APPAC
ACTUALISATIONS ET PERSPECTIVES EN PATHOLOGIE CARDIOVASCULAIRE

A-t-on l'âge de ses artères?
Cas clinique

CHU Hôpitaux de Bordeaux

Dr Frédéric Casassus

Hôpital Haut-Lévêque - CHU de Bordeaux

Déclare avoir animé des réunions de formation médicale et/ou avoir eu une activité de consultant et/ou d'intervenant pour les laboratoires :

AstraZeneca, Lilly, the Medecine Company, Medtronic

Mr R. 85 ans avec état général conservé

- Malgré ATCD
  - 1997: RVAo mécanique (SJM 27mm) sur IAo massive sous coumadine
  - Atteinte polyvasculaire
    - 1997: Endartériectomie de CIDte
    - 1997: pontage ilio fémoral gauche
    - Coronaropathie: 2008 Angioplastie Cx et IVA et 2011 IVA prox
  - 2010: PM DDD de type SJM (dysfonction sinusale)

- FDR: HTA, dyslipidémie, 84kgs /168cm (IMC=29)

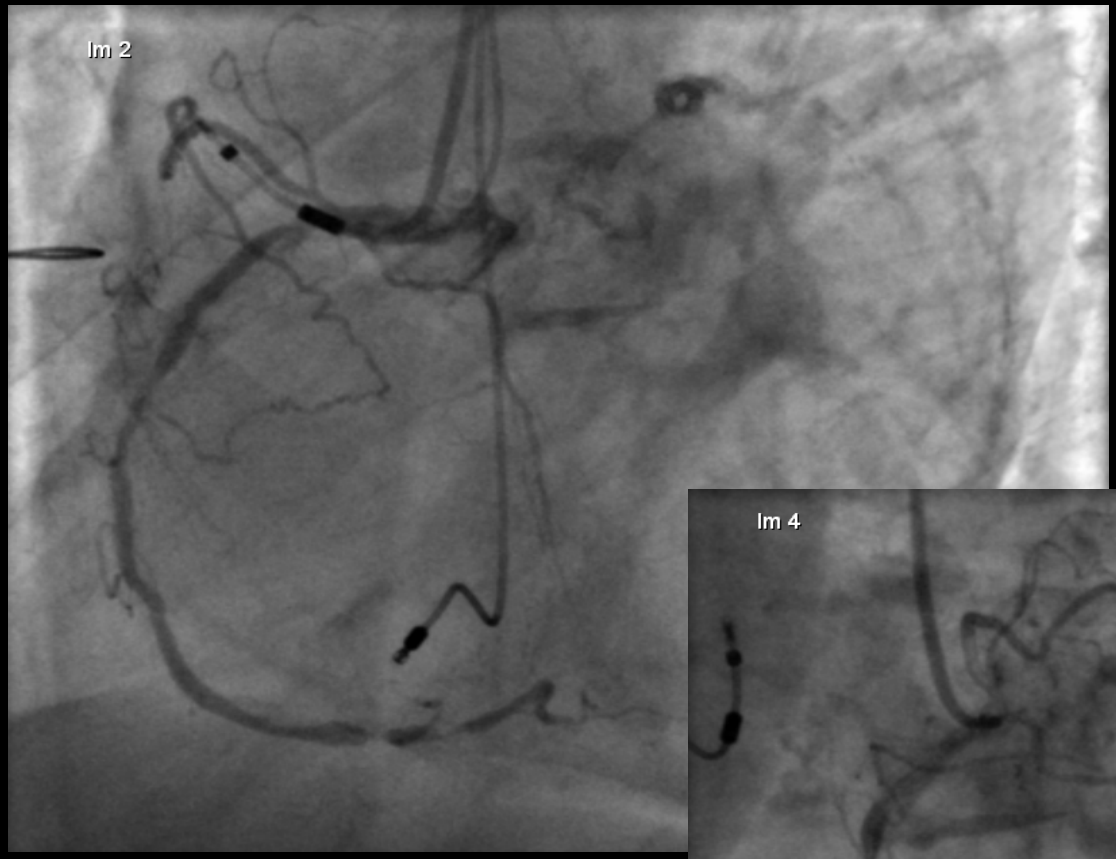
- TTT médical: Kardegic 75mg / Coumadine / Coversyl 7,5mg / Crestor 20mg

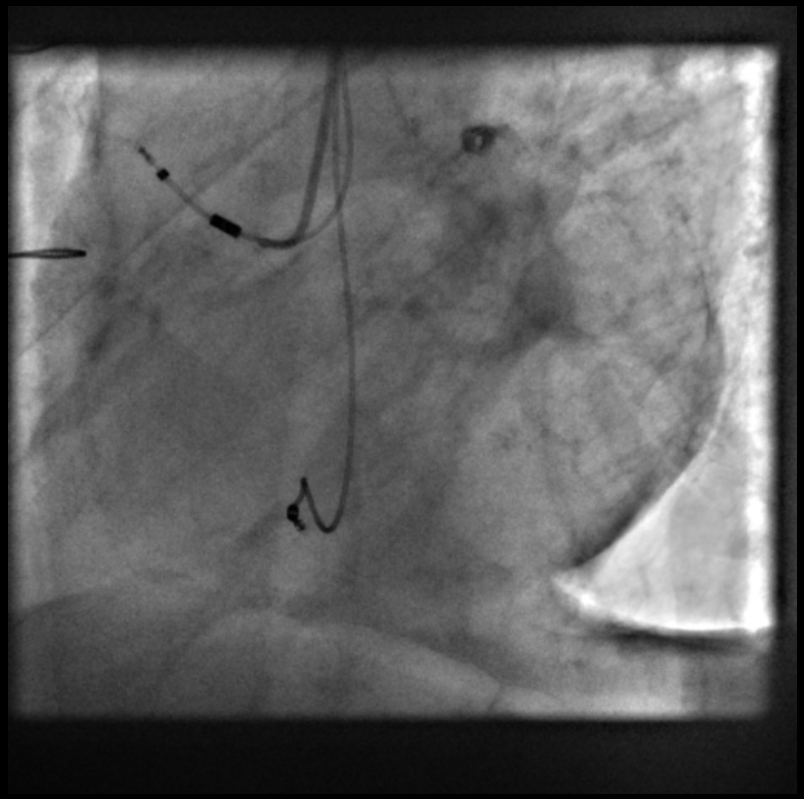
Depuis 3 mois: angor crescendo
Mai 2015: SCA ST-

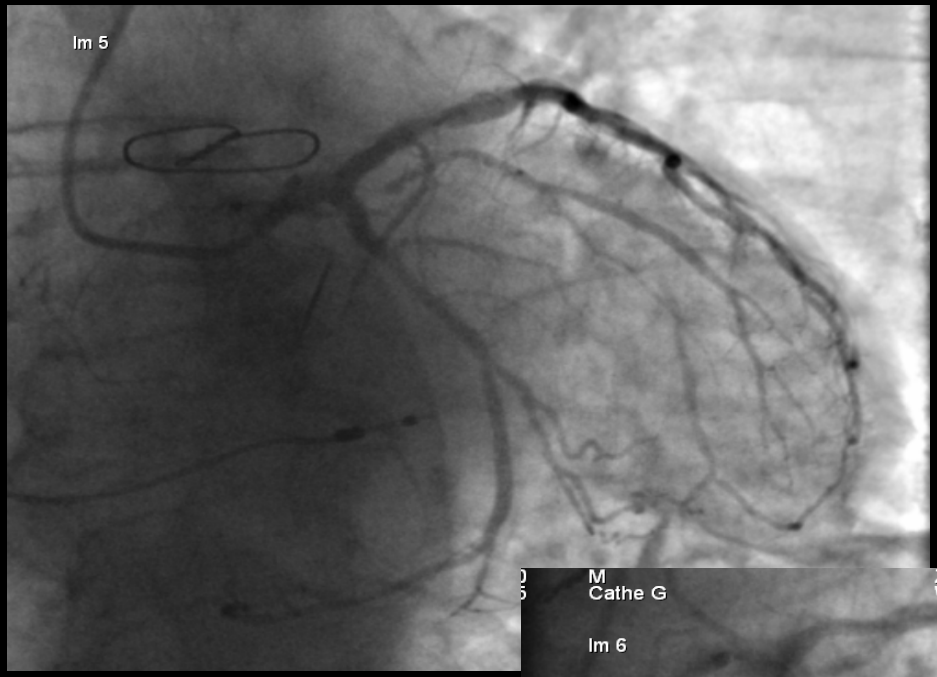
- ECG: EEV A et BBDt complet
- Biologie
  - Créat=115µmol/l avec Cl=51mmol/L
  - Hb= 13,9g/dl
  - INR=2,6 (TP=30%)
  - Troponine I = 1,7 ng/ml
- ETT: FEVG=48% + hypokinésie inférieure et bon fonctionnement de la SJM…

Que proposez vous ?

KT dans les 48h
Voie radiale D
(tortuosités TABC)






Im 5


M
Cathe G
Zoom 167%
WC 128 WW 256
Im 6

Stratégie ?

