5 6 7 JUIN 2019

APPAC
Ensemble, imaginons la cardiologie de demain

Lésions complexes: pourquoi faire compliqué quand on peut faire simple?...

Dr Christophe BARBEY

SYMPOSIUM TERUMO

06 juin 2019

Cardiologie
Interventionnelle
Imagerie
Cardiaque

Clinique Saint Gatien TOURS, France

Dr Arnould, Dr Bar, Dr Barbey, Dr Chassaing, Dr Gouffran

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C.R.A.C Comité Régional des Angioplasticiens du Centre

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CARDIOLOGIE interventionnelle

Pourquoi faire compliqué…

- Femme 76 ans
- Cardiomyopathie d’origine ISCHEMIQUE
    - 1988:Notion d’ATC au Ballon seul IVA
    - Suivi régulier
    - 2016:Scintigraphie myocardique NORMALE
- Réapparition d’une symptomatologie DOULOUREUSE THORACIQUE d’ALLURE ANGINEUSE à l’EFFORT depuis début d’année.
- EE non contributive (gonalgies)

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(Black) Friday…

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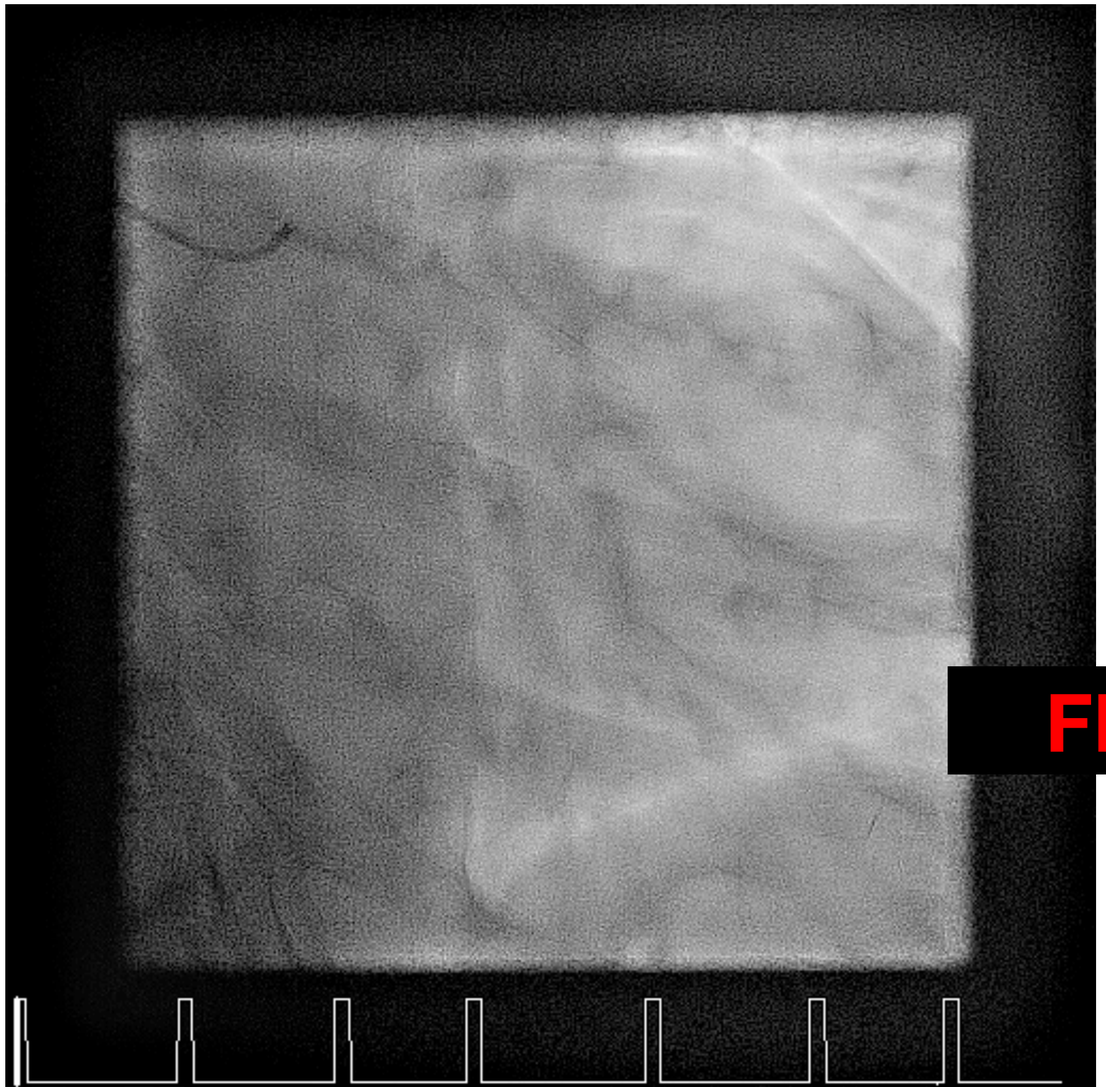

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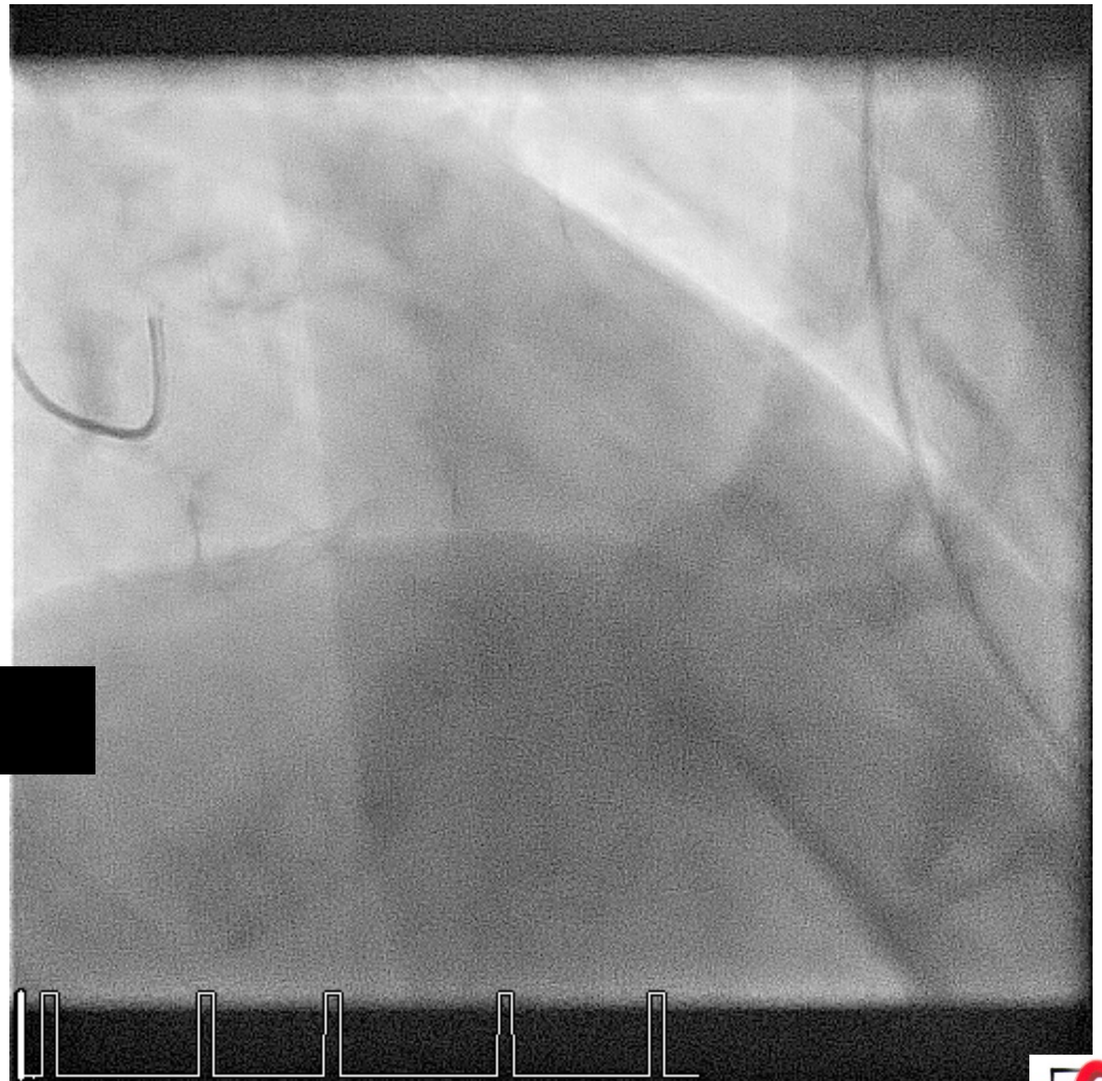

