



# Angioplastie du Tronc Commun Gauche en

## Tunisie: Quelles Spécificités?

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Service de cardiologie

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## 2014 ESC/EACTS Guidelines on myocardial revascularization

The Task Force on Myocardial Revascularization of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS)

### Indications for revascularization in patients with stable angina or silent ischaemia

Extent of CAD (anatomical and/or functional)		Class <sup>b</sup>	Level <sup>c</sup>	References
For prognosis	Left main disease with stenosis >50% <sup>a</sup>	I	A	108,134,135
	Any proximal LAD stenosis >50% <sup>a</sup>	I	A	94,108,135,136
	Two-vessel or three-vessel disease with stenosis > 50% <sup>a</sup> with impaired LV function (LVEF<40%) <sup>a</sup>	I	A	93,94,108,112,121,135,137–142
	Large area of ischaemia (>10% LV)	I	B	54,91,97,99,143,144
	Single remaining patent coronary artery with stenosis >50% <sup>a</sup>	I	C	
For symptoms	Any coronary stenosis >50% <sup>a</sup> in the presence of limiting angina or angina equivalent, unresponsive to medical therapy	I	A	54,96,105,108,118–120,145



## 2014 ESC/EACTS Guidelines on myocardial revascularization

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Recommendation for the type of revascularization (CABG or PCI) in patients with SCAD with suitable coronary anatomy for both procedures and low predicted surgical mortality

Recommendations according to extent of CAD	CABG		PCI		Ref <sup>b</sup>
	Class <sup>a</sup>	Level <sup>a</sup>	Class <sup>a</sup>	Level <sup>a</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

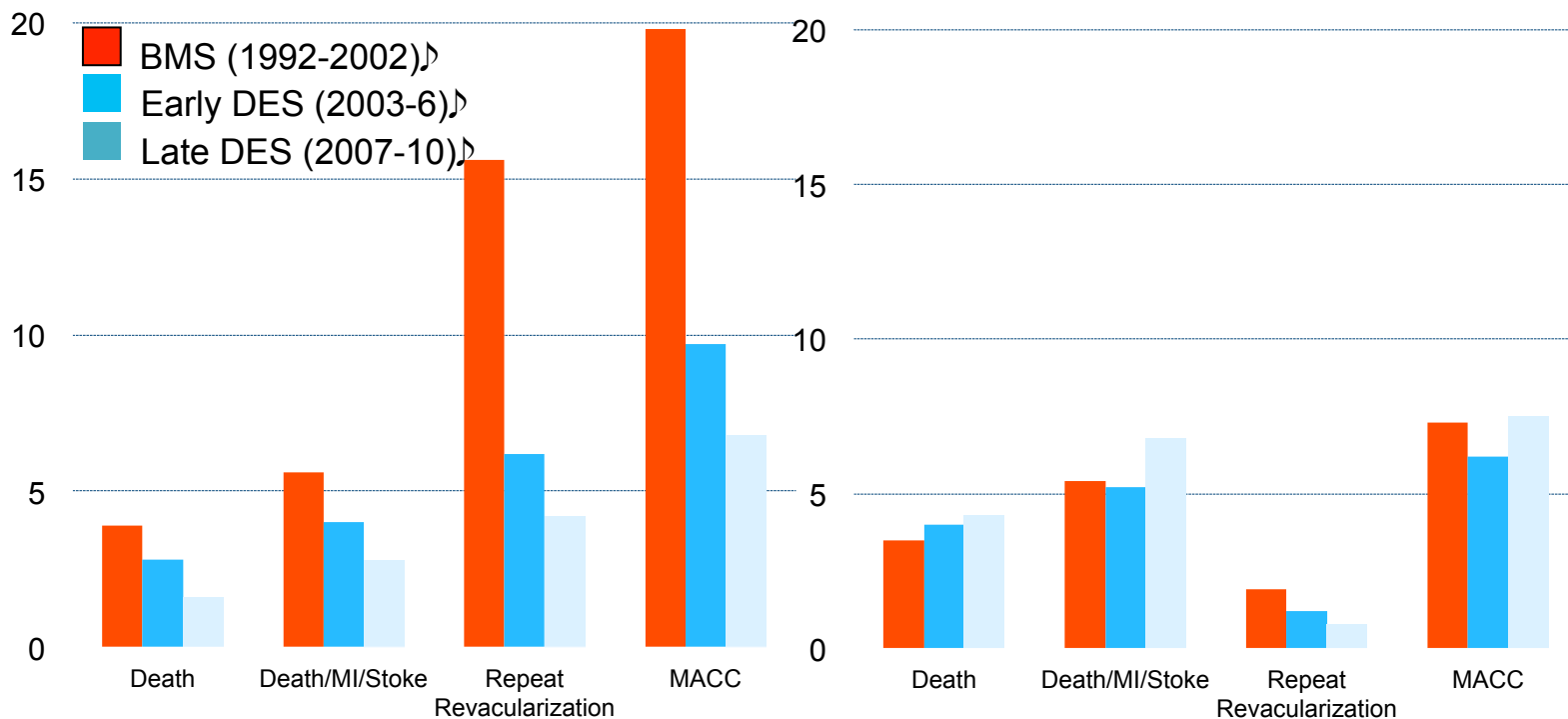
Data from ASAN MAIN registry (n=2,360), 2014