- NSTEMI chez Patient 85 ans avec comorbidités + AVK

- Scores
  - SYNTAX score= 28
  - Euroscore=31,7% / Euroscore2= 12%

  - CRUSADE=40 (9,2% de saignemt maj en IH)
  - HASBLED=3

- Redux à 85ans ? (PAC+/-RVAo bio) ou stenting ?

- Discussion en “Heart Team” aux USIC

Personne très âgée

- Pas de définition précise (>80 ou 85 ans?)
- Population grandissante +++
- Coronaropathie fréquente et plus complexe (CTO)
  - Diffuses
  - Calcifiées (45%)
  - Tortueuses
  - Lésion du TCG + fréquente
- Patient plus fragile: complications plus fréquentes
  - Rénal, AVC, vasculaire…

Rajani R, Br J Cardiol 2011

Personnes âgées
=Augmentation du risque de

- Complications hémorragiques
- Nécessité d'une Anticoagulation orale
- Nécessité d'une chirurgie extracardiaque (court terme)
- Chute

Shanmugan VB et al., Journ of Geriatric Cardiol 2015

Personne agée: Revascularisation bénéfique

	Revascularization (n = 112)	No Revascularization (n = 189)	p Value
Age, yrs	81.0 ± 4.4	82.7 ± 5.3	<0.01
Diabetes	40 (35.7)	66 (34.9)	0.89
eGFR, ml/min	48.8 ± 18.5	44.3 ± 19.3	0.05
Increased troponin levels	88 (78.6)	138 (73.0)	0.28
Ischemic ECG changes	90 (80.4)	144 (76.2)	0.40
Ejection fraction, %	51 ± 10	48 ± 10	0.07
Hemoglobin levels, g/dl	12.6 ± 1.4	12.4 ± 1.7	0.16
In-hospital events*	6 (5.4)	18 (9.5)	0.19
Death	3 (2.7)	16 (8.5)	0.05
TIMI major bleeding	0	1 (0.5)	0.55
Nondisabling stroke	0	1 (0.5)	0.55
Myocardial infarction	3 (2.7)	3 (1.6)	0.51
Primary endpoint at 1 yr*	19 (17.0)	64 (33.9)	0.002
Death	9 (8.1)	41 (21.6)	0.002
Cardiovascular death	7 (6.3)	33 (17.3)	
Myocardial infarction	5 (4.5)	16 (8.5)	0.18
Cardiac rehospitalization	9 (8.0)	19 (10.1)	0.56
Severe bleeding	0	3 (1.6)	0.18
Disabling stroke	1 (0.9)	0	0.19

Italian Ederly ACS (registre+RT) De Carlo M et al., JACC Interv 2015

ATL chez PA avec NSTEMI

Table 2. Key studies of PCI in the elderly and very elderly with NSTEACS.

Study name	Nature of study	Number of patients	Main results	Study limitations
GRACE Registry[76]	PCI *vs*. medical therapy	Of the 35,512 patients enrolled 15,625 (44%) were older than 70 years.	Favorable in-hospital mortality difference for those between 70-80 years (4.3% *vs*. 6.2%, $P < 0.001$) and > 80 years (7.0% *vs*. 11%, $P = 0.001$) who underwent revascularization. Six-month combined endpoint of death, MI and stroke was reduced in those between 70–80 years (7% *vs*. 13%, $P < 0.0001$) and in those > 80 years (17% *vs*. 25%, $P < 0.0001$) who underwent revascularization.	Non-randomized observational study.
TACTICS TIMI – 18[77] (RCT)	Early invasive *vs*. conservative strategy	Of the 2220 patients analyzed, 962 were 65 years of age or older	Early invasive rather than conservative strategy in the elderly resulted in reduction in the composite incidence of death or non-fatal MI at 30 days (5.7% *vs*. 9.8%; $P = 0.019$) and at 6 months (8.8% *vs*. 13.6%; $P = 0.018$).	Lack of standardization and poor precision of available troponin assays, must be considered before putting these study results into practice.
NEW YORK Registry[82]	Early invasive *vs*. initial conservative strategy	968,542 octogenarians	Primary outcome (in-hospital mortality) was significantly lower in octogenarians who had early invasive treatment (4.7% *vs*. 8.6%, unadjusted OR 0.52; 95%CI: 0.51–0.53).	Retrospective, observational study.

MI: myocardial infarction; NSTEACS: Non-ST elevation acute coronary syndrome; PCI: Percutaneous coronary intervention; RCT: Randomized controlled trial.

Shanmugan VB et al., Journ of Geriatric Cardiol 2015

Registre CRUSADE: pers âgée

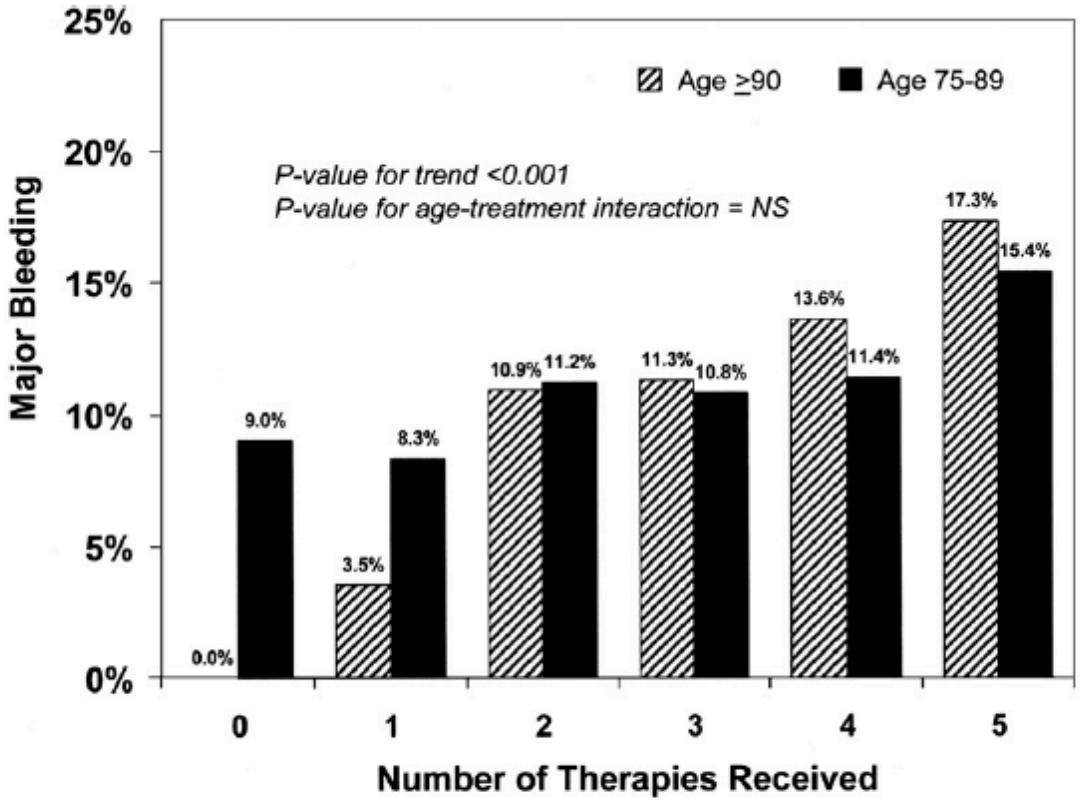


Figure 2 **Relationship Between the Number of Therapies Provided and the Incidence of In-Hospital Major Bleeding in Each Group, Including Only the "Ideal Patient Cohort"**

