaume DILLINGER

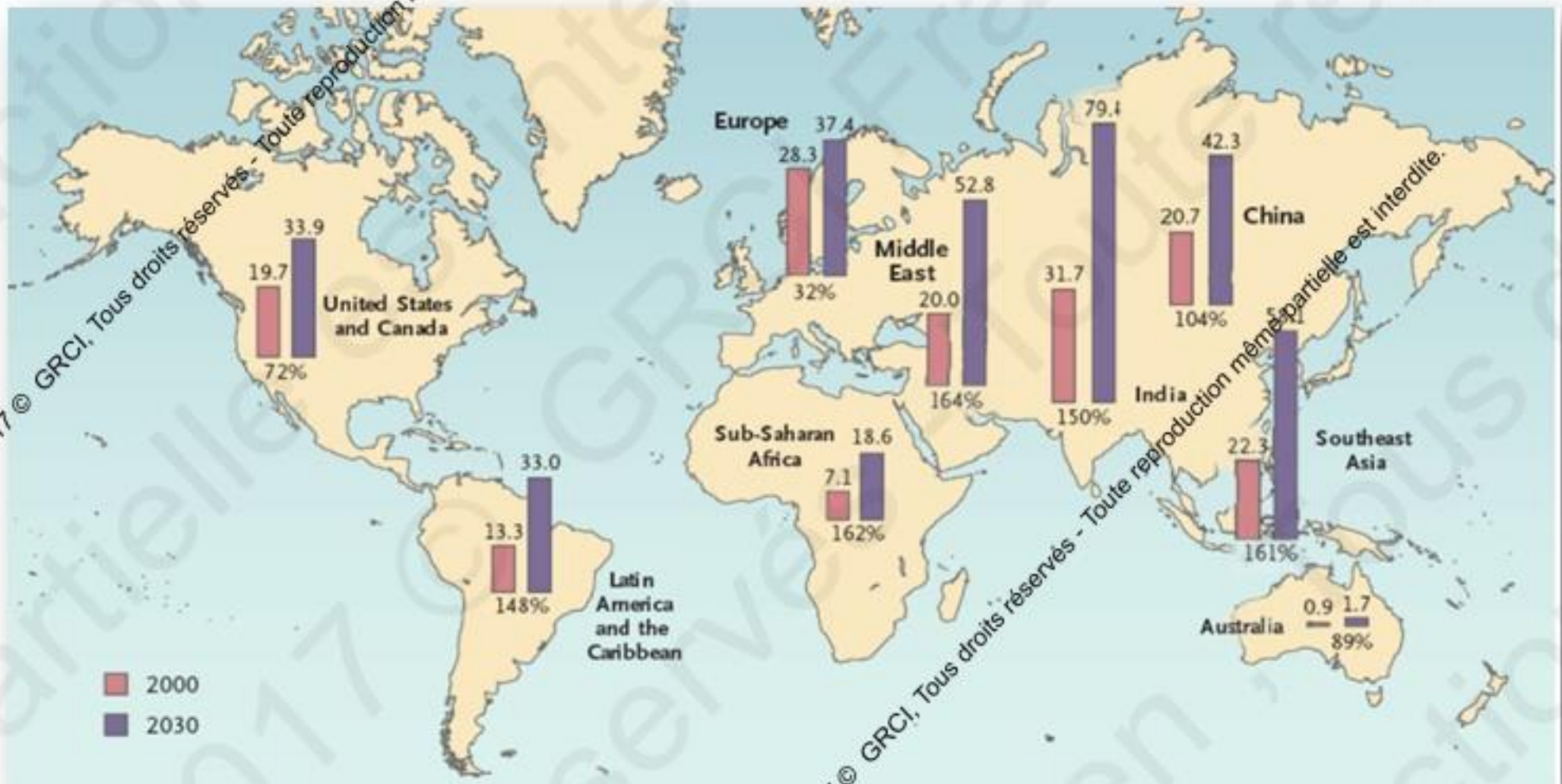
Département de Cardiologie – CREATIF – Hôpital Lariboisière – AP-HP

INSERM – U942

## Dr. Jean-Guillaume DILLINGER has conflict of interest with:

- \* Astra Zeneca
- \* BMS - Pfizer
- \* Bayer Healthcare
- \* Boehringer Ingelheim
- \* Lilly – Daiichi Sankyo
- \* MSD
- \* Biosensors
- \* AMGEN
- \* Medtronic
- \* Boston scientific

# Diabète Type 2 : 2000-2030



# Diabète et angioplastie

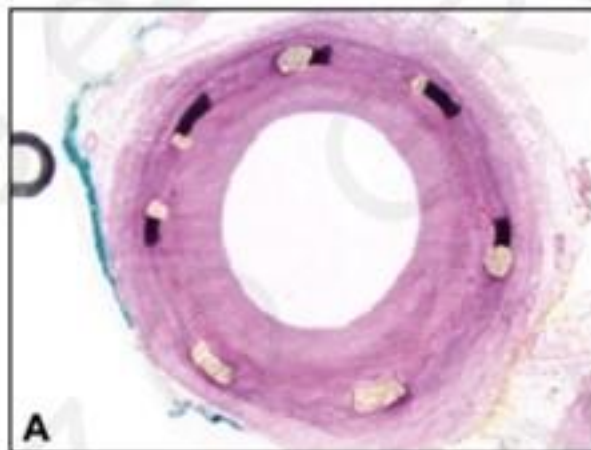
## SENIOR trial

Baseline characteristics		
Age (years)	81.4 (4.3)	81.4 (4.2)
Male sex	368 (62%)	379 (63%)
BMI (kg/m <sup>2</sup> )	26.3 (4.3)	25.9 (3.9)
Medical history		
Diabetes	158/594 (27%)	157/603 (26%)
Current smoker	43/596 (7%)	38/604 (6%)
Renal insufficiency at screening	104/593 (18%)	99/604 (16%)

## Absorb III trial

Hyperlipidemia	1140/1522 (86.5)	592/686 (86.5)
Diabetes mellitus		
Any	416/1320 (31.5)	224/686 (32.7)
Insulin-treated	139/1320 (10.5)	77/686 (11.2)
Previous myocardial infarction	282/1311 (21.5)	150/681 (22.0)
Renal insufficiency	143/1319 (10.8)	76/685 (11.1)

# Le patient diabétique: Un bon candidat pour l'angioplastie ?



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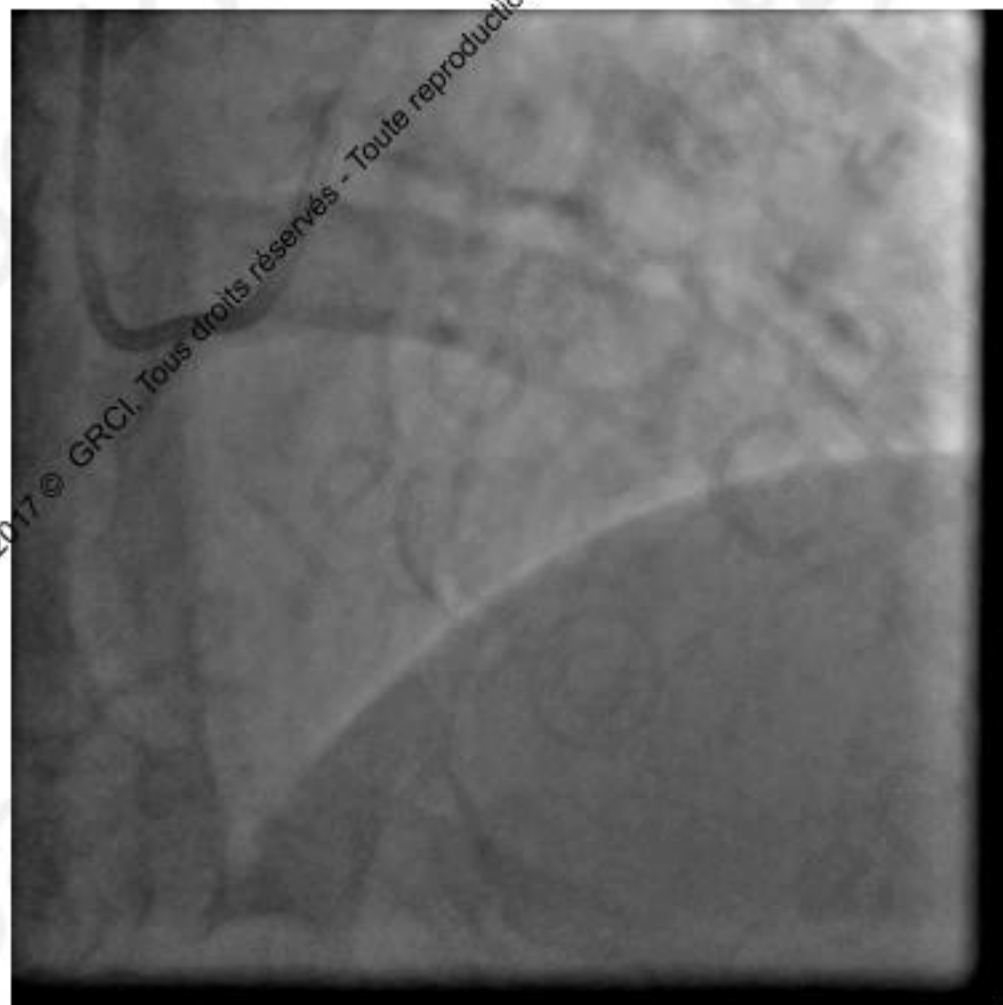
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# Un défi pour l'angioplasticien

- **Longues lésions / calcifications** (*↑ plaque burden and more lipid-rich plaques, stimulation of AT1R, which stimulates reduced NAD(P)H oxidase*)
- **Petits vaisseaux** (*Impaired coronary flow reserve → reduced tolerance of embolization*)
- **Atteintes pluritronculaires**
- **Hyperréactivité plaquettaire** (*↑ activation and adhesion in response to shear stress / ↑ expression of GpIIb/IIIa receptors → ↑ aggregation*)
- **Resténose** (*endothelial cells inflammation*)
- **Evolutivité des lésions** (*↑ plaque burden and more lipid-rich plaques → predisposed to rupture*)