# Unadjusted 2-Year Incidence Rate (Per 100 Person-Year)



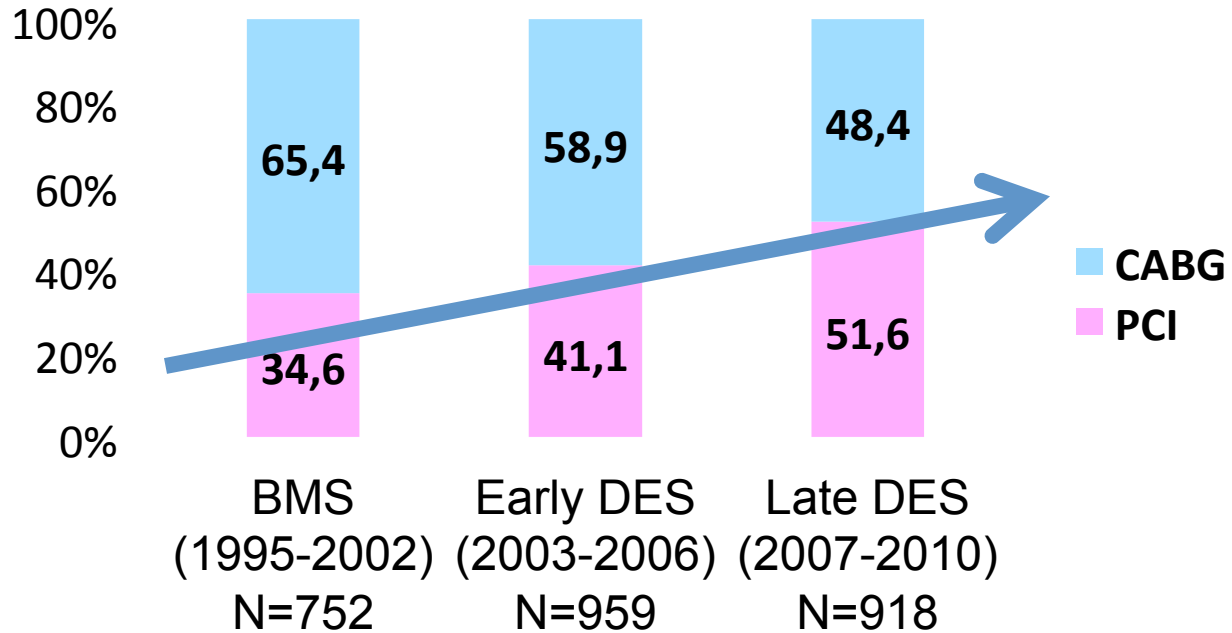
**PCI**

**CABG**





# Augmentation du recours à ATC dans les lésions du TC





# Deux centres Tunisiens

## Service de cardiologie CHU Abderrahmen Mami-Ariana

- Ouverture de la salle de KT en 2012
- FFR
- OCT
- 3 opérateurs
- 2012-2017: 126 angioplasties du TC gauche non protégés
- Centre chirurgicale

## Service de cardiologie CHU Hedi Chaker- Sfax

- Plusieurs opérateurs
- Pas de FFR, ni IVUS/OCT
- 2002-2013: 110 pts
- 2013-2015: 43 pts
- Total de 153 pts.
- Centre de chirurgie