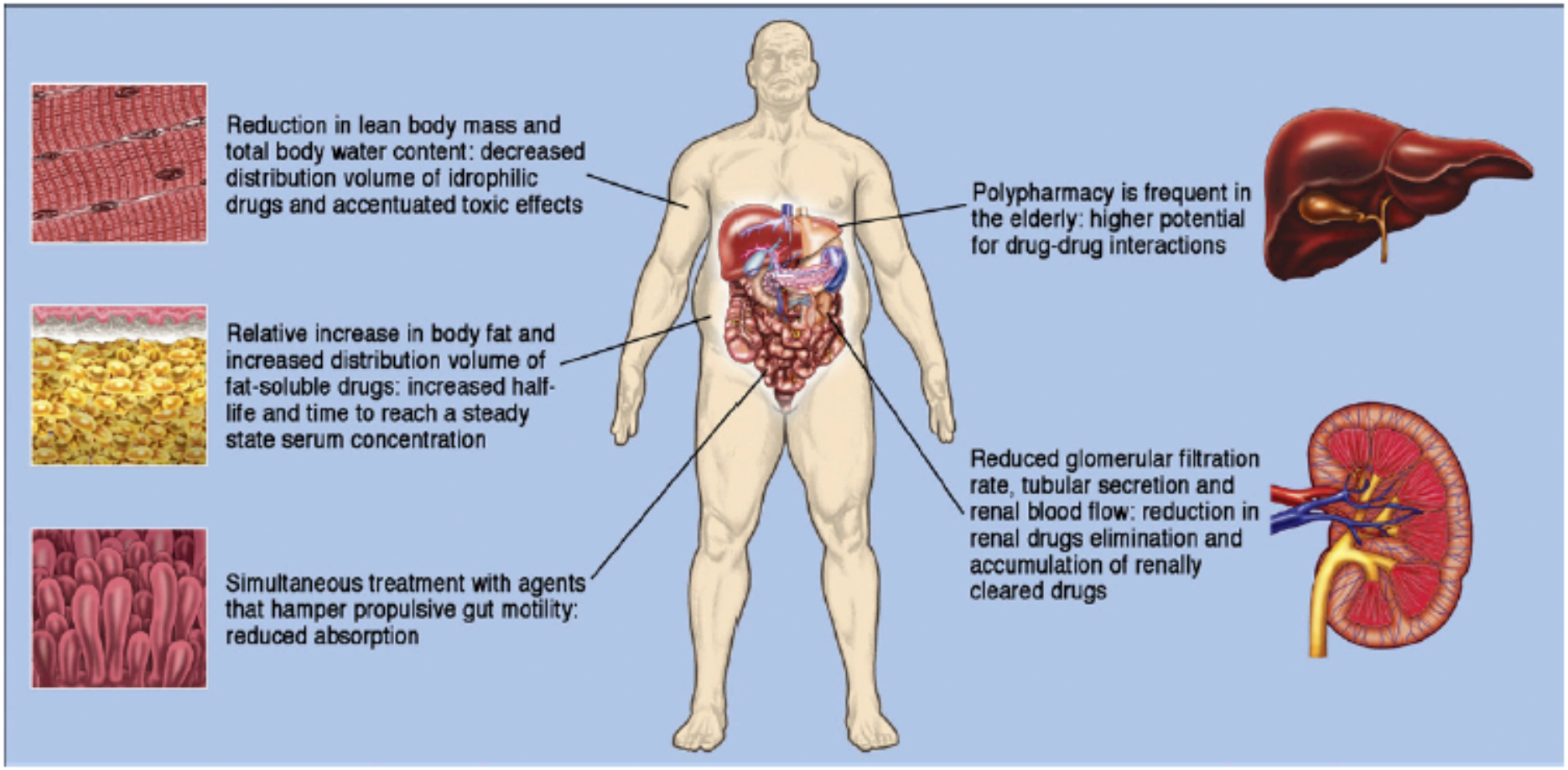
Therapies considered included acute (<24 h) aspirin, acute heparin, acute clopidogrel, and catheterization within 48 h with or without the use of glycoprotein IIb/IIIa inhibitors. Patients who were transferred out or who underwent coronary artery bypass surgery during the hospitalization were excluded from this analysis.

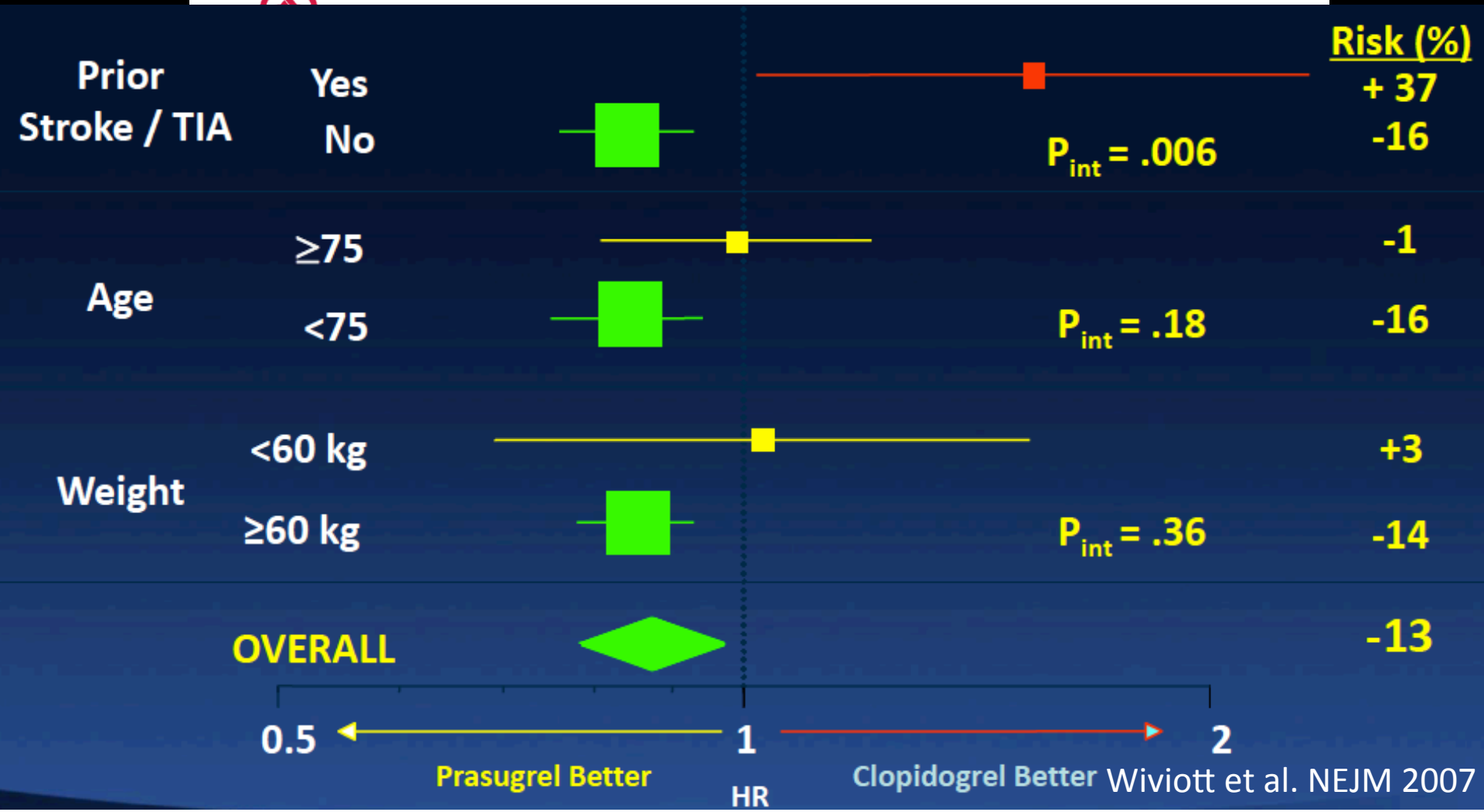
Skolnick et al., JACC 2007

Antithrombotic Therapy in the Elderly

Davide Capodanno, MD, Dominick J. Angiolillo, MD, PhD
Jacksonville, Florida

JACC 2010





Etude PLATO (Wallentin L et al., NEJM2009)

- Qd >75ans : pas de supériorité du ticagrelor vs clopidogrel;
- Pas de sur-risque de saignement majeur en fonction de l'âge.

Nécessité absolue d'un AVK

- Triple thérapie (AAP+ACO) :
  - x3-4 saignts majeurs
  - Bénéfice sur complication thrombotique: floue
- Pas de recul avec les nouveaux AAP: Contre-indiqué
- Durée de la DAPT + AVK? Aucune certitude
- FA + stent coronaire: études avec ACOD en cours

Use of clopidogrel with or without aspirin in patients taking oral anticoagulant therapy and undergoing percutaneous coronary intervention: an open-label, randomised, controlled trial

WOEST

Willem J M Dewilde, Tom Oirbans, Freek W A Verheugt, Johannes C Kelder, Bart J G L De Smet, Jean-Paul Herrman, Tom Adriaenssens, Mathias Vrolix, Antonius A C M Heestermans, Marije M Vis, Jan G P Tijsen, Arnoud W van 't Hof, Jurriën M ten Berg, for the WOEST study investigators