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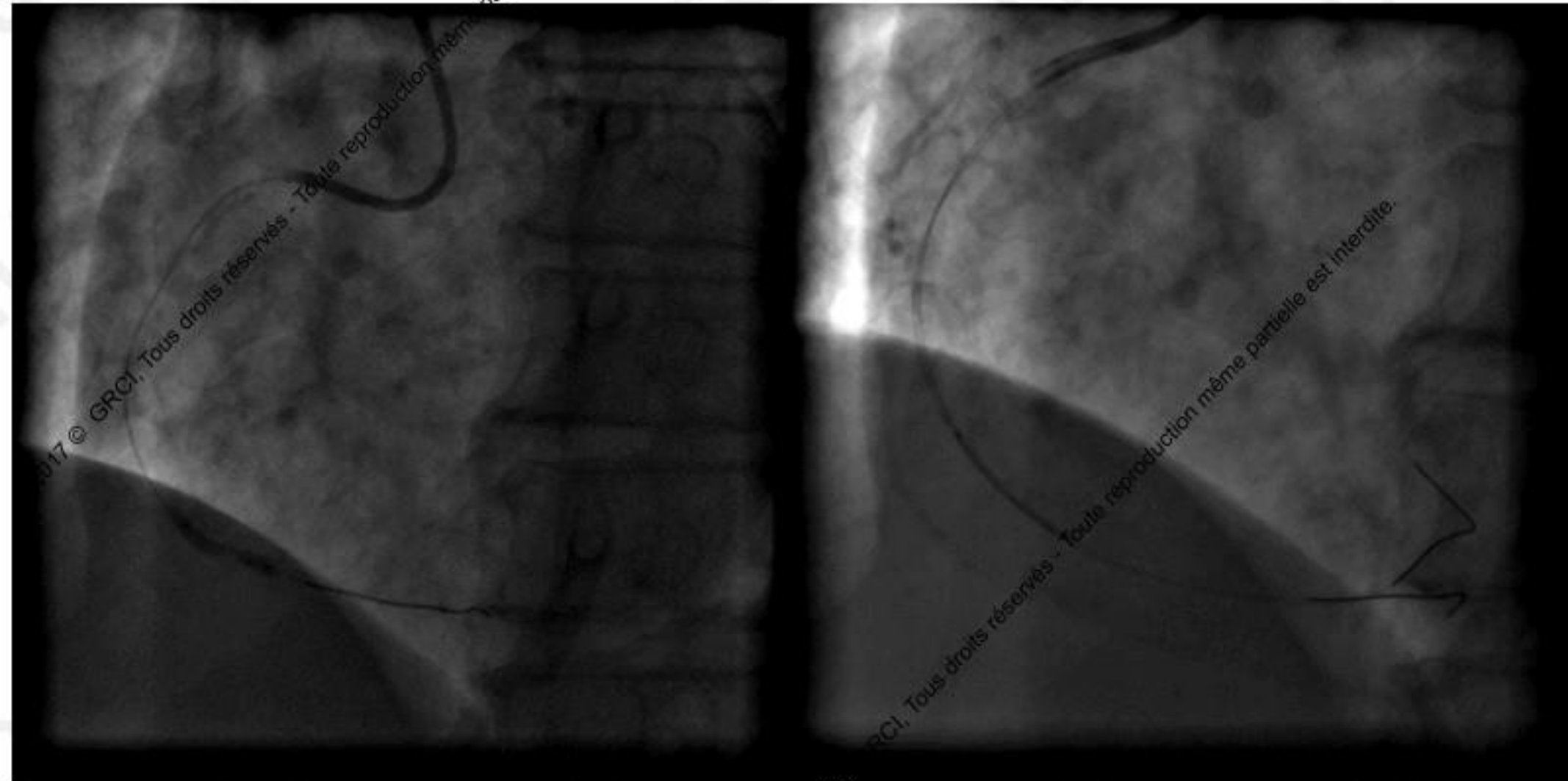
## Mr T 65 ans





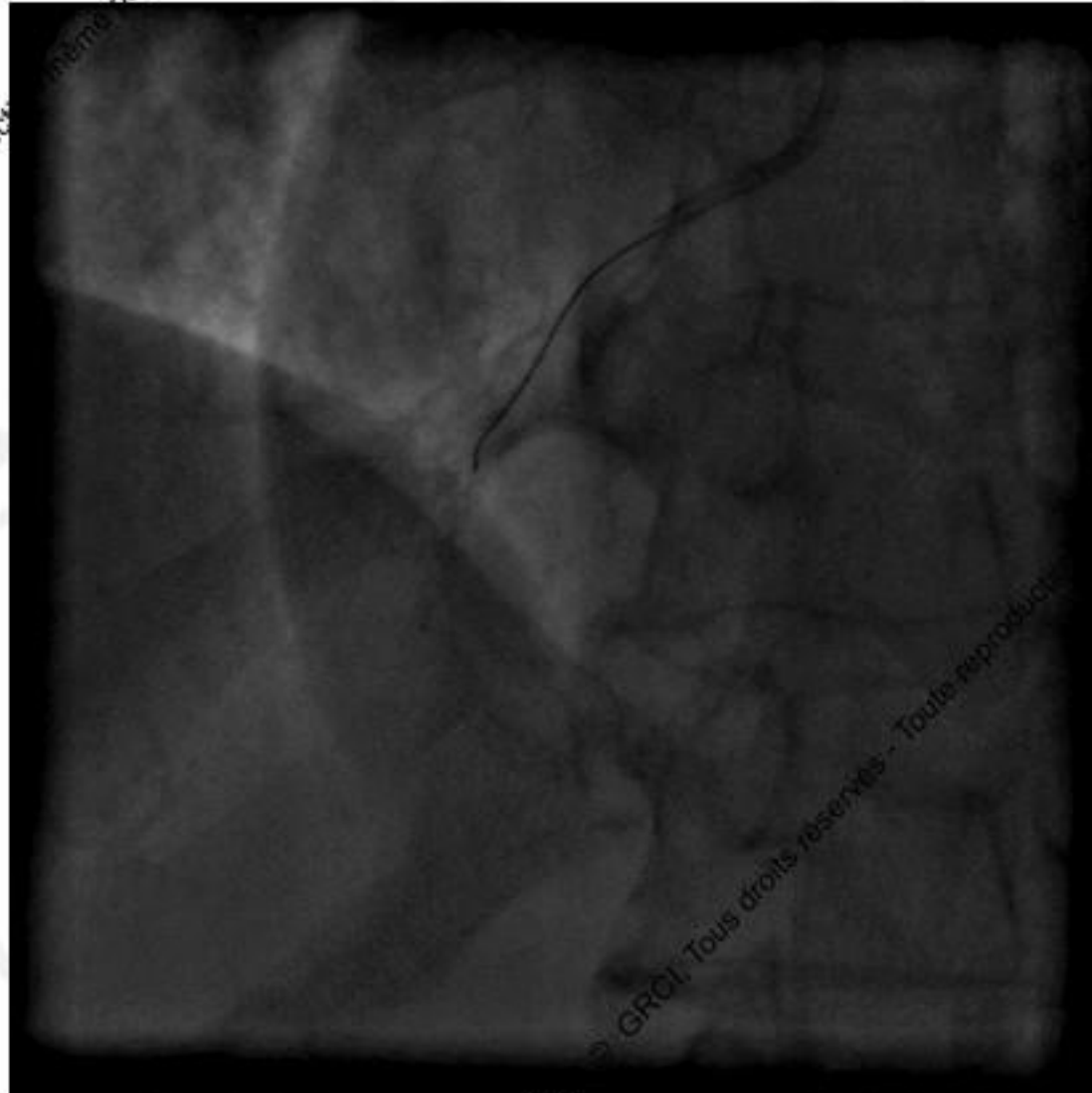
=> Syntax score I: 35 / Syntax score II: 31 vs 30