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Stratégie?
ou pourquoi faire compliqué?...

- Vendredi…
- Lésion (paraissant) simple…
- Présentation (forcément orientée) des options thérapeutiques à la patiente…
- Pré TTT: Aspirine seul
- Clopidogrel 600 mg sur Table/HNF 5000 UI

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ULTIMASTER 2,75X15

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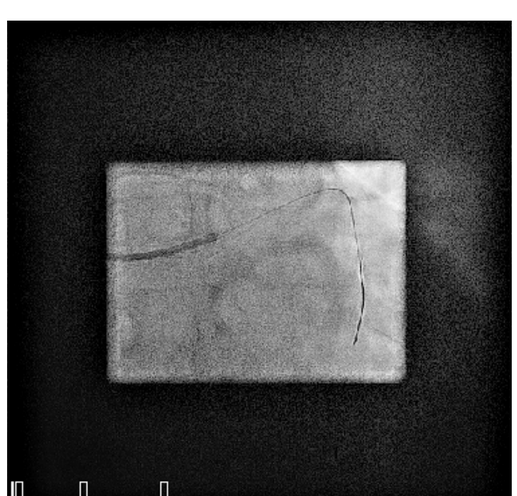

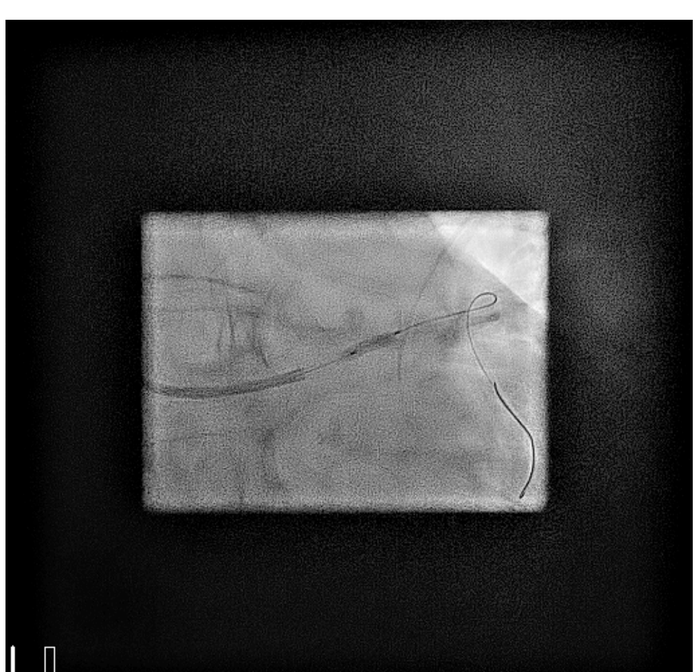

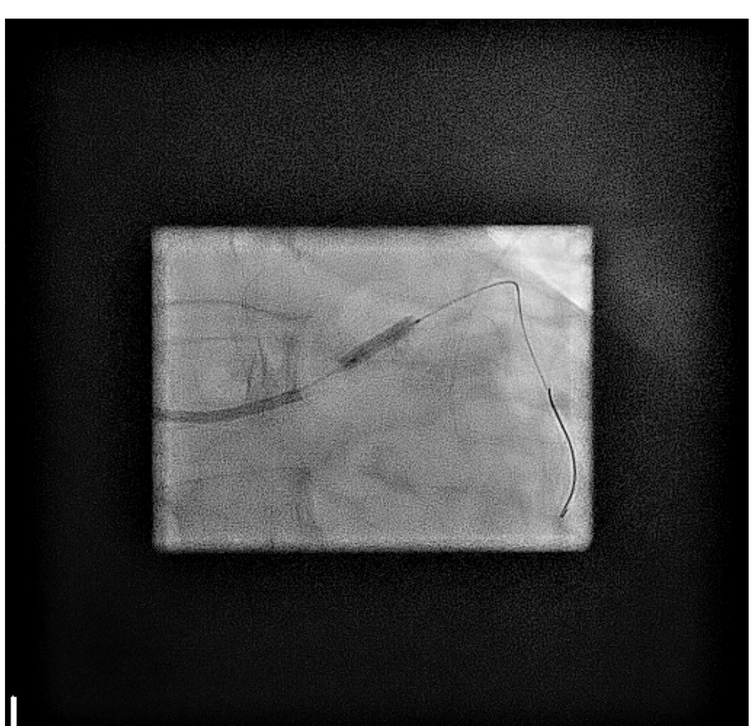

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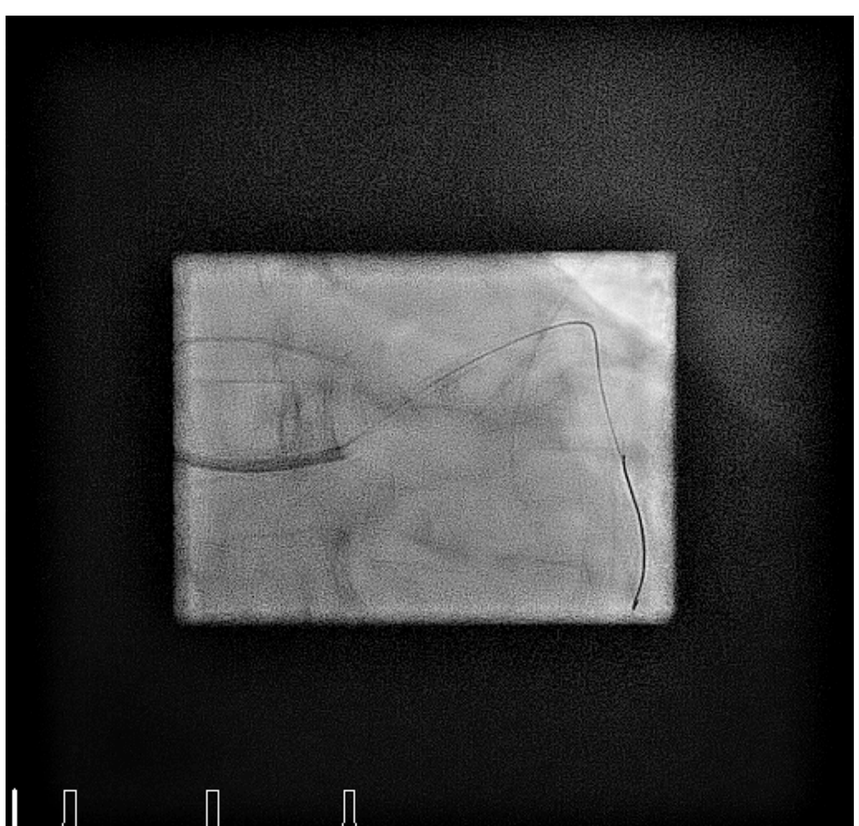