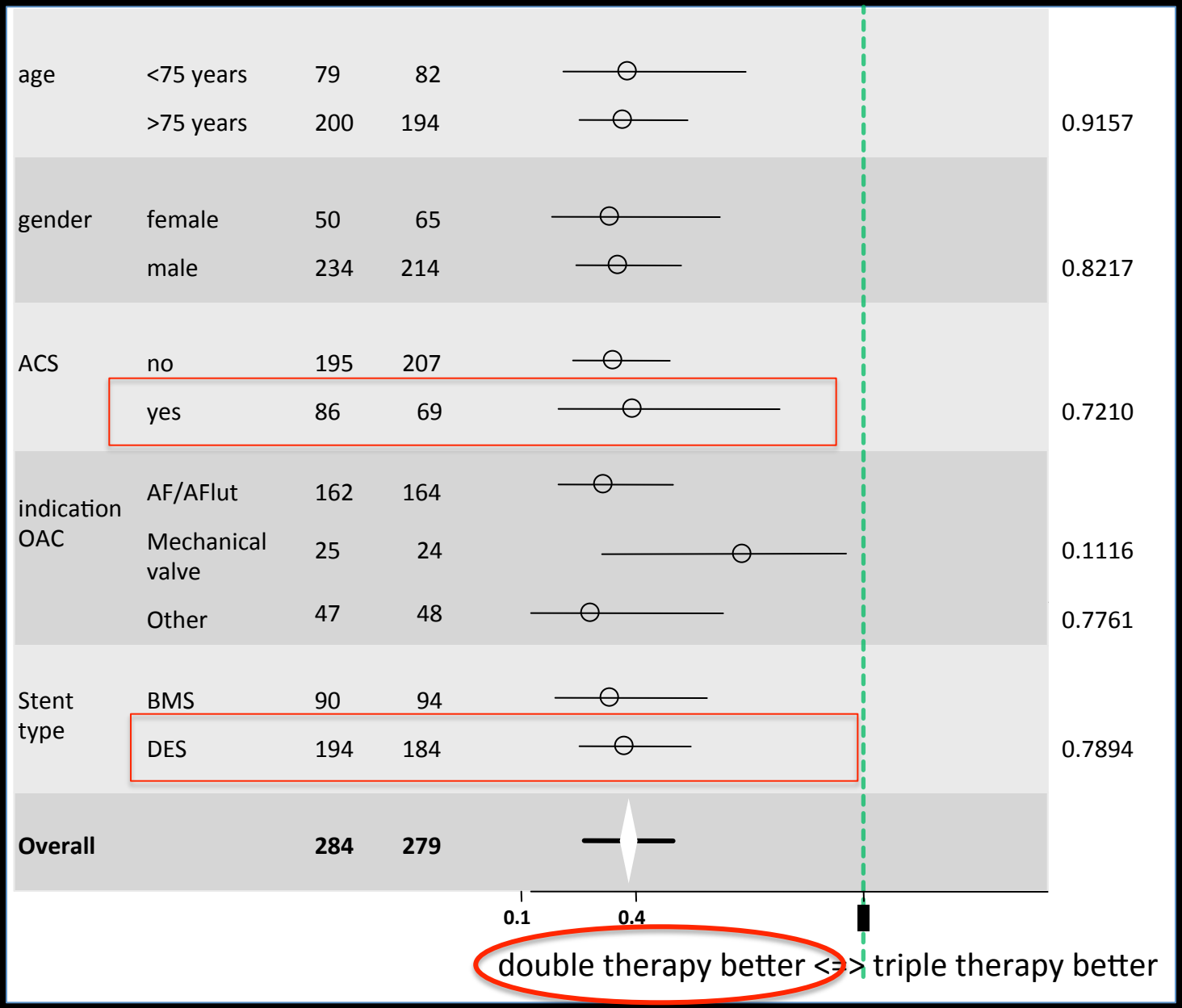
573 patients randomised

	Double therapy (n=279)	Triple therapy (n=284)
(Continued from previous column)		
Indication for oral anticoagulation		
Atrial fibrillation/atrial flutter	164/236 (69%)	162/234 (69%)
Mechanical valve	24/236 (10%)	25/234 (11%)
Other (eg, apical aneurysm, pulmonary embolus, PAD, EF <30%)	48/236 (20%)	47/234 (20%)
Acute coronary syndrome at baseline		
Yes	69 (25%)	86 (30%)
Stent type		
None	5 (2%)	4 (1%)
Bare metal	89 (32%)	86 (30%)
Drug eluting	181 (65%)	183 (64%)
Bare metal and drug eluting	3 (1%)	11 (4%)

d + 80mg Aspirin qd

S

Dewilde et al., Lancet 2013


age
<75 years
79
82
>75 years
200
194
0.9157
gender
female
50
65
male
234
214
0.8217
ACS
no
195
207
yes
86
69
0.7210
indication OAC
AF/AFlut
162
164
Mechanical valve
25
24
0.1116
Other
47
48
0.7761
Stent type
BMS
90
94
DES
194
184
0.7894
Overall
284
279
0.1
0.4
double therapy better <=> triple therapy better

Pers âgée et BMS
Plus de re-sténose intrastent

Table 5. Angiographic and Clinical Data at Follow-Up

	Cohort < 75 (n = 2,551)	Cohort ≥ 75 (n = 137)	p Value
Follow-up (%)	73	66	NS
Stent MLD (mm)	2 ± 0.99	1.8 ± 0.9	0.03
Mean reference diameter (mm)	2.99 ± 0.6	2.94 ± 0.5	NS
Stent percent stenosis	33 ± 29	41 ± 27	0.05
Restenosis, n (%)	451 (28)	32 (47)	0.0007
Type of restenosis, n (%)			NS
focal	167 (56)	15 (54)	
diffuse	133 (44)	13 (46)	
TLR, n (%)	399 (19)	31 (28)	0.02

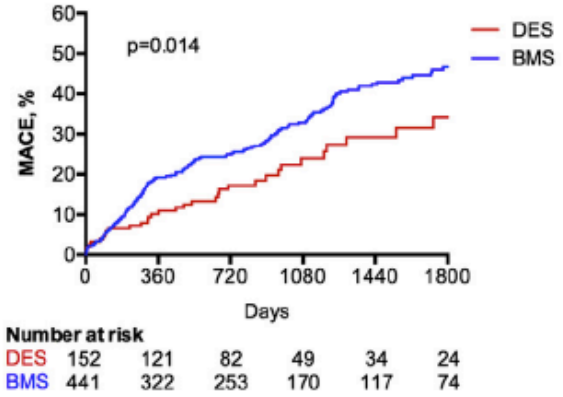
MLD = the minimal lumen diameter; TLR = target lesion revascularization.

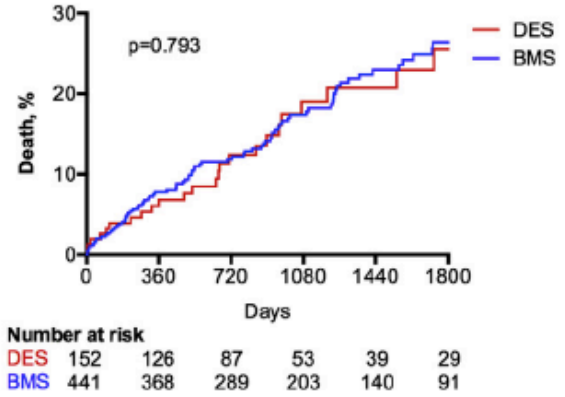
De Giorgio J et al., JACC 1998

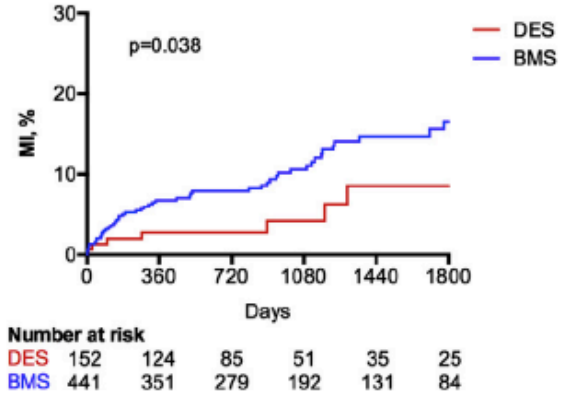
Comparison Among Patients ≥75 Years Having Percutaneous Coronary Angioplasty Using Drug-Eluting Stents Versus Bare Metal Stents

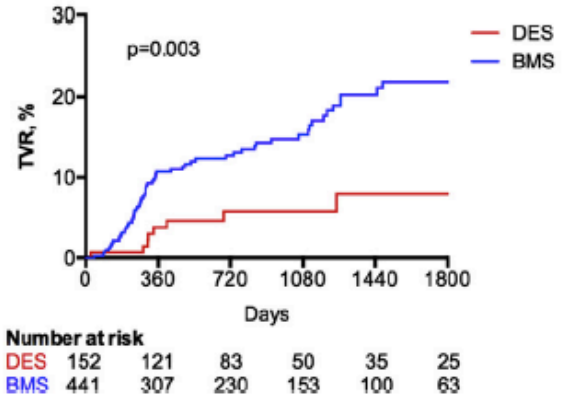
Fabio Mangiacapra, MD, PhD[a,b,*], Elisabetta Ricottini, MD[a], Giuseppe Di Gioia, MD[a], Aaron Peace, MD, PhD[a], Giuseppe Patti, MD[a], Bernard De Bruyne, MD, PhD[b], William Wijns, MD, PhD[b], Emanuele Barbato, MD, PhD[b], and Germano Di Sciascio, MD[a]