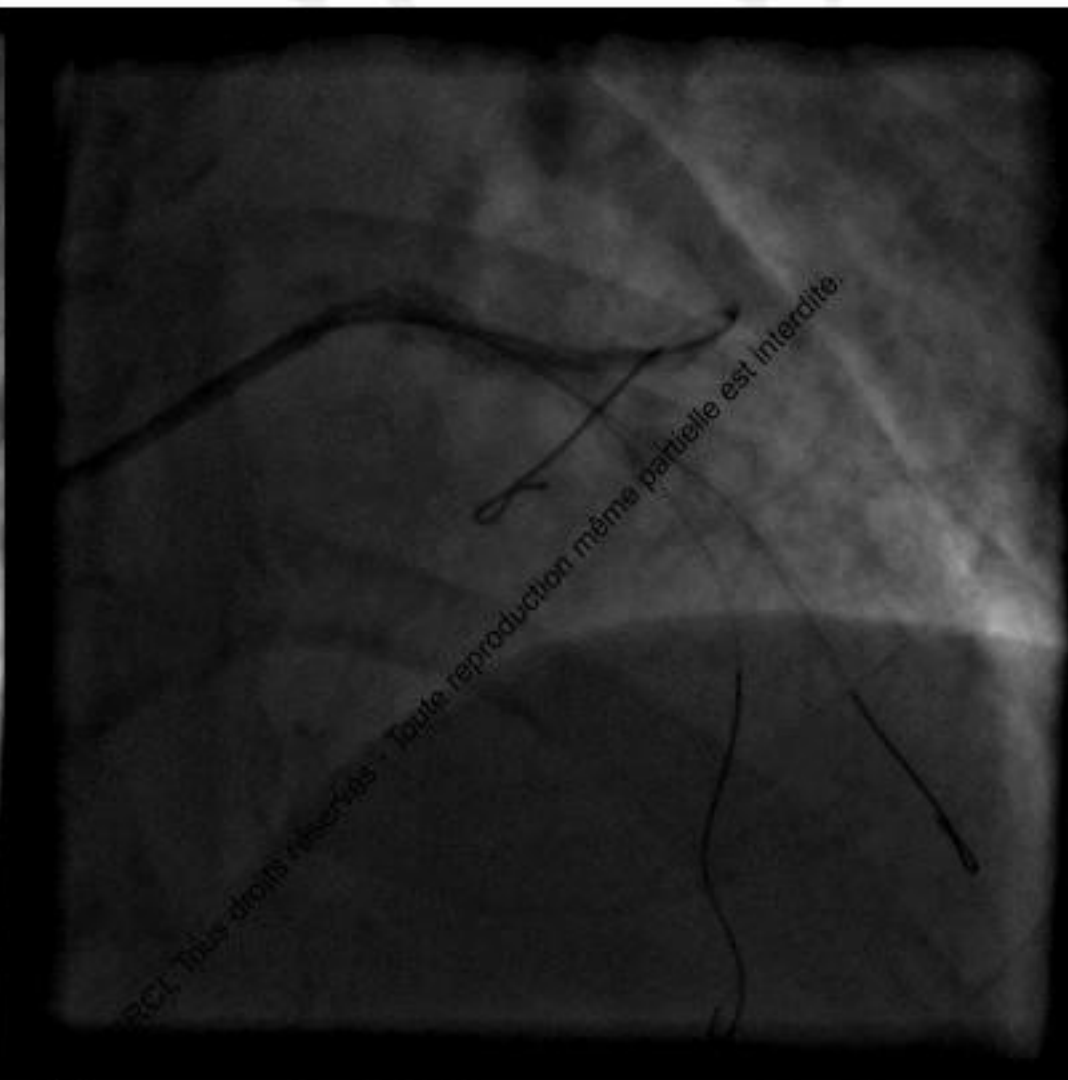
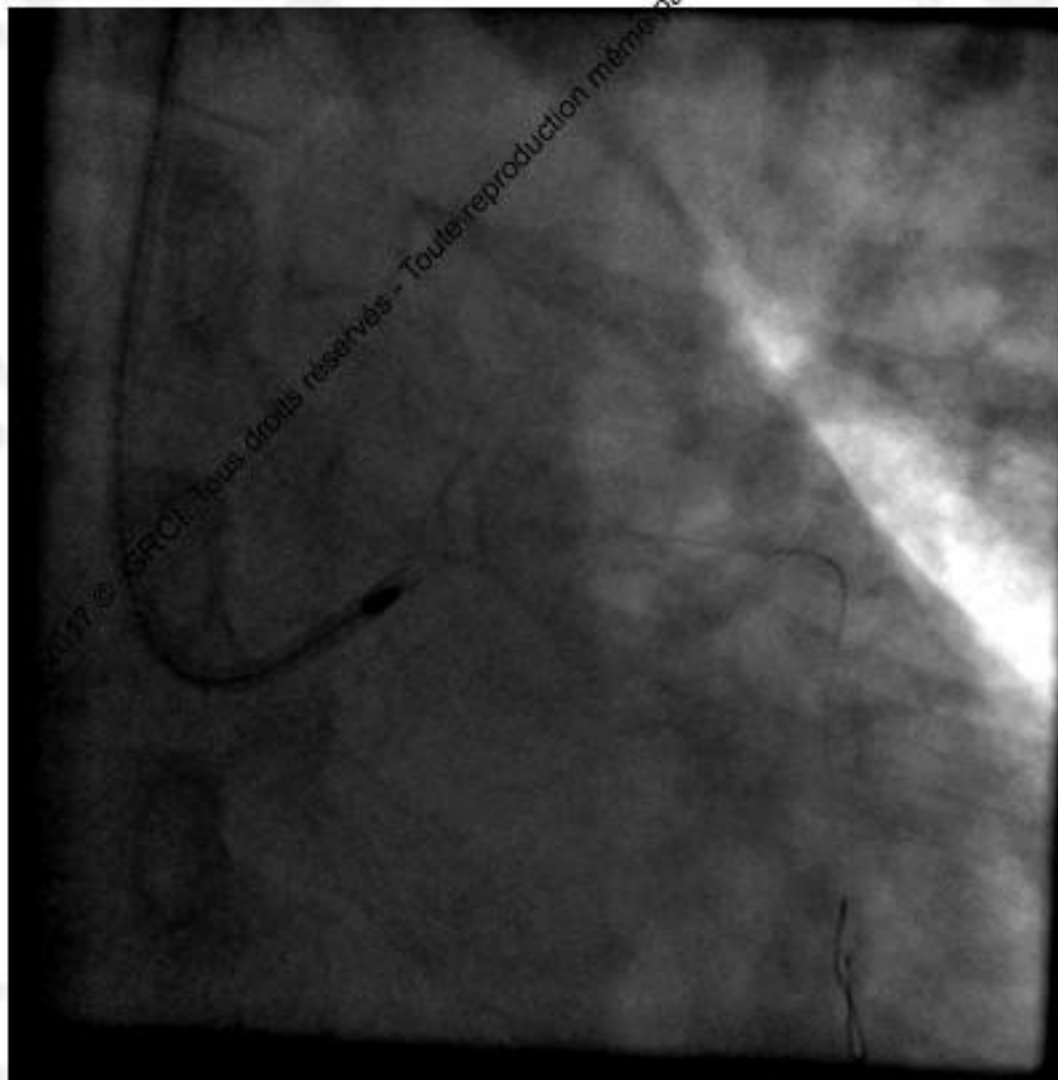