**EXISTE T'IL DES SPÉCIFICITÉS TUNISIENNES?**

Everolimus-Eluting Stents or Bypass Surgery for Left Main Coronary Artery Disease

G.W. Stone, J.F. Sabik, P.W. Serruys, C.A. Simonton, P. Généreux, J. Puskas, D.E. Kandzari, M.-C. Morice, N. Lembo, W.M. Brown III, D.P. Taggart, A. Banning, B. Merkely, F. Horkay, P.W. Boonstra, A.J. van Boven, I. Ungi, G. Bogdts, S. Mansour, N. Noisieux, M. Sabaté, J. Pomar, M. Hickey, A. Gershlick, P. Buszman, A. Bochenek, E. Schampaeert, P. Pagé, O. Dressler, I. Kosmidou, R. Mehran, S.J. Pocock, and A.P. Kappetein, for the EXCEL Trial Investigators\*

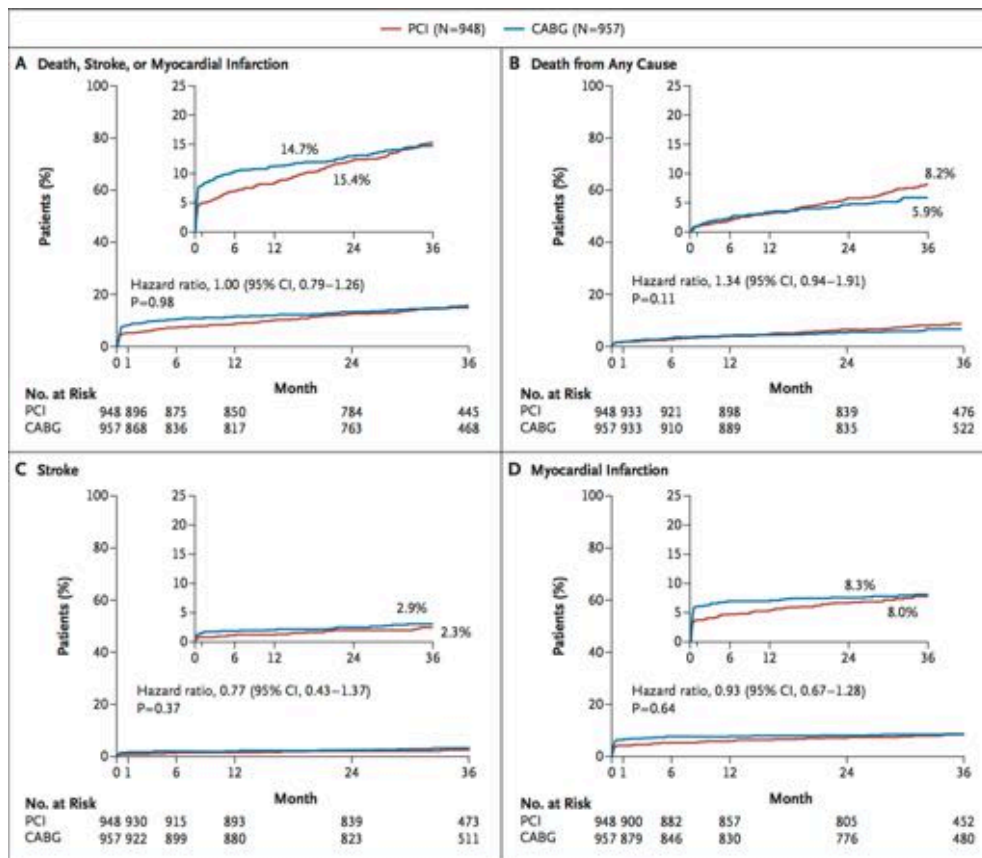


Figure 1. Time-to-Event Curves for the Primary Composite End Point and Its Components.