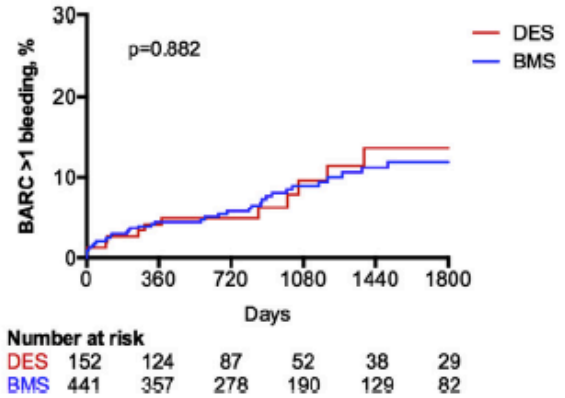
Am J Cardiol 2015

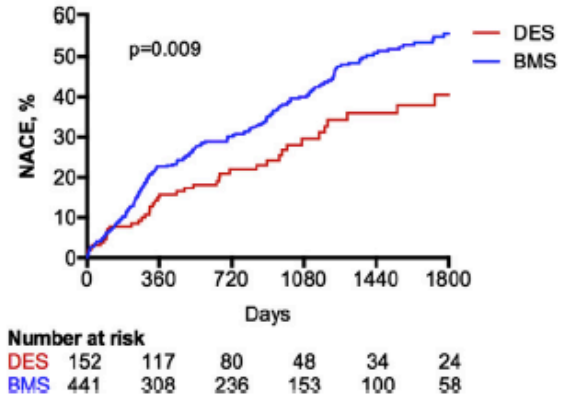










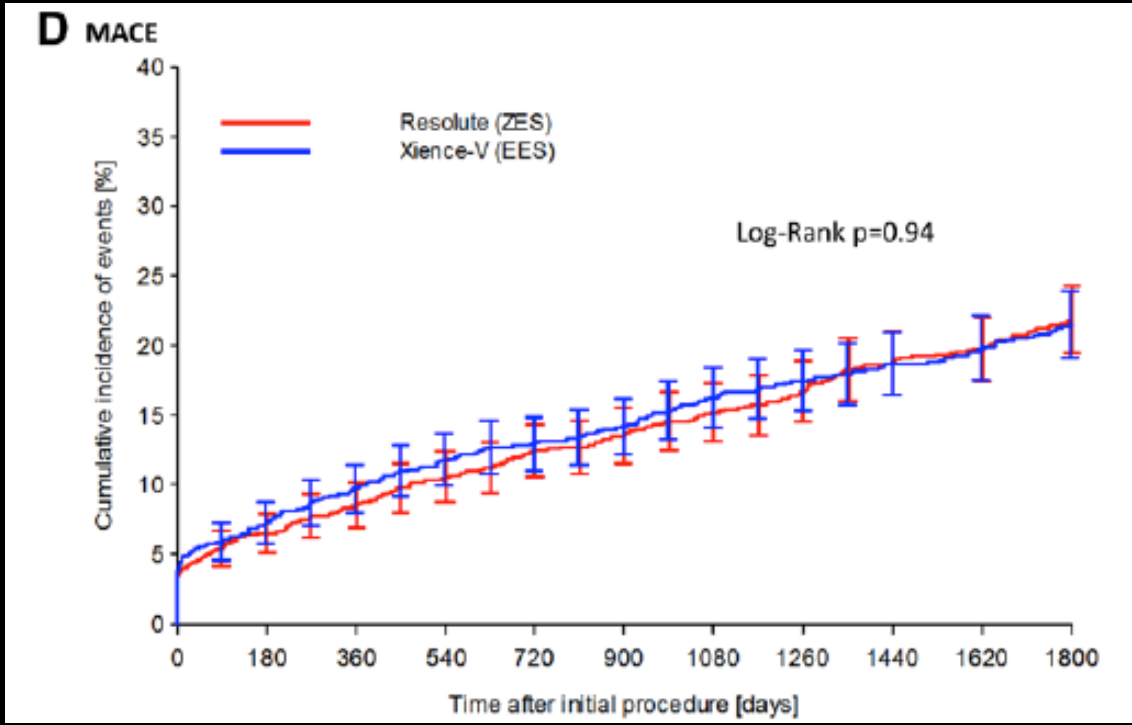


Comparison of Zotarolimus- and Everolimus-Eluting Coronary Stents

Final 5-Year Report of the RESOLUTE All-Comers Trial

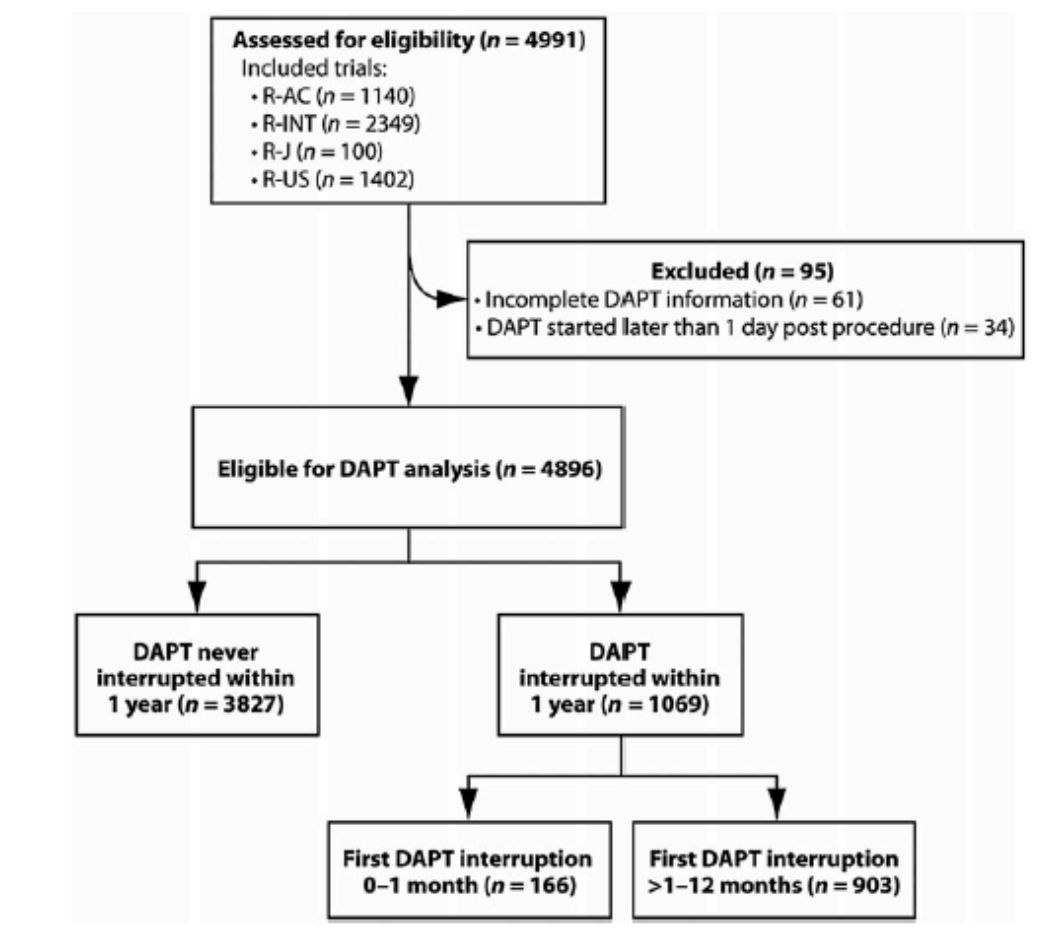
Javaid Iqbal, MRCP, PhD; Patrick W. Serruys, MD, PhD; Sigmund Silber, MD, PhD; Henning Kelbaek, MD; Gert Richardt, MD; Marie-Angele Morel, BSc; Manuela Negoita, MD; Pawel E. Buszman, MD; Stephan Windecker, MD