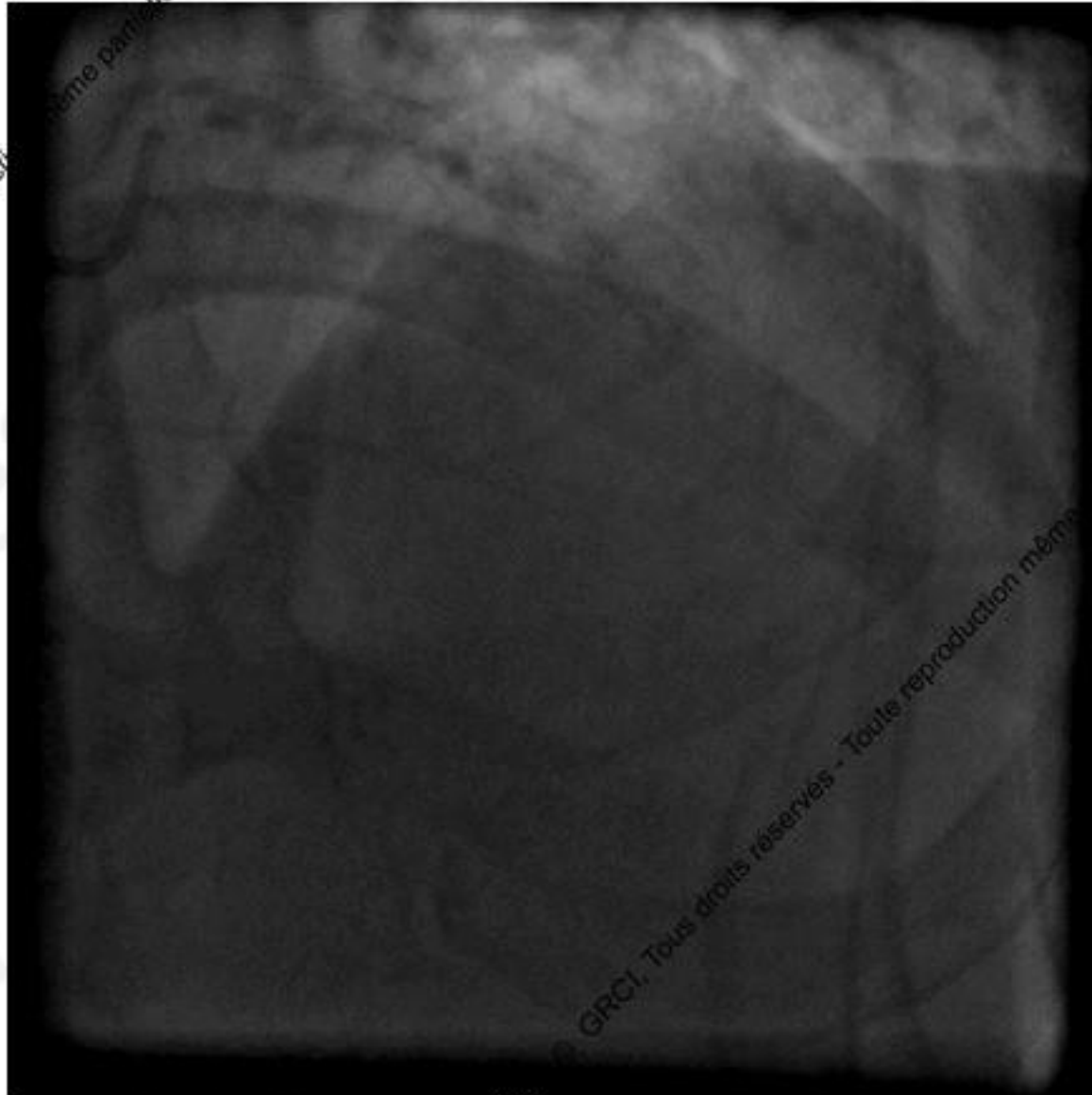


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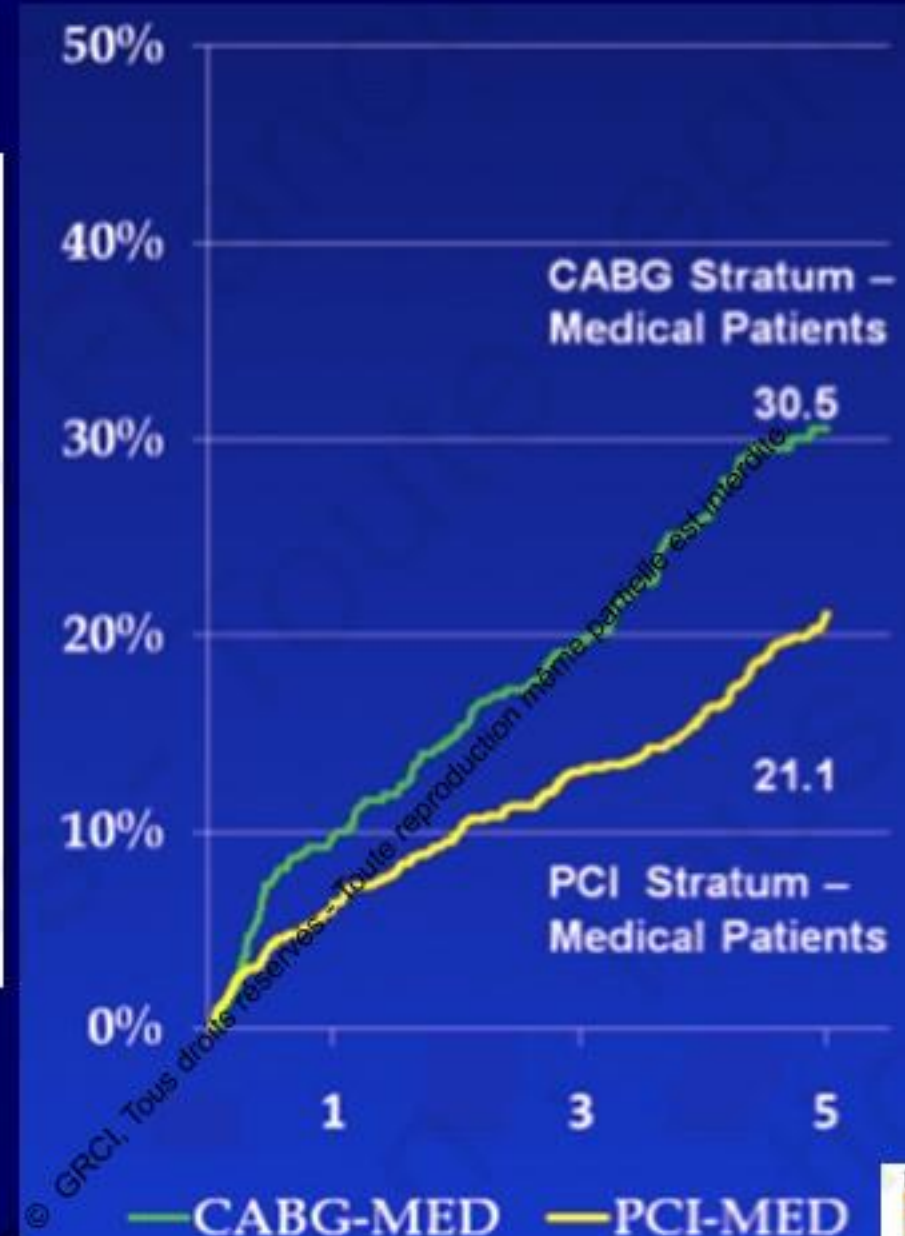
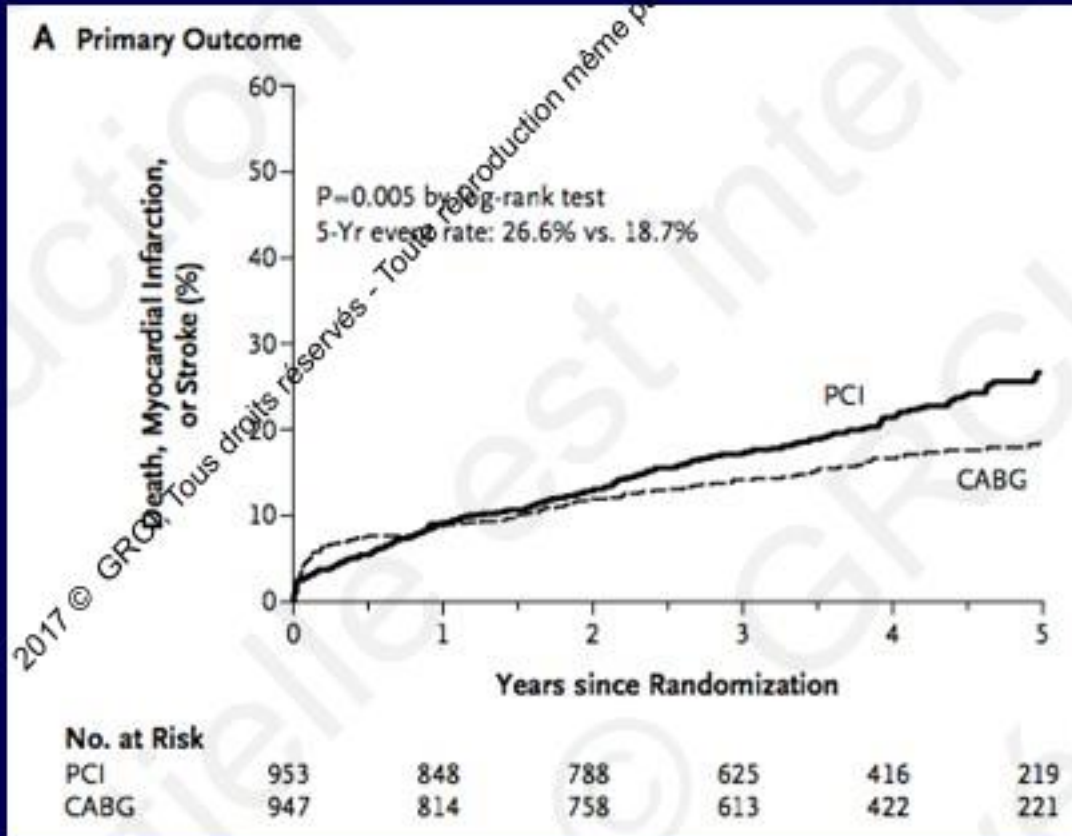




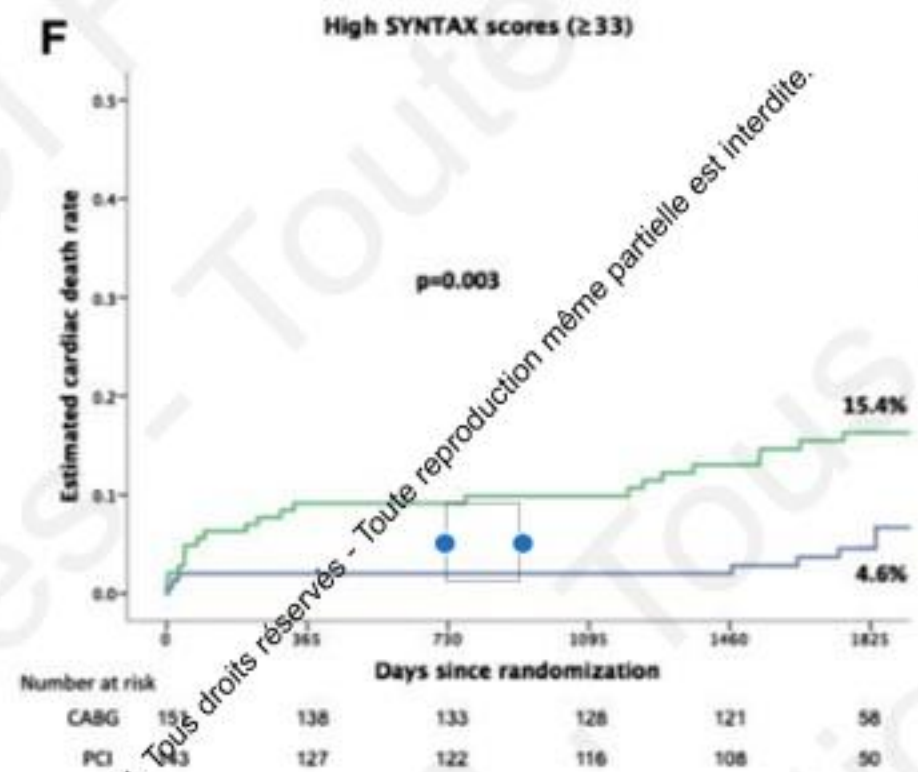
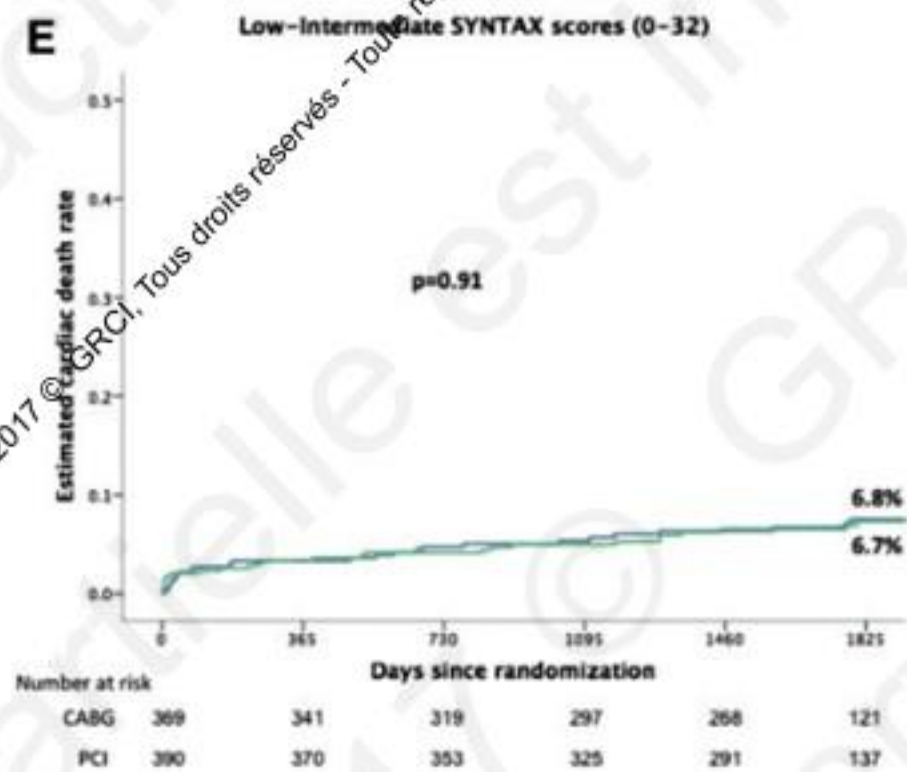
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# FREEDOM / BARI 2D Trial: CABG vs PCI