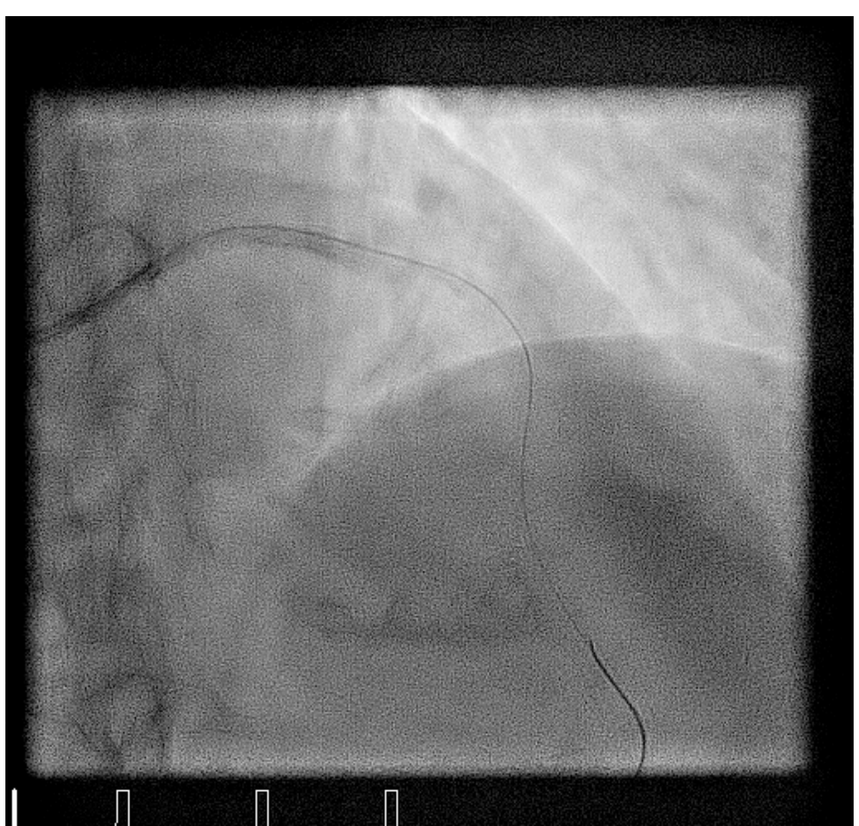

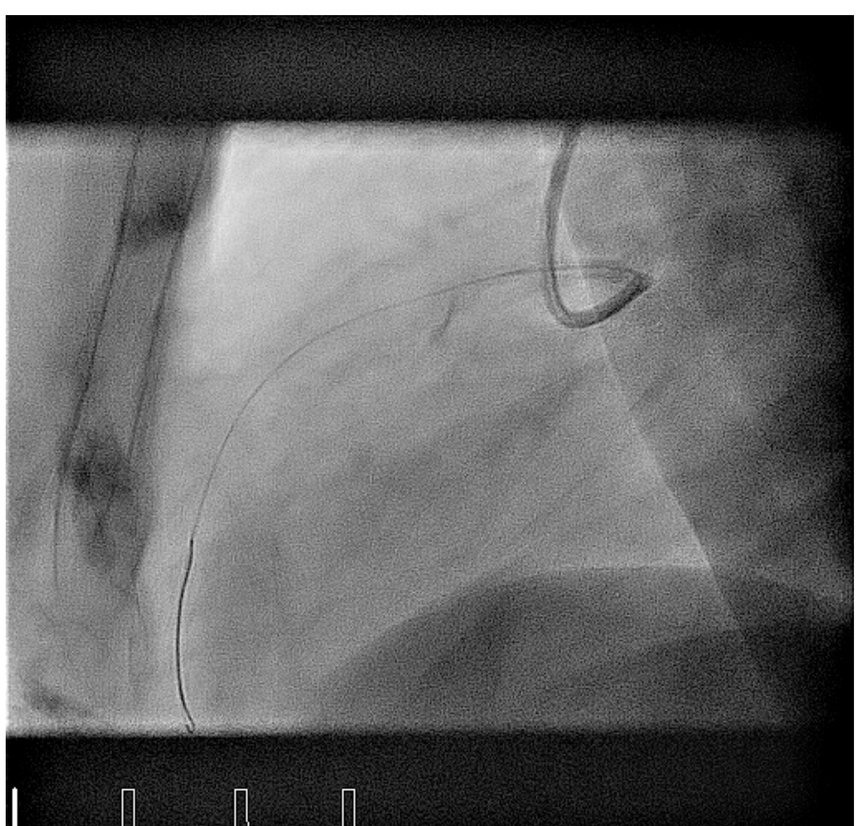

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CARDIOLOGIE interventionnelle