Circ Cardiovasc Interv 2015

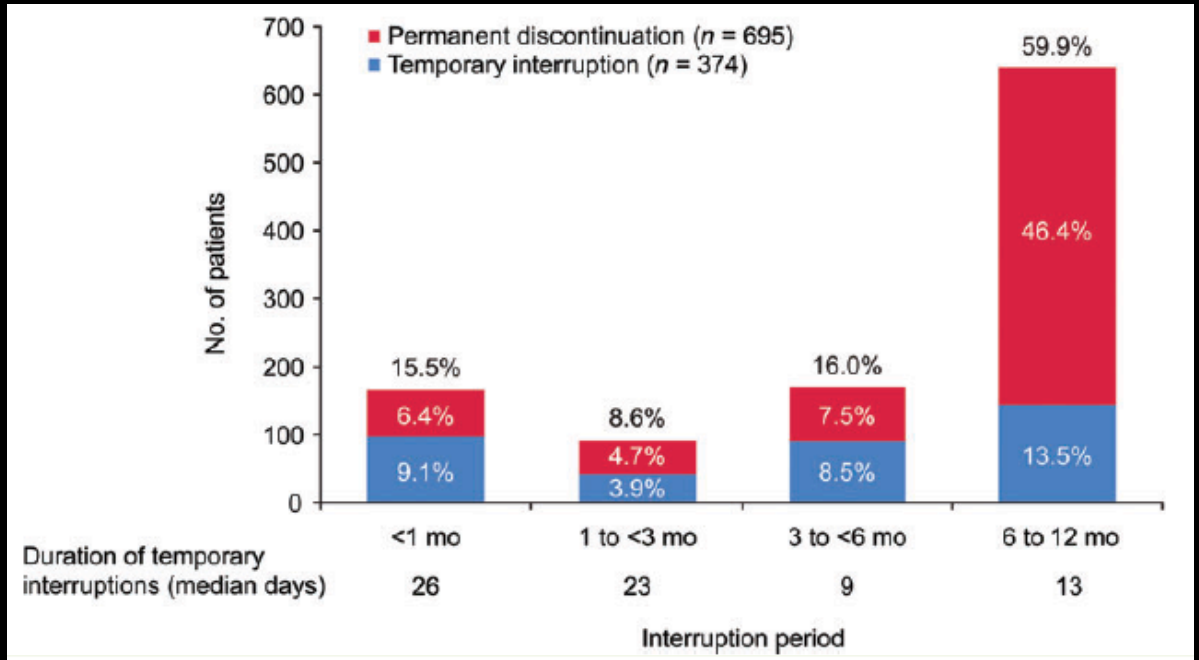


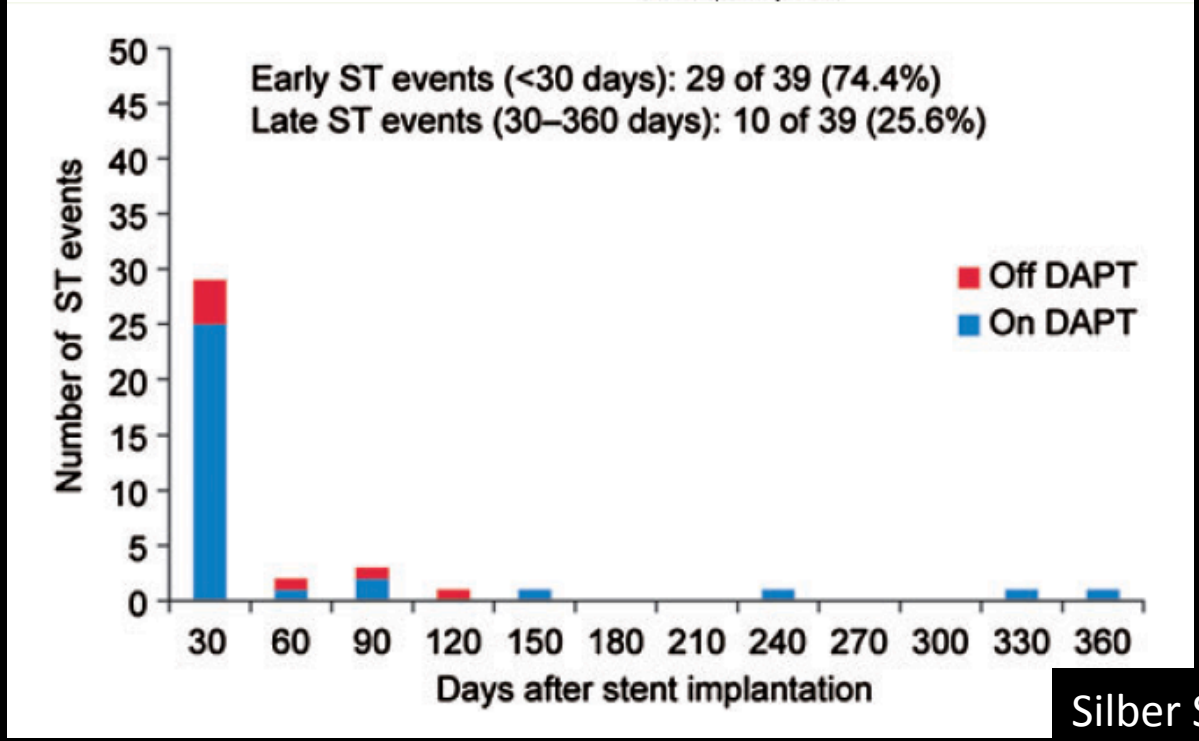
Lack of association between dual antiplatelet therapy use and stent thrombosis between 1 and 12 months following resolute zotarolimus-eluting stent implantation

Sigmund Silber[1*], Ajay J. Kirtane[2], Jorge A. Belardi[3], Minglei Liu[4],

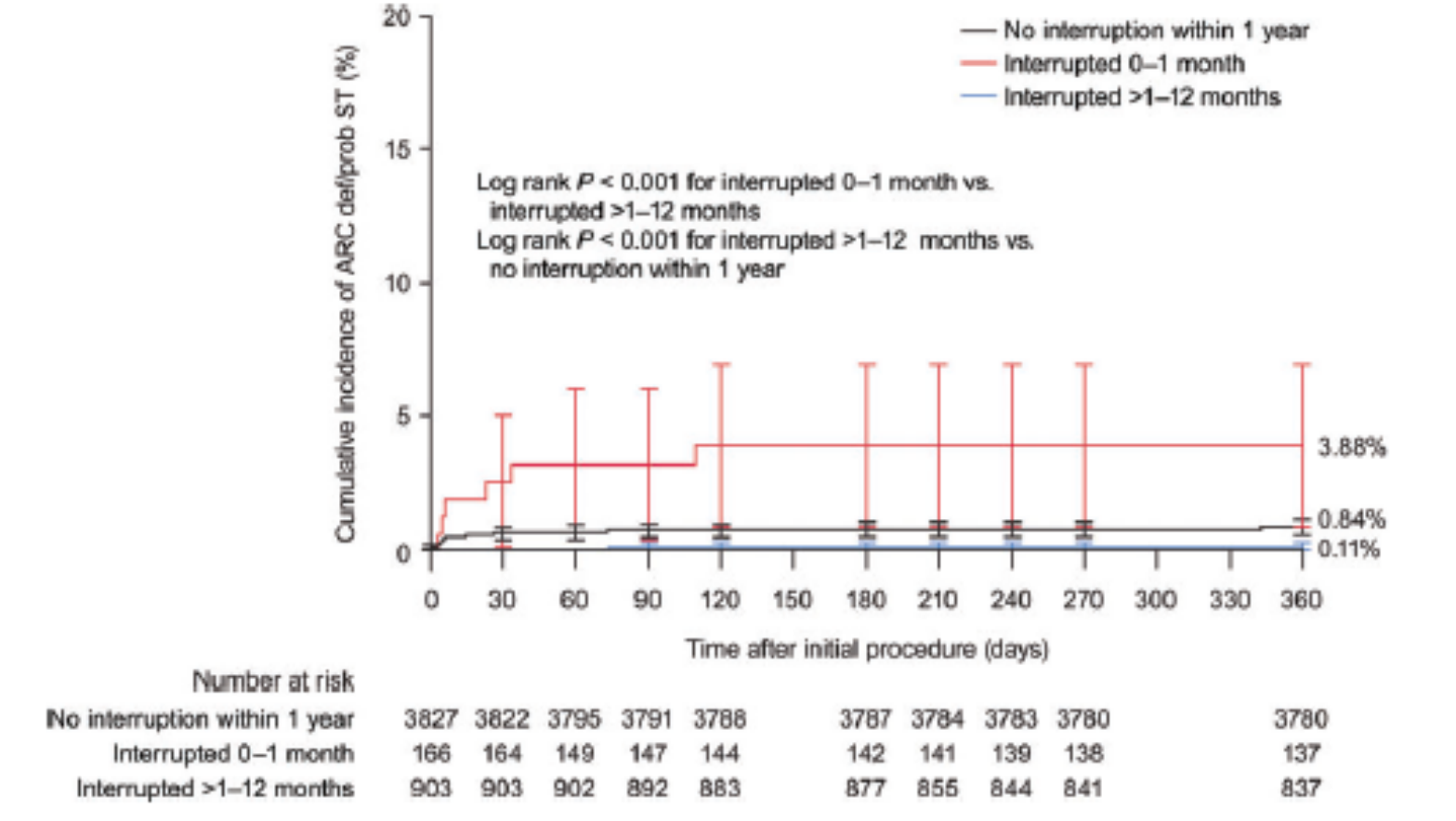


Silber S et al., EHJ 2014





Silber S et al., EHJ 2014



Silber S et al., EHJ 2014

Recos ESC sur NSTEMI et PA

Recommendations	Class	Level
Because of the frequent atypical presentation, elderly patients (> 75 years) should be investigated for NSTE-ACS at low level of suspicion.	I	C
Treatment decisions in the elderly (> 75 years) should be made in the context of estimated life expectancy, co-morbidities, quality of life, and patient wishes and preferences.	I	C
Choice and dosage of antithrombotic drugs should be tailored in elderly patients to prevent the occurrence of adverse effects.	I	C
Elderly patients should be considered for an early invasive strategy with the option of possible revascularization, after careful weighing up of the risks and benefits.	IIa	B