# Diabetes and Syntax score

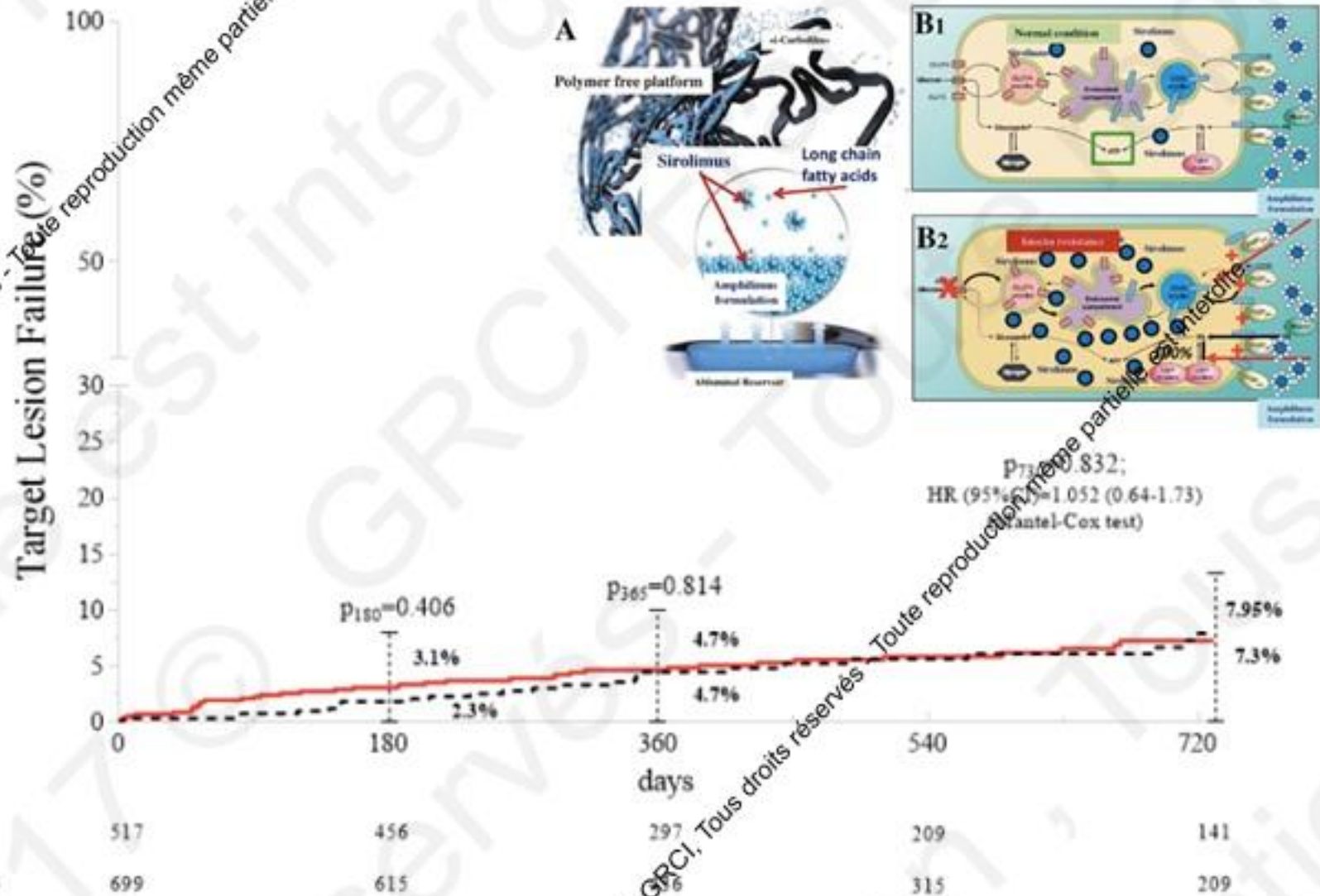


# Diabetes and Syntax score

SYNTAX score 0-22 (n = 350, 32.8%)	n = 173	n = 177		
All-cause Death	9.2% (16)	7.9% (14)	1.15 (0.56-2.36)	0.70
Cardiac death	4.6% (8)	4.5% (8)	1.02 (0.38-2.7)	0.98
Myocardial Infarction	5.2% (9)	4.0% (7)	1.3 (0.48-3.49)	0.60
Stroke	1.7% (3)	2.3% (4)	0.74 (0.17-3.32)	0.70
Revascularization	20.8% (36)	9.0% (16)	2.35 (1.3-4.23)	0.005
MACCE	27.7% (48)	18.6% (33)	1.51 (0.97-2.35)	0.07
Death/MI/Stroke	14.5% (25)	11.3% (20)	1.25 (0.69-2.25)	0.46
SYNTAX score 23-32 (n = 409, 38.3%)	n = 217	n = 192		
All-cause death	13.4% (29)	13.5% (26)	0.97 (0.57-1.64)	0.90
Cardiac death	8.3% (18)	8.9% (17)	0.92 (0.47-1.8)	0.80
Myocardial infarction	5.5% (12)	2.6% (5)	2.11 (0.7-5.99)	0.16
Stroke	0.5% (1)	4.7% (9)	0.1 (0.01-0.75)	0.025
Revascularization	19.4% (42)	8.9% (17)	2.22 (1.32-4.07)	0.003
MACCE	32.3% (70)	22.9% (44)	1.47 (1.01-2.15)	0.045
Death/MI/stroke	15.7% (34)	18.2% (35)	0.82 (0.51-1.32)	0.42
SYNTAX score ≥33 (n = 294, 27.5%)	n = 143	n = 151		
All-cause death	19.6% (28)	9.3% (14)	2.17 (1.14-4.12)	0.018
Cardiac death	15.4% (22)	4.6% (7)	3.39 (1.45-7.94)	0.005
Myocardial infarction	7.0% (10)	2.0% (3)	3.51 (0.97-12.77)	0.056
Stroke	4.2% (6)	2.6% (4)	1.64 (0.46-5.82)	0.44
Revascularization	28.0% (40)	16% (13)	3.69 (1.97-6.89)	<0.001
MACCE	44.1% (63)	20.5% (31)	2.49 (1.62-3.84)	<0.001
Death/MI/stroke	24.5% (35)	13.2% (20)	1.92 (1.11-3.32)	0.020

# ASTUTE REGISTRY

Passion Communication Education





## FFR-guided SYNTAX Score (FSS) vs. Conventional SYNTAX Score (SS)

- 497 patients of the FFR-arm of FAME I
- Syntax Score re-calculated by 3 independent reviewers
- Pts. divided into tertiles based on SS



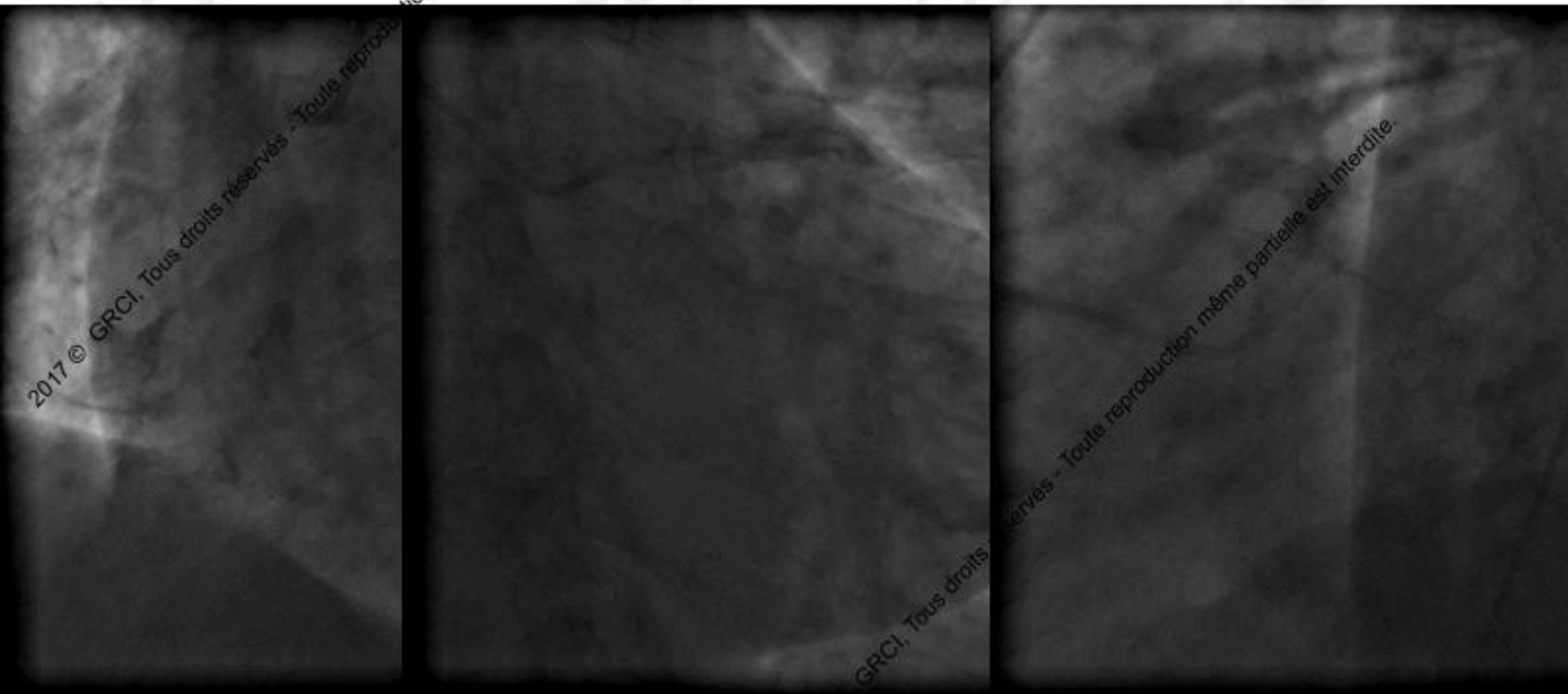
**32% of patients moved to a lower-risk group**

Recommendations according to extent of CAD	CABG		PCI		Ref <sup>c</sup>
	Class <sup>a</sup>	Level <sup>b</sup>	Class <sup>a</sup>	Level <sup>b</sup>	
One or two-vessel disease without proximal LAD stenosis.	IIb	C	I	C	
One-vessel disease with proximal LAD stenosis.	I	A	I	A	107,108,160, 161,178,179
Two-vessel disease with proximal LAD stenosis.	I	B	I	C	108,135,137
Left main disease with a SYNTAX score ≤ 22.	I	B	I	B	17,134,170
Left main disease with a SYNTAX score 23–32.	I	B	IIa	B	17
Left main disease with a SYNTAX score >32.	I	B	III	B	17
Three-vessel disease with a SYNTAX score ≤ 22.	I	A	I	B	17,157,175,176
Three-vessel disease with a SYNTAX score 23–32.	I	A	III	B	17,157,175,176
Three-vessel disease with a SYNTAX score >32.	I	A	III	B	17,157,175,176

In patients with stable multivessel CAD and an acceptable surgical risk, CABG is recommended over PCI.	I	A	106,175,349
In patients with stable multivessel CAD and SYNTAX score ≤22, PCI should be considered as alternative to CABG.	IIa	B	346,350
New-generation DES are recommended over BMS.	I	A	351,352
Bilateral mammary artery grafting should be considered.	IIa	B	368
In patients on metformin, renal function should be carefully monitored for 2 to 3 days after coronary angiography/PCI.	I	C	

- CABG > PCI with less revascularization
- DES > BMS
- Bilateral IMA
- Antithrombotic therapy

## A 2 ans



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# Le patient diabétique: Un patient incontournable pour l'angioplastie

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Département de Cardiologie – CREATIF – Hôpital Lariboisière – AP-HP