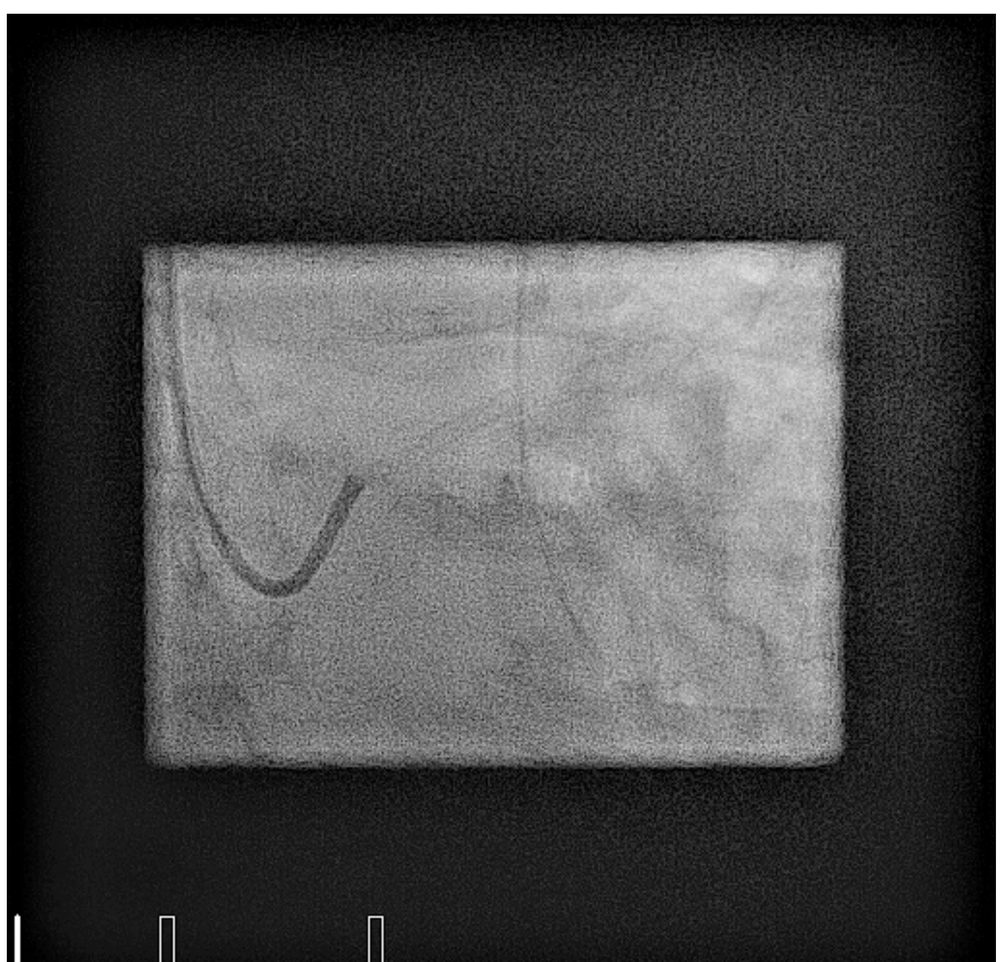
Salle de réveil

- Un épisode de vomissement sans douleur thoracique à l'admission en salle de réveil:
    - ECG STABLE
    - 2cp de Clopidogrel dans le Haricot
    - NOUVELLE DOSE DE CHARGE…

Salle de réveil

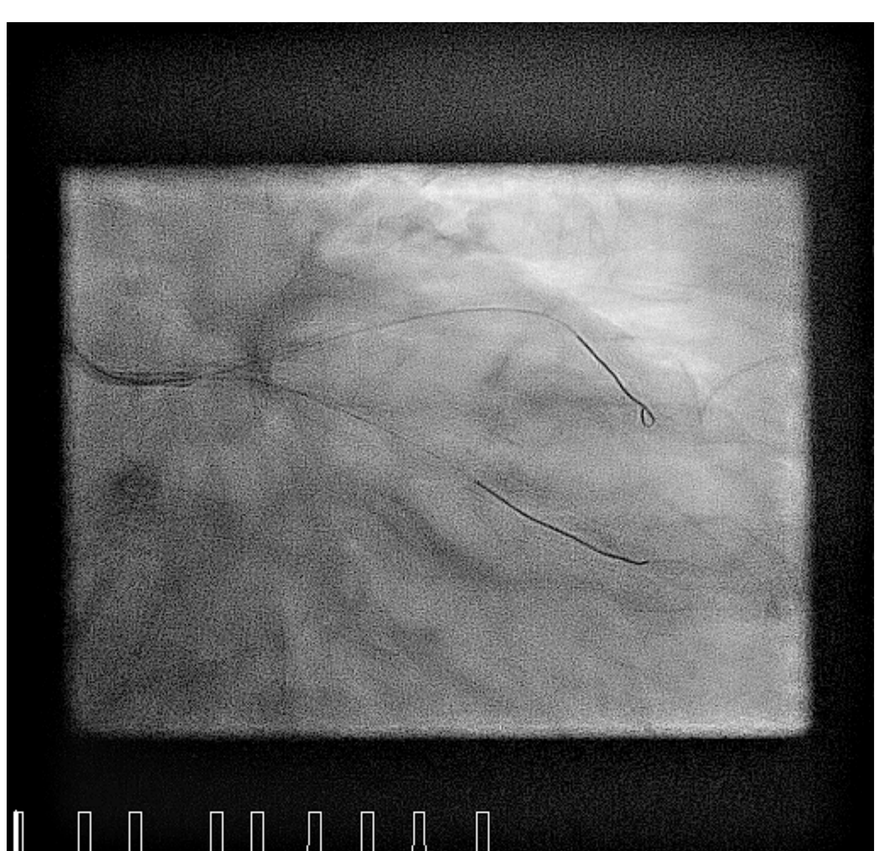
- DOULEUR THORACIQUE 20 ème minutes
- ECG:SUS ST