# Percutaneous coronary angioplasty versus coronary artery bypass grafting in treatment of unprotected left main stenosis (NOBLE): a prospective, randomised, open-label, non-inferiority trial

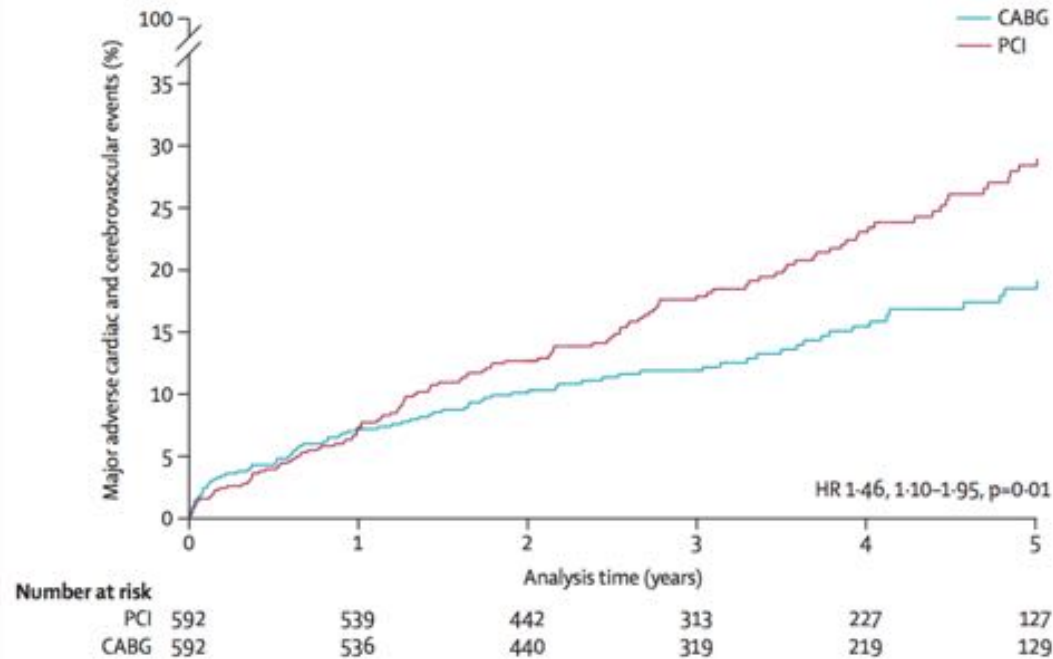
Timo Mäki-Kallio, Niels R Holm, Mitchell Lindsey, Mark S Spence, Andrejs Erglis, Ian B A Menown, Thor Trovik, Markku Eskola, Hannu Rompponen, Thomas Kellerth, Jan Ravkilde, Lisette O Jensen, Gintaras Kalinauskas, Rikard B A Linder, Markku Penttinen, Anders Hervold, Adrian Banning, Auzfar Zaman, James Cotton, Erlend Eriksen, Sulev Margus, Henrik T Sørensen, Per H Nielsen, Matti Niemelä, Kari Kervinen, Jens F Lassen, Michael Maeng, Keith Oldroyd, Geoff Berg, Simon J Walsh, Colm G Hannatty, Indulis Kumsars, Peteris Stradins, Terje K Steigen, Ole Frøbert, Alastair N J Graham, Petter C Endresen, Matthias Corbascio, Olli Kajander, Uday Trivedi, Juha Hartikainen, Vesa Anttila, David Hildick-Smith, Leif Thuesen, Evald H Christiansen, for the NOBLE study investigators\*

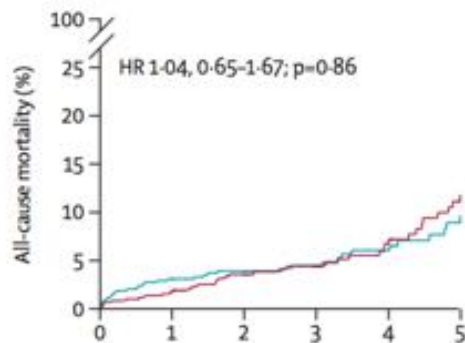


# Percutaneous coronary angioplasty versus coronary artery bypass grafting in treatment of unprotected left main stenosis (NOBLE): a prospective, randomised, open-label, non-inferiority trial