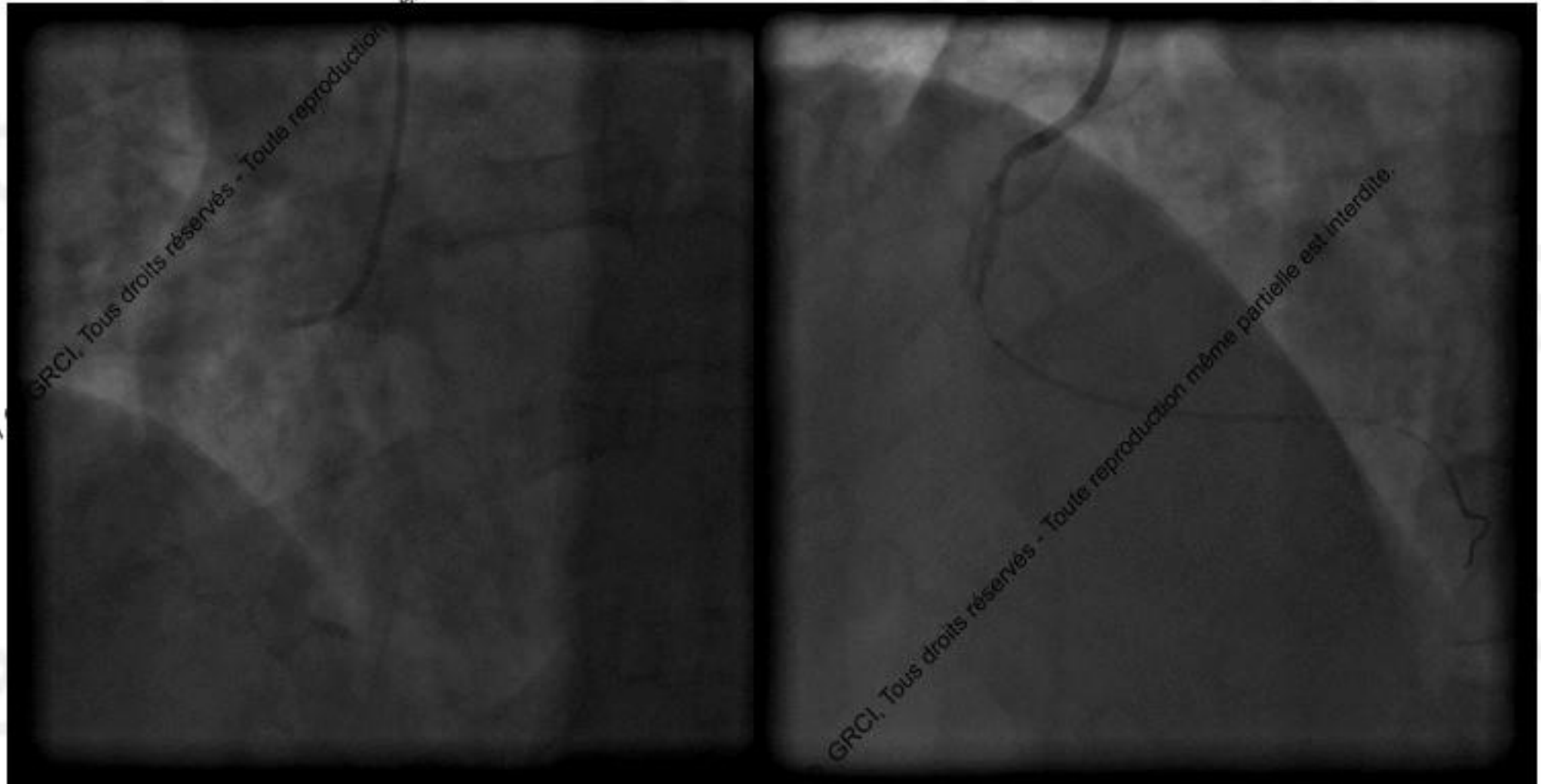
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## Mr M...

- Patient de 47 ans
- Dyslipidémie
- HTA
- Diabète de type 2 depuis 3 ans
- IDM inférieur à H3

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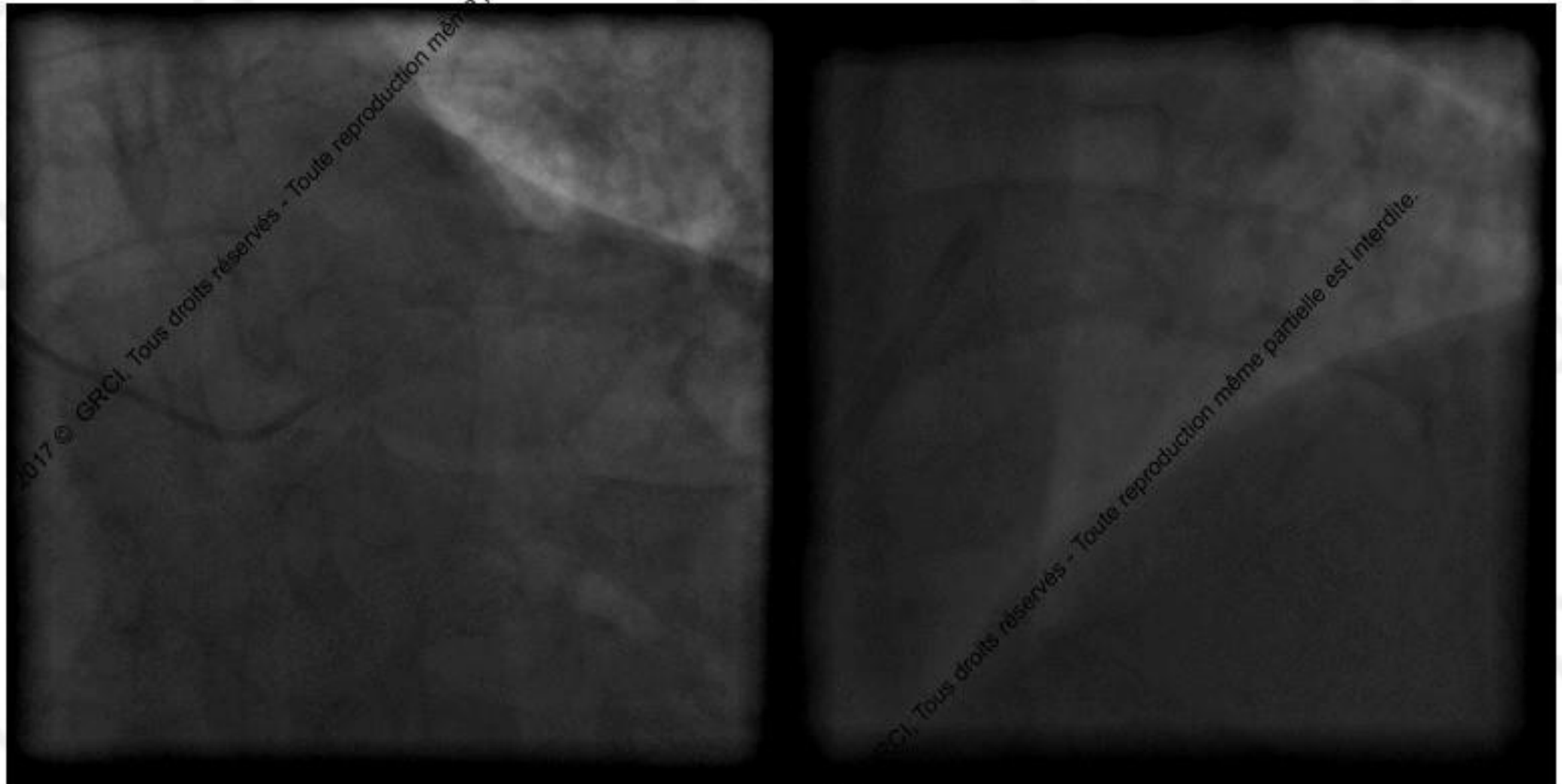
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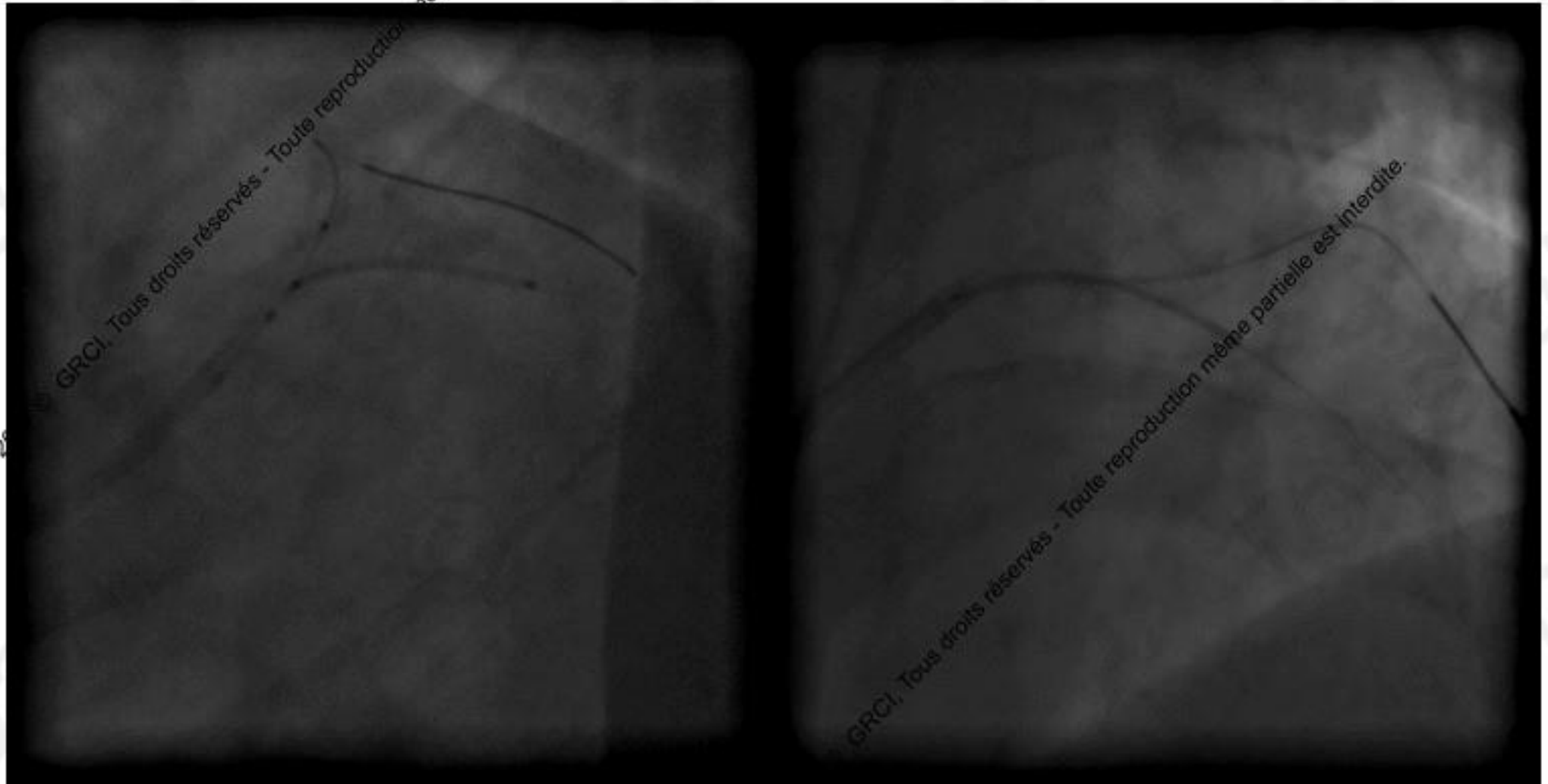
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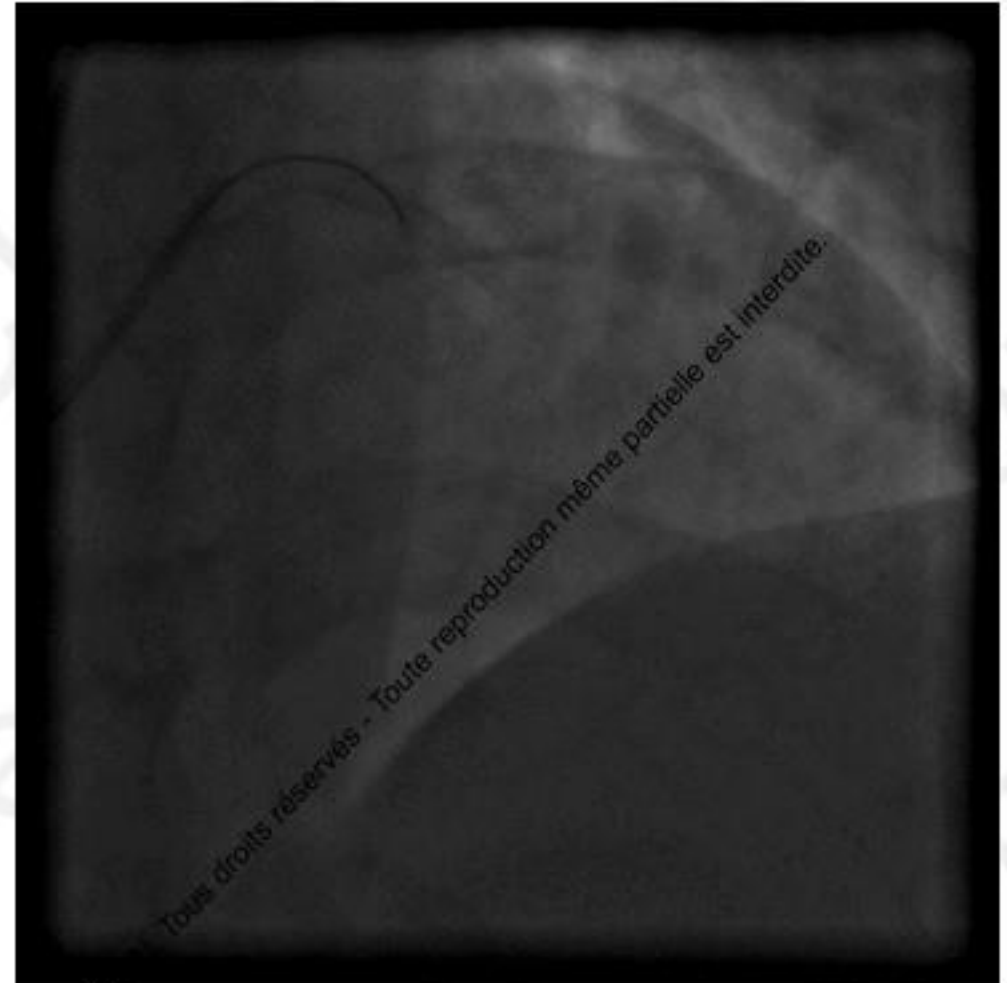
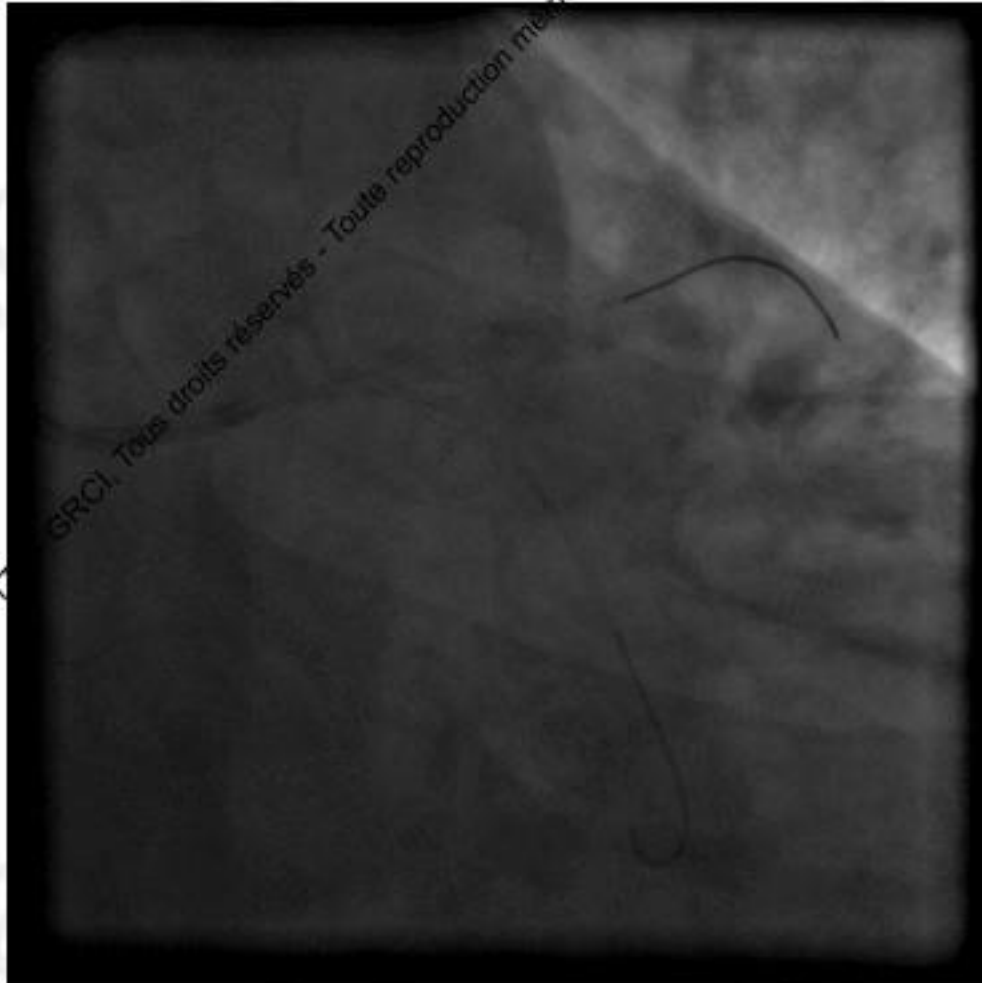