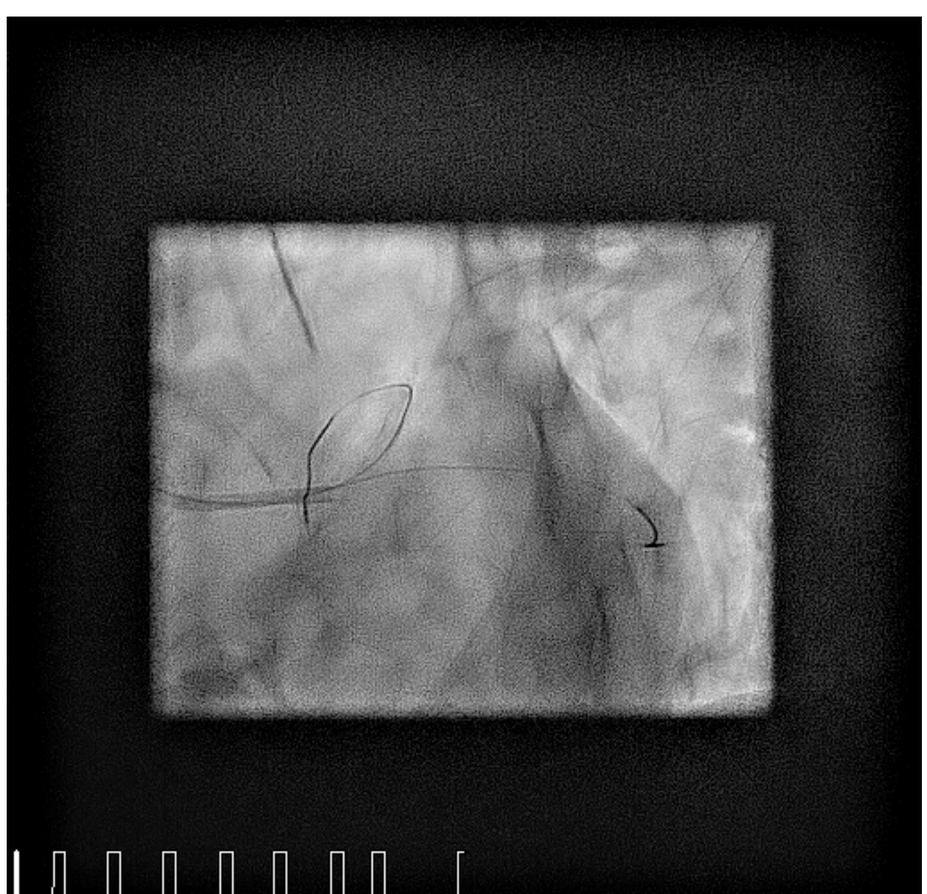
Contrôle



- FV
- MCE
- Intubation orotrachéale

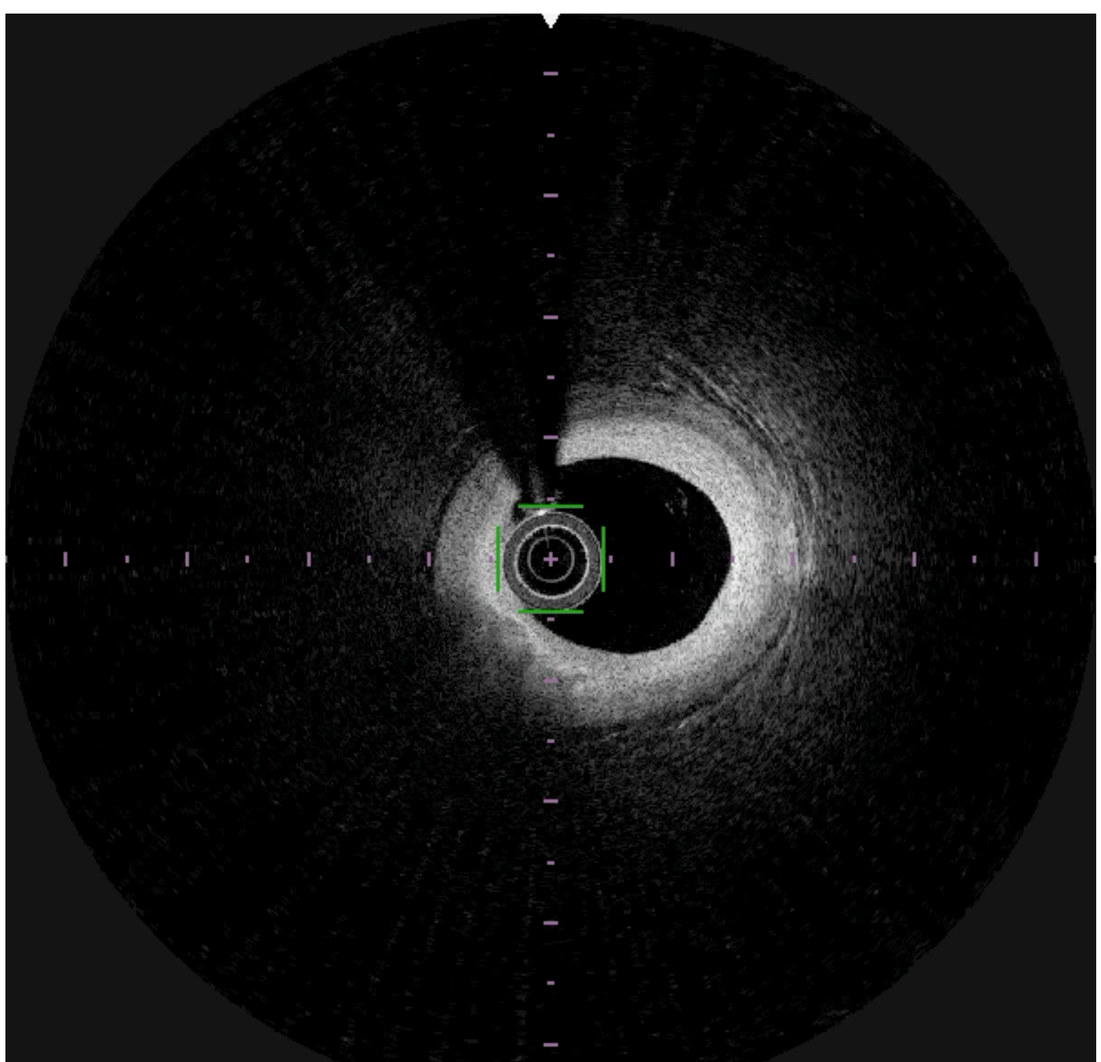
Contrôle





- Reperfusion au passage du Guide
- INTEGRILLIN
- Pas d’aspiration (TC…)

OCT



- Thrombus « rouge »
- Pas de malaposition
- ATC non optimale?
- Pas de dissection

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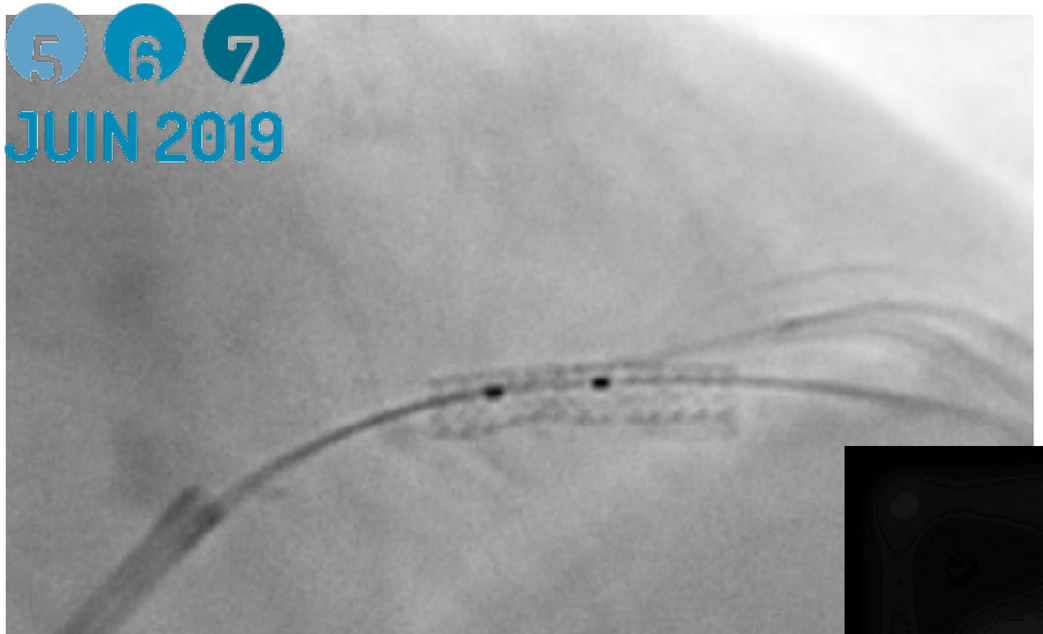