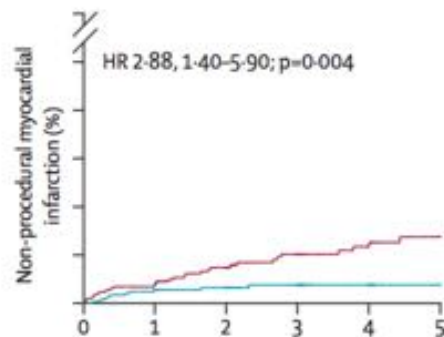
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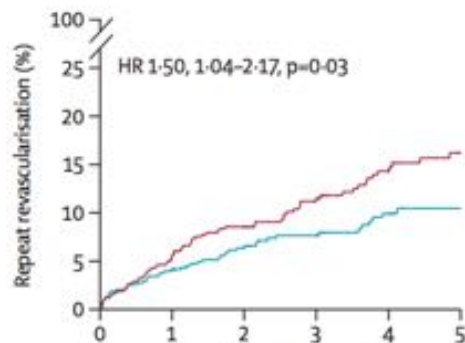


Number at risk

PCI	592	539	442	313	227	127
CABG	592	536	440	319	219	129

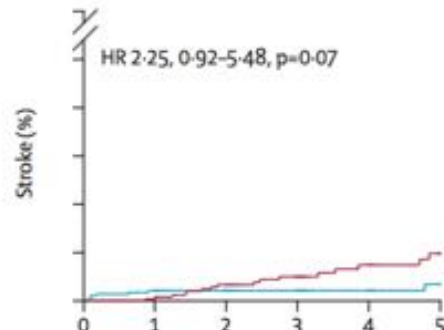


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# CARACTÉRISTIQUES CLINIQUES?



# Caractéristiques cliniques

variables	Ariana	Sfax	Excel	Noble
Age	65 ± 11	63,4 + 11	66,2	66,0
Homme	72%	73%	76%	80%
HTA	51,8%	48%	74,5%	65%
Diabète	<b>44,6%</b>	<b>54,2%</b>	30%	15%
Tabac	<b>54,2%</b>	<b>54,9%</b>	24%	19%



# Présentation clinique

variable	Notre série	Sfax	Excel	Noble
Angor stable	31,3%	23	53,6%	82%
Non STEMI	<b>49,5%</b>	<b>51%</b>	13,2%	16%
STEMI	16,8%	25	1,4%	2%
FEVG	<b>51%</b>	<b>46%</b>	57%	60%