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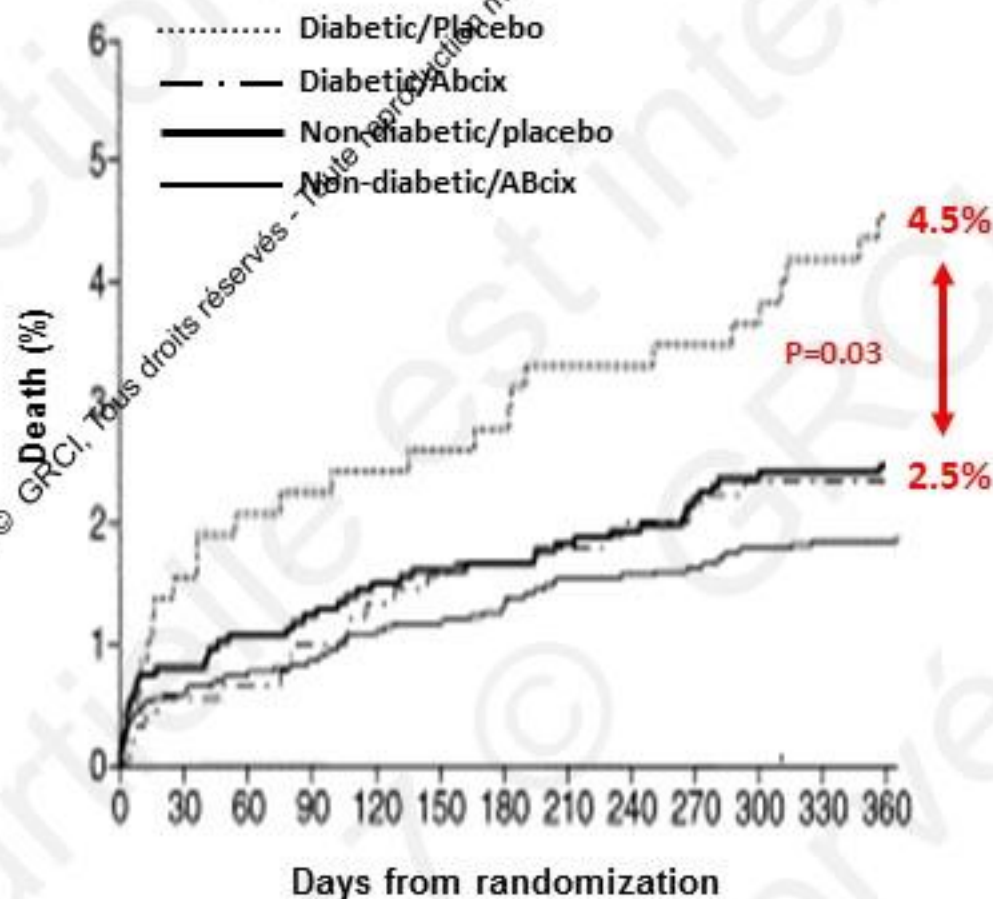




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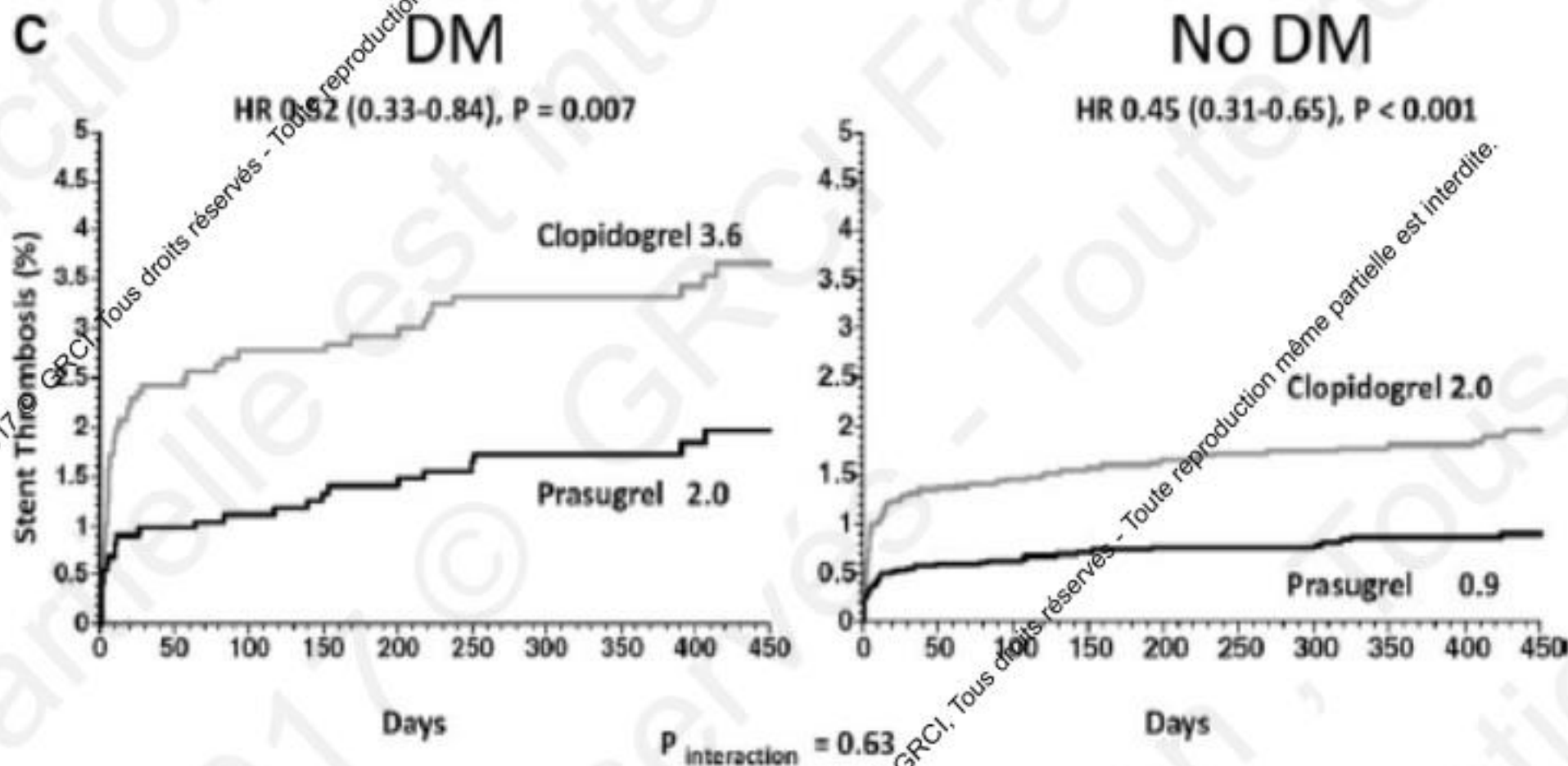
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## AntiGP2b3a chez le patient diabétique