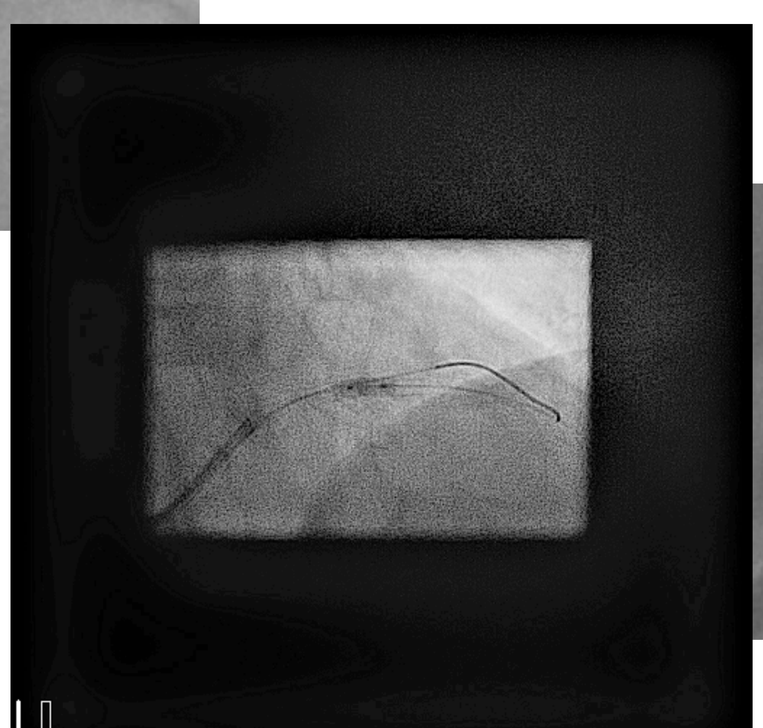

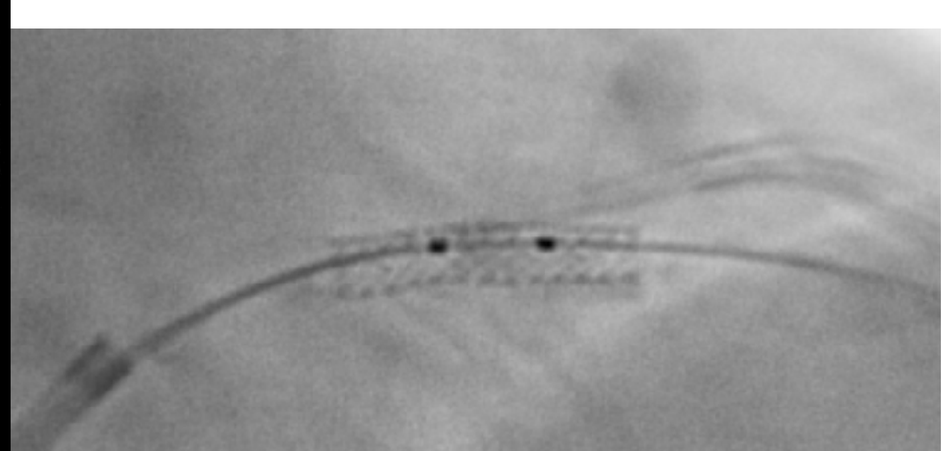

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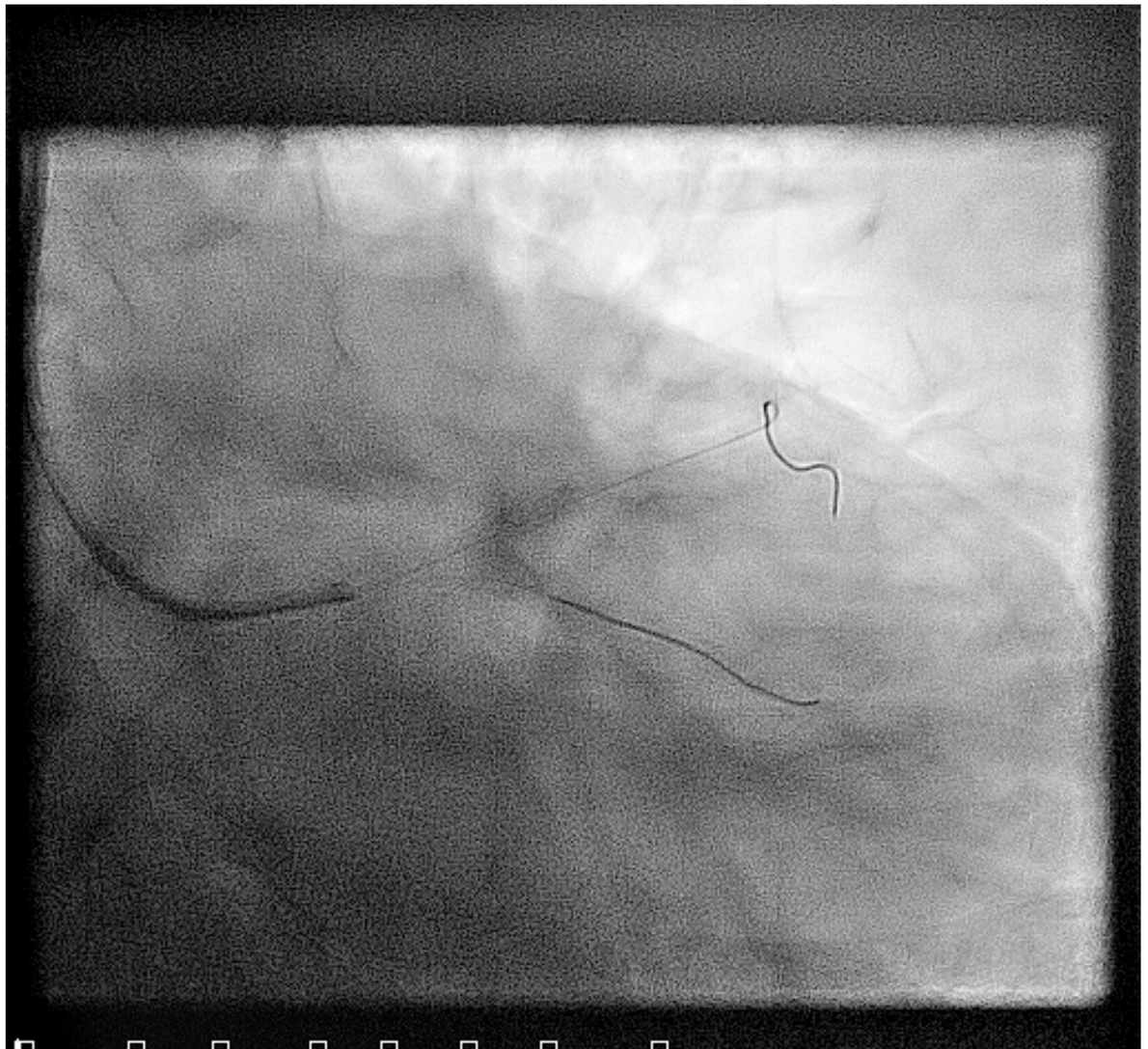
Final



Pourquoi faire compliqué
(adHoc non prétraité)…

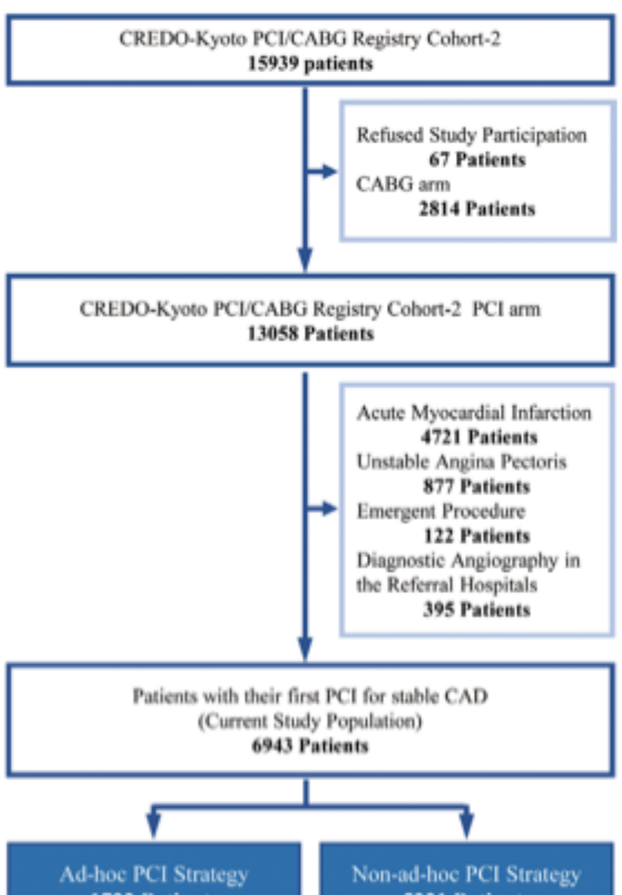
quand on peut faire simple
(ATC différée prétraitée)?..