Guidelines ESC 2011

Recos ESC sur TTT antithrombotique

Recommendations	Class[a]	Level[b]	Ref[c]
In patients with a firm indication for oral anticoagulation (e.g. atrial fibrillation with CHA_2DS_2-VASc score ≥2, venous thromboembolism, LV thrombus, or mechanical valve prosthesis), oral anticoagulation is recommended in addition to antiplatelet therapy.	I	C	
New-generation DES are preferred over BMS among patients requiring oral anticoagulation if bleeding risk is low (HAS-BLED ≤2).	IIa	C	
In patients with SCAD and atrial fibrillation with CHA_2DS_2-VASc score ≥2 at low bleeding risk (HAS-BLED ≤2), initial triple therapy of (N)OAC and ASA (75–100 mg/day) and clopidogrel 75 mg/day should be considered for a duration of at least 1 month after BMS or new-generation DES followed by dual therapy with (N)OAC and aspirin 75–100 mg/day or clopidogrel (75 mg/day) continued up to 12 months.	IIa	C	
DAPT should be considered as alternative to initial triple therapy for patients with SCAD and atrial fibrillation with a CHA_2DS_2-VASc score ≤1.	IIa	C	
In patients with ACS and atrial fibrillation at low bleeding risk (HAS-BLED≤2), initial triple therapy of (N)OAC and ASA (75–100 mg/day) and clopidogrel 75 mg/day should be considered for a duration of 6 months irrespective of stent type followed by (N)OAC and aspirin 75–100 mg/day or clopidogrel (75 mg/day) continued up to 12 months.	IIa	C	
In patients requiring oral anticoagulation at high bleeding risk (HAS BLED ≥3), triple therapy of (N)OAC and ASA (75–100 mg/day) and clopidogrel 75 mg/day should be considered for a duration of 1 month followed by (N)OAC and aspirin 75–100 mg/day or clopidogrel (75 mg/day) irrespective of clinical setting (SCAD or ACS) and stent type (BMS or new-generation DES).	IIa	C	
Dual therapy of (N)OAC and clopidogrel 75 mg/day may be considered as an alternative to initial triple therapy in selected patients.	IIb	B	865,870
The use of ticagrelor and prasugrel as part of initial triple therapy is not recommended.	III	C	

Guidelines ESC 2014

Table 3. Key points and practical consideration in performing PCI in the very elderly.

General	• PCI in the very elderly is associated with a decrease in cardiac mortality, significant improvement in cardiovascular well-being, HRQOL and angina burden. • Elective PCI is a safe and effective treatment modality of stable CAD, when clinically indicated. • The predominant causes of death after all types of PCI in the very elderly may now be non-cardiac in nature. • Second generation DES compared to BMS reduce the incidence of MI, TVR with no impact on all-cause mortality.
Complications	• Antithrombotic therapy is associated with lower efficacy and higher bleeding rates compared to younger patients. • Reductions in peri-procedural bleeding complications may be achieved by greater use of transradial artery access and pre-procedural bleeding risk assessment with validated scoring systems. Attention to weight and creatinine clearance is required where applicable to ensure correct dose adjustment of certain antithrombotics. • Withholding of nephrotoxic medications, attention to pre and post-procedural intravenous hydration guided by assessment of LV end-diastolic pressure recording, and judicious use of contrast may help to reduce risk of contrast-induced nephrotoxicity.
Acute coronary syndrome	• Ticagrelor may be a better option than clopidogrel for those with ACS for whom an early invasive strategy is planned, while prasugrel is contraindicated in the very elderly due to higher bleeding risk than clopidogrel. • In those presenting with NSTEACS, revascularization combined with optimal medical therapy is preferred to optimal medical therapy alone. • In NSTEACS, an early invasive approach is associated with significantly lower risk of death or MI at 6 months compared to those treated with delayed conservative strategy. • PPCI compared to thrombolysis, improves outcomes in the very elderly presenting with STEMI, and hence is the reperfusion strategy of choice. • Thrombolytic therapy (particularly when given early) remains a viable alternative when PPCI is not available.

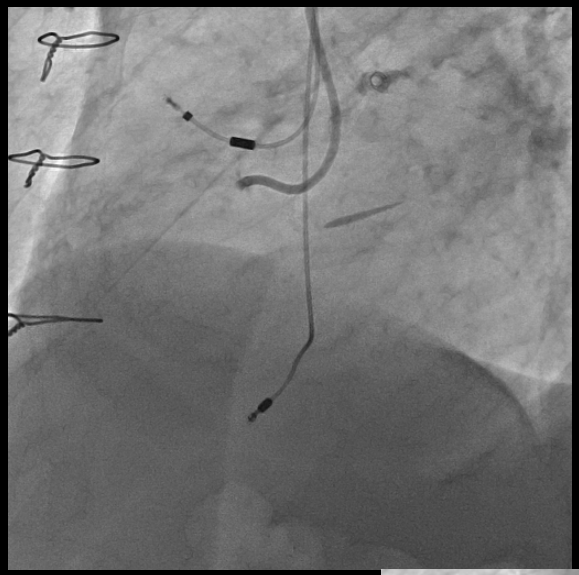
Shanmugan VB et al., Journ of Geriatric Cardiol 2015

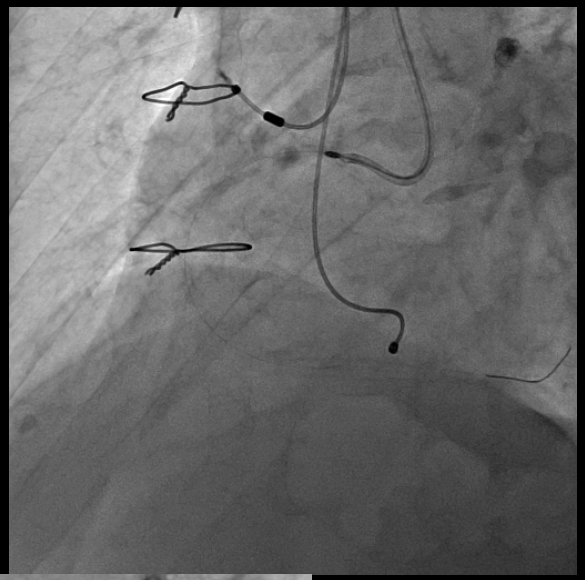
Personnes âgées et Anti-thrombotique Tayloring

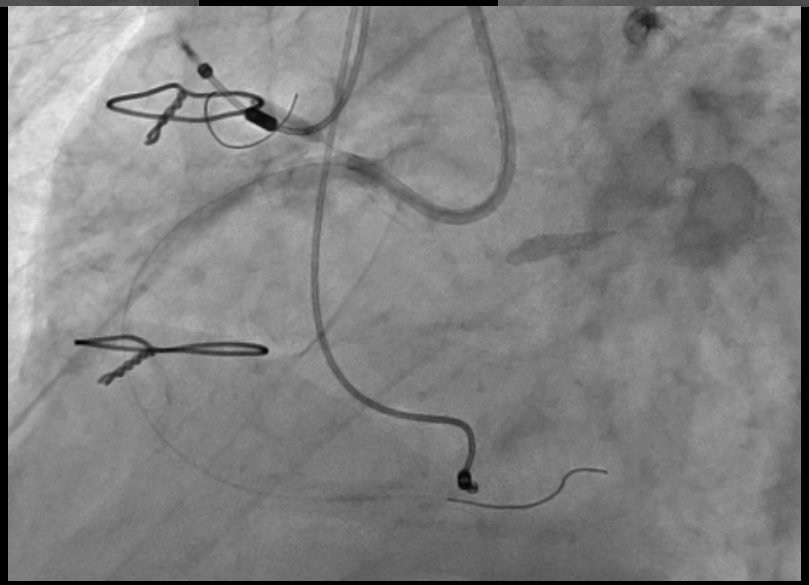
Choix: Qu'est ce qui compte ?