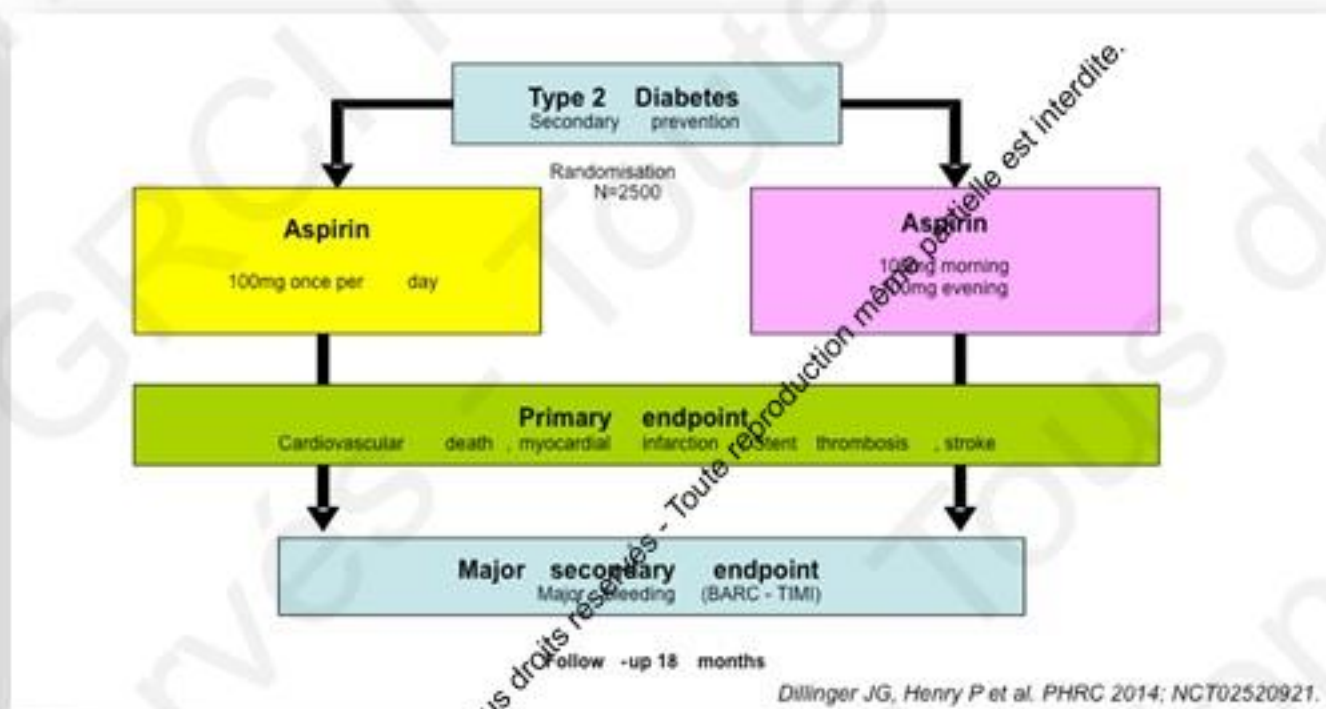
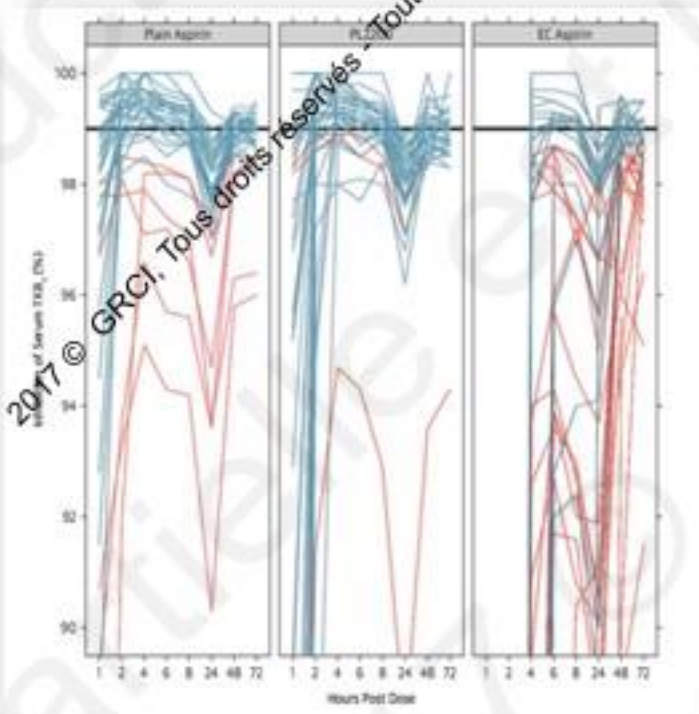


- Pooled analysis of 1-year mortality from EPIC, EPILOG, and EPISTENT databases
- Among patients with diabetes (n=1420), abciximab reduced 1-year mortality by 45% (20 lives saved per 1000 pts; p=0.03)
- Mortality benefits particularly striking among diabetic patients with:
  - *IDDM* (4.2% vs. 8.1%, p=0.07)
  - *Multivessel PCI* (0.9% vs. 7.7%; p=0.02)

# TRITON: Stent Thrombosis



# Utilisation optimale de l'aspirine



Dillinger JG, Henry P et al. PHRC 2014; NCT02520921.

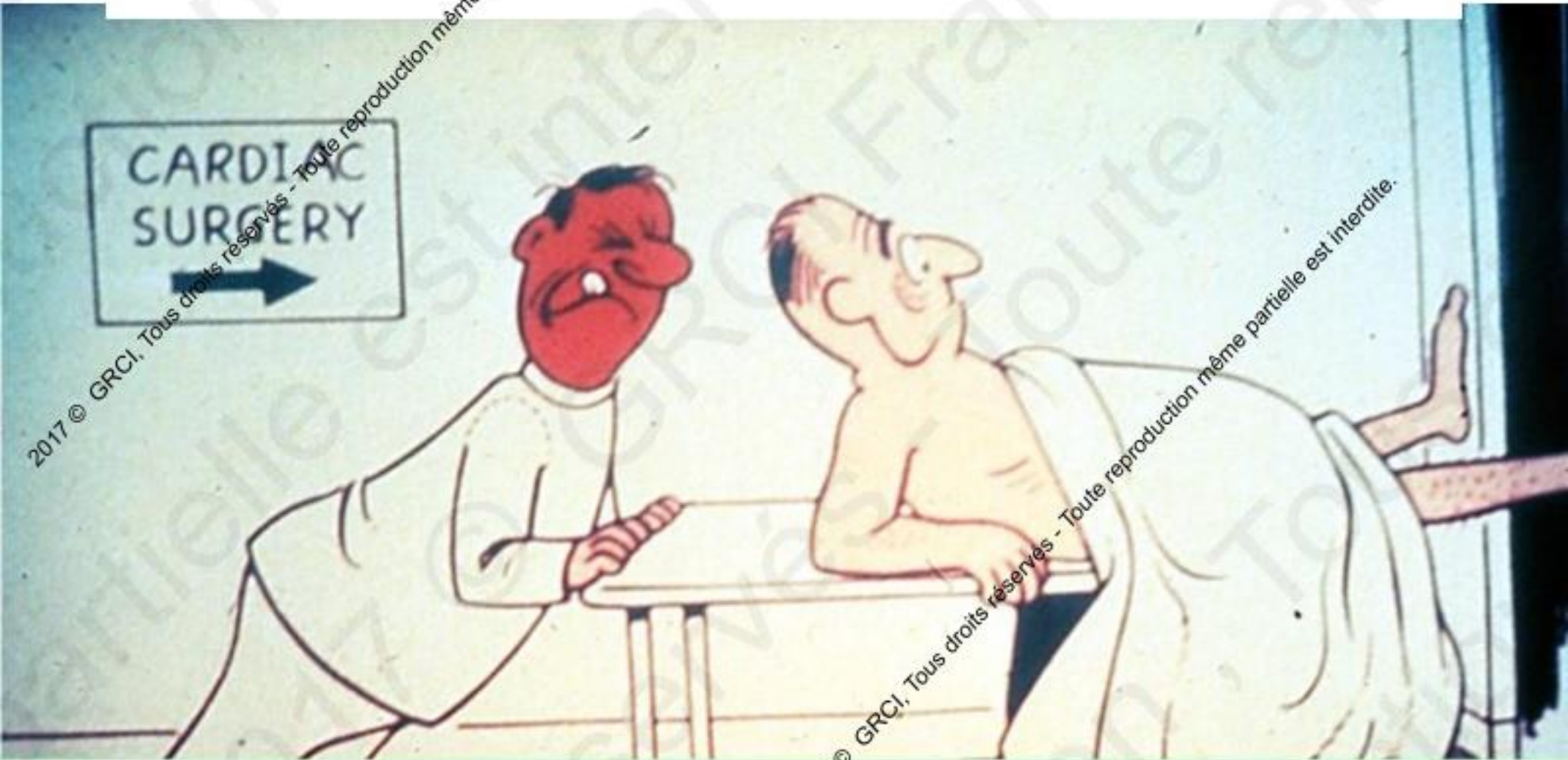
## Conclusion

- Angioplastie chez le diabétique est incontournable
- Angioplastie chez le pluritronculaire: être raisonnable
- SCA => Angioplastie en première intention
- Angioplastie impeccable
- Environnement pharmacologique optimal

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# Merci de votre attention



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# Conclusion

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