Angioplastie adHoc

- Rationnel
  - Préférence des patients?
  - Couts?
  - Moins de complications vasculaires?
  - Moins d'AVC?
  - Moins de néphropathies induites?
  - Moins d'expositions Rx?
  - …

Ad hoc vs. Non-ad hoc Percutaneous Coronary Intervention Strategies in Patients With Stable Coronary Artery Disease

Toshiaki Toyota, MD; Takeshi Morimoto, MD; Hiroki Shiomi, MD; Kenji Ando, MD; Koh Ono, MD; Satoshi Shizuta, MD; Takao Kato, MD; Naritatsu Saito, MD; utaka Furukawa, MD; Yoshihisa Nakagawa, MD; Minoru Horie, MD; Takeshi Kimura, MD on behalf of the CREDO-Kyoto PCI/CABG Registry Cohort-2 Investigators



	Ad hoc PCI	Non-ad hoc PCI	P value
No. of patients	1,722	5,221	
Overall PCI procedures			
Successful PCI	1,686/1,722 (98)	5,028/5,221 (96)	0.001
Index PCI procedure			
Successful PCI	1,678/1,722 (97)	4,993/5,221 (96)	<0.001
Intraprocedural complications	162/1,722 (9.4)	381/5,221 (7.3)	0.005
Side-branch obstruction	52/1,722 (3.0)	168/5,221 (3.2)	0.68
Slow-flow	68/1,722 (4.0)	138/5,221 (2.6)	0.006
Contrast media (mL)*	170 (112–233)	150 (102–210)	0.01
Fluoroscopy time (s)*	1,978 (1,626–2,445)	1,572 (979–2,529)	0.07

	No. of patients with event cumulative incidence (%)	P value	Crude HR (95% CI)	P value	Adjusted HR (95% CI)	P value
	Ad hoc vs. Non-ad hoc					
No. of patients	1,722 vs. 5,221					
30-day outcomes						
All-cause death	11 (0.6) vs. 14 (0.3)	0.03	2.39 (1.16–5.26)	0.04	–	–
Cardiac death	11 (0.6) vs. 11 (0.2)	0.006	NA			
Non-cardiac death	0 (0.0) vs. 3 (0.006)	0.32	NA			
Myocardial infarction	18 (1.1) vs. 46 (0.9)	0.54	1.19 (0.67–2.01)	0.54	–	–
Stent thrombosis	4 (0.2) vs. 17 (0.3)	0.54	0.71 (0.21–1.93)	0.53		
Stroke	4 (0.2) vs. 21 (0.4)	0.31	0.58 (0.17–1.52)	0.29	–	–
Any coronary revascularization	39 (2.3) vs. 71 (1.4)	0.009	1.68 (1.13–2.47)	0.01	–	–
CABG	12 (0.7) vs. 27 (0.5)	0.39	1.36 (0.66–2.61)	0.39	–	–
Bleeding	35 (2.0) vs. 90 (1.7)	0.40	1.18 (0.79–1.73)	0.40	–	–

Circ J 2017; 81: 458–467

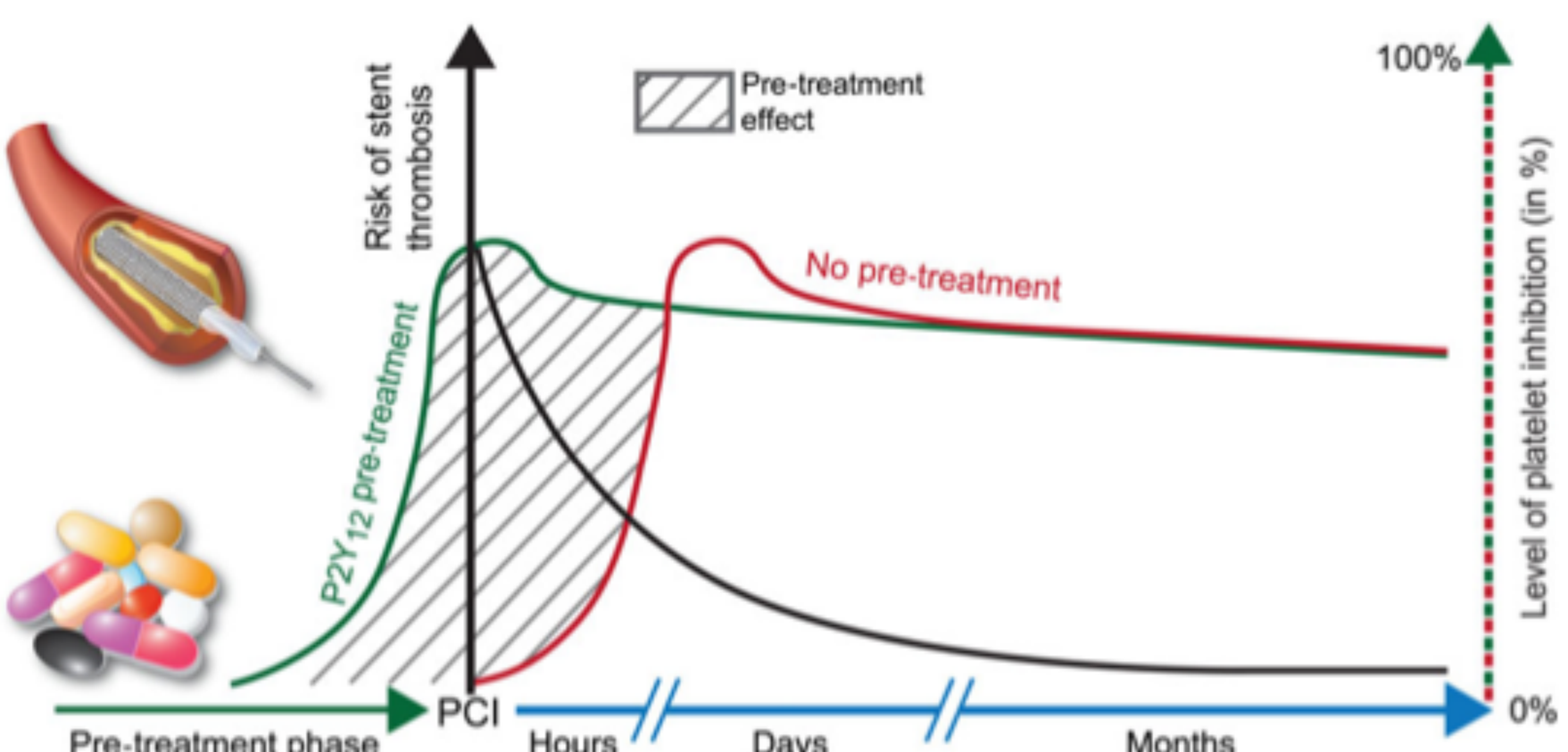
2018 ESC/EACTS Guidelines on myocardial revascularization

Patients must have the time to reflect on the trade-offs imposed by the outcome estimates. In order to seek a second opinion or to discuss the findings and consequences with referring physicians, enough time should be allowed—up to several days, as required—between diagnostic catheterization and intervention. These recommendations pertain to patients in a stable condition, for whom various treatment options exist and who can make a decision without the constraints of an urgent or emergent situation (*Table 3*). The

Although it is not advisable for *ad hoc* PCI to represent the default approach for complex SCAD, it may be justified if a full diagnostic work-up, including functional testing, is available and the patient is adequately informed on both percutaneous and surgical myocardial revascularization options

« Stable patients with complex CAD, as reflected by a high SYNTAX score, should in general be discussed by the Heart

Pré traitement



European Heart Journal (2016) 37, 1284–1295

Table I Characteristics and pharmacological properties of available oral and intravenous $P2Y_{12}$ receptor inhibitors

	Oral administration			Intravenous administration
	Clopidogrel	Prasugrel	Ticagrelor	Cangrelor
Drug class	Thienopyridine	Thienopyridine	Cyclopentyltriazolo-pyrimidine	ATP analogue
Reversibility	Irreversible	Irreversible	Reversible	Reversible
P2Y12 receptor interaction	Competitive	Competitive	Allosteric, non-competitive	Competitive
Bioactivation	Yes (pro-drug, CYP dependent, two steps)	Yes (pro-drug, CYP dependent, one step)	No*	No
(Pre-treatment)-dose	300/600 mg LD, 75 mg MD	60 mg LD, 5/10 mg MD	180 mg LD, 2 × 90 mg MD	30 μg/kg i.v. bolus, 4 μg/kg/min i.v. infusion for PCI
Onset of effect	Delayed: 2–6 h	Rapid: 30 min–4 h	Rapid: 30 min–2 h	Immediate: 2 min
Duration of effect	3–10 days	5–10 days	3–4 days	30–60 min
Delay to surgery	5 days	7 days	5 days	No significant delay
Price	0.50 €/day	2.88 €/day	3.34 €/day	350 €/vial

- DONC si on PRECHARGE sur table: QUE AVEC DU TICA!!!
- Balance bénéfice/risque et COUT HORS SCA, lésions complexes???

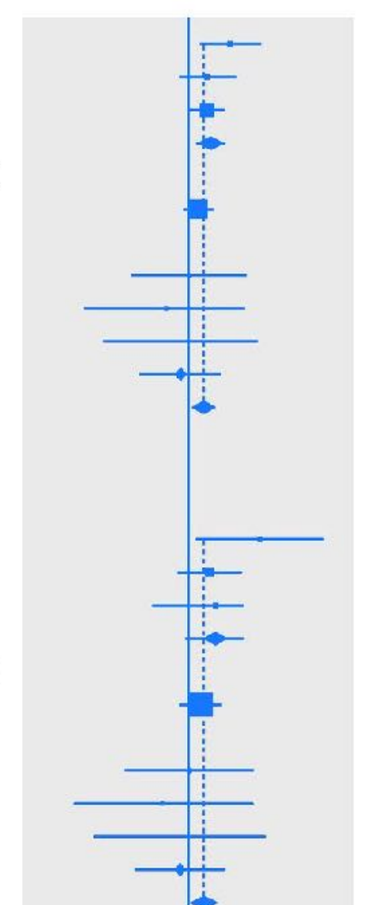
2018 ESC/EACTS Guidelines on myocardial revascularization

Pre-treatment and antiplatelet therapy		
Treatment with 600 mg clopidogrel is recommended in elective PCI patients once the coronary anatomy is known and a decision is made to proceed with PCI.[667,679,680]	I	A
Pre-treatment with clopidogrel may be considered if the probability of PCI is high.	IIb	C

For routine clopidogrel pre-treatment (administration of the drug when the coronary anatomy is unknown), there is no compelling evidence for a significant clinical benefit in SCAD patients. Thus, pre-treatment may only be an option in selected patients with high probability of PCI or before staged PCI procedures.

Major bleeding for all patients with non-ST elevation acute coronary syndrome (ACS) (top) and those who underwent percutaneous coronary intervention (PCI) (bottom) comparing pretreatment with P2Y12 inhibitors versus no pretreatment.

Study	No of events/patients: Pretreatment	No of events/patients: No pretreatment	Odds ratio (95% CI)	Weight (%)	Odds ratio (95% CI)	I^2 value (%) (P value)
Analysis of all patients						
Randomized controlled trials						
ACCOAST*	52/2037	27/1996		9·5	1·91 (1·20 to 3·05)	0 (P=0.40)
CREDO*	50/1053	38/1063		11·3	1·34 (0·87 to 2·07)	
CURE	125/6259	95/6303		28.9	1·33 (1·02 to 1·74)	
Subtotal	227/9349	160/9362		49.7	1·43 (1·16 to 1·76)	
Observational analysis of randomized controlled trial						
ACUITY	258/5753	128/3304		44·7	1·16 (0·94 to 1·45)	
Observational studies						
Assali et al	26/235	7/64		2·7	1·01 (0·42 to 2·45)	0 (P=0.89)
Feldman et al	4/467	7/574		1·4	0·70 (0·20 to 2·41)	
Chan et al	36/4477	3/332		1·5	0·89 (0·27 to 2·90)	
Subtotal	66/5179	17/970		5.5	0·89 (0·48 to 1·65)	
Total	551/20 281	305/13 636		100.0	1·27 (1·10 to 1·47)	0 (P=0.52)
Analysis of PCI treated patients only						
Randomized controlled trials						
ACCOAST†	19/1397	7/1376		5·4	2·70 (1·13 to 6·44)	25 (P=0.27)
CREDO†	50/1053	38/1063		21·9	1·34 (0·87 to 2·07)	
PCI-CURE	21/1313	19/1345		10·4	1·13 (0·61 to 2·12)	
Subtotal	90/3763	64/3784		37.7	1·45 (0·97 to 2·15)	
Observational analysis of randomized controlled trial						
ACUITY-PCI	188/3511	70/1528		51.5	1·18 (0·89 to 1·56)	
Observational studies						
Assali et al	26/235	7/64		5·2	1·01 (0·42 to 2·45)	0 (P=0.89)
Feldman et al	4/467	7/574		2·7	0·70 (0·20 to 2·41)	
Chan et al	36/4477	3/332		2·9	0·89 (0·27 to 2·90)	
Subtotal	66/5179	17/970		10.8	0·89 (0·48 to 1·65)	
Total	344/12 453	151/6282		100.0	1·23 (1·00 to 1·50)	0 (P=0.58)



*Coronary artery bypass graft (CABG) and non-CABG
†Non-CABG

BMJ 2014;349:bmj.g6269

	Diagnosis of CAD	
	Sensitivity (%)	Specificity (%)
Exercise ECG [a, 91, 94, 95]	45–50	85–90
Exercise stress echocardiography[96]	80–85	80–88
Exercise stress SPECT[96–99]	73–92	63–87
Dobutamine stress echocardiography[96]	79–83	82–86
Dobutamine stress MRI[b,100]	79–88	81–91
Vasodilator stress echocardiography[96]	72–79	92–95
Vasodilator stress SPECT[96, 99]	90–91	75–84
Vasodilator stress MRI[b,98, 100–102]	67–94	61–85
Coronary CTA[c,103–105]	95–99	64–83
Vasodilator stress PET[97, 99, 106]	81–97	74–91

Pourquoi je ne fais pas…
(non peu!) d'ADHOC
(chez le coronarien STABLE)?

- Pas de bénéfice prouvé
- Analyse moins exhaustive de l'anatomie coronaire
- Gain de temps?
    - Patient? (pas recevable)
    - Médecin? (encore moins)
    - Pression de l'établissement? (qui ne nous soutiendra jamais…)
- VOIE D'ABORD COMPLEXE (peut être)

Pourquoi je ne fais pas…
(non peu!) d'ADHOC
(chez le coronarien STABLE)?

- **PARCE QUE JE NE PRETRAITE PAS mes patients STABLES si je ne connais pas l'anatomie!!!**
    - Tests fonctionnels aux performances discutables
    - Place du COROSCANNER…
- Risque HEMORRAGIQUE NON NEGLIGEABLE (toujours SIGNIFICATIFS dans les etudes SCA)