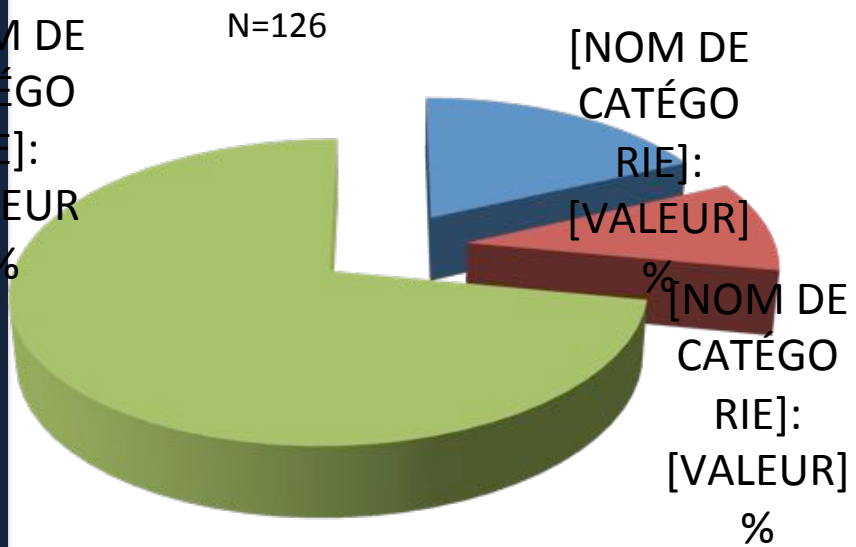


# CARACTÉRISTIQUES ANATOMIQUES DES LÉSIONS DU TC GAUCHE?



# Localisation de la lésion du TC

## Notre série



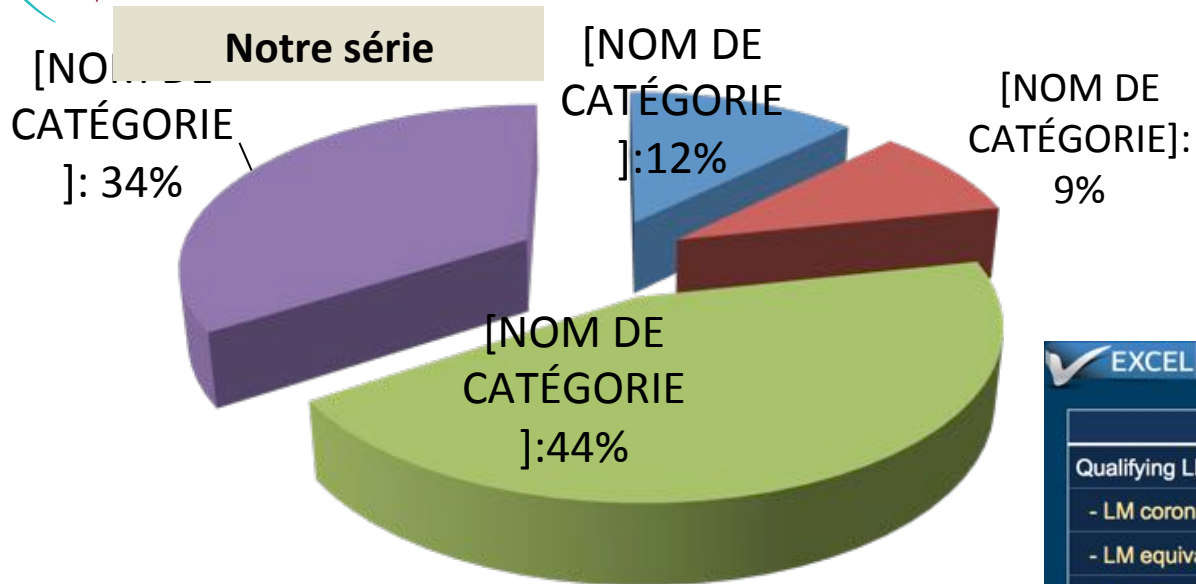
Treatment PCI		NOBLE
LMCA stenting involving ostium and not the bifurcation	59 (10%)	
Shaft LMCA stenting only	11 (2%)	
LMCA bifurcation lesion stenting	508 (88%)	

Excel: 81.8% Distal





# Lésions associées



## Core Lab Data

	PCI (N=942)	CABG (N=936)
Qualifying LM lesion*		
- LM coronary segment	97.6%	97.0%
- LM equivalent disease**	1.2%	1.5%
- Neither	1.3%	1.5%
Distal LM bifurcation or trifurcation ds.	81.8%	79.2%
# Diseased non-LM coronary arteries*		
- 0	17.3%	17.8%
- 1	31.0%	31.2%
- 2	34.5%	31.5%
- 3	17.2%	19.4%

\*DS ≥50% by QCA

\*\*DS of both the ostial left LAD and ostial LCX ≥50% by QCA

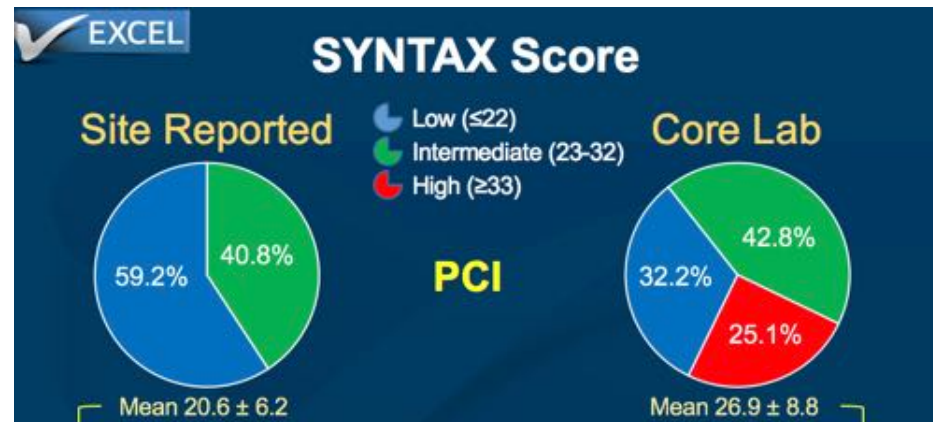


# Syntax score

## Notre série

Syntax score moyen:  $24,4 \pm 7,1$

	Syntax score <22	Syntax score 22-32	Syntax score >32
Avant 2014	43%	46%	10%
Après 2014	44%	36%	20%



Noble

Syntax score moyen:  $22,4 \pm 7,5$



# CARACTÉRISTIQUES PROCÉDURALES