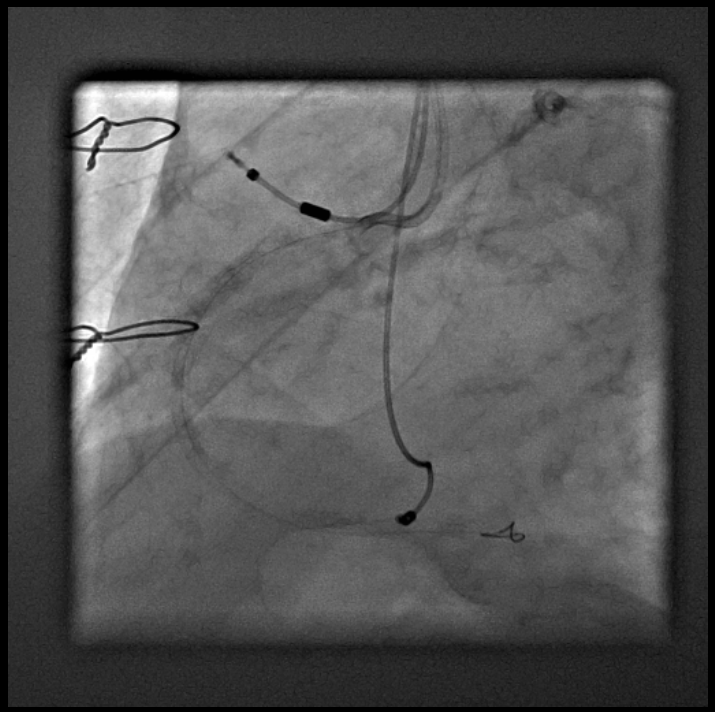
- Etat général du patient (cognitif, autonomie, réserve métabolique…)
- Bénéfice revascularisation vs TTT conservateur
- Risque thrombotique vs Risque iatrogénique
- Souhait du patient
- Souhait de la famille

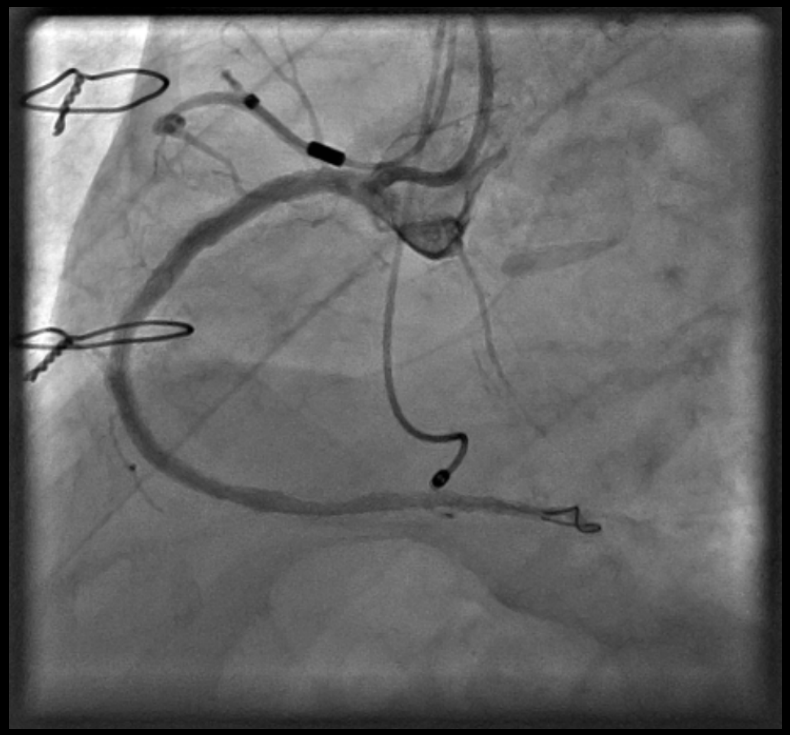
ATL CD
difficulté support + calcifications











Resolute 3.0x22 / 3.0x15 / 2.5x22

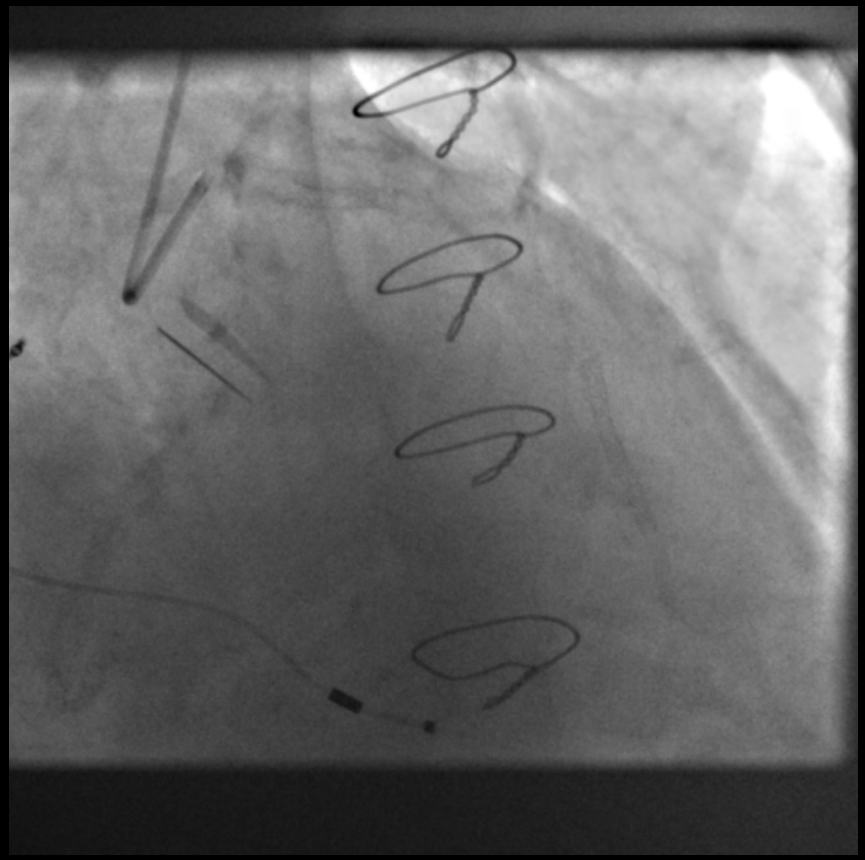
Bonne évolution: Sortie à J4

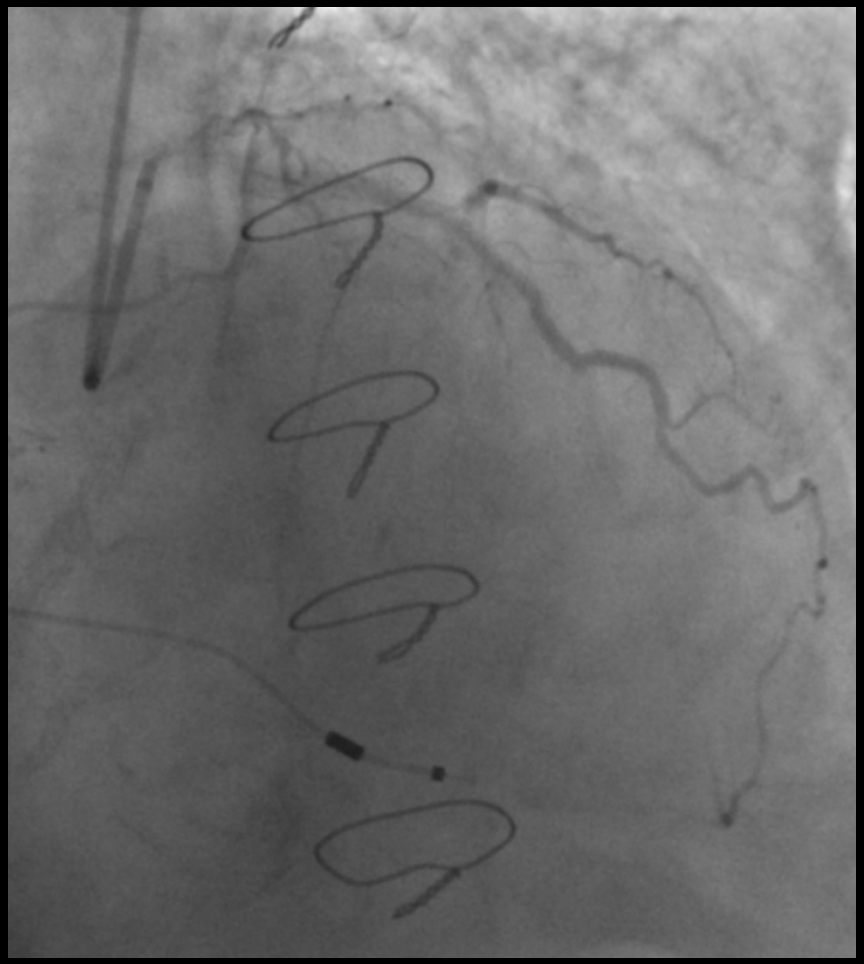
- TTT médical
  - Triple thérapie antithrombotique
    - Kardégic 75 / clopidogrel 75
    - Coumadine (INR=2.2)
  - Inexium 20mg/j
  - …
- A 1 mois (Début juin)
  - Aucun évènement (hémorragique/ischémique)
  - Reprise pour angioplastie IVA et intermédiaire
  - Par ARGche + INR=2.1

Désobstruction CTO IVA

ARG

Finecross/Fielder





Pré

Post

Suite…

- Pas de complication (Voie radiale; pdc=120cc; réhydratation IV)

- Stratégie retenue
  - 3 mois de triple thérapie antiagrégante +IPP
  - Puis: Clopidogrel (VFN) + coumadine (INR=2-3)

Conclusion
Personnes très agées et SCA

- Peu d'études… mais ca commence à venir
- Nombreuses comorbidités et coronaropathie
- Objectif de la prise en charge: améliorer la qualité de vie +++

- Stratégie thérapeutique (stent, DAPT…):
  - DAPT avec DES (6 mois – 1 an): mais interruption précoce envisageable
  - Après ZEUS: 1 mois si ZES + anticoagulation orale?
  - Décision au cas par cas= tayloring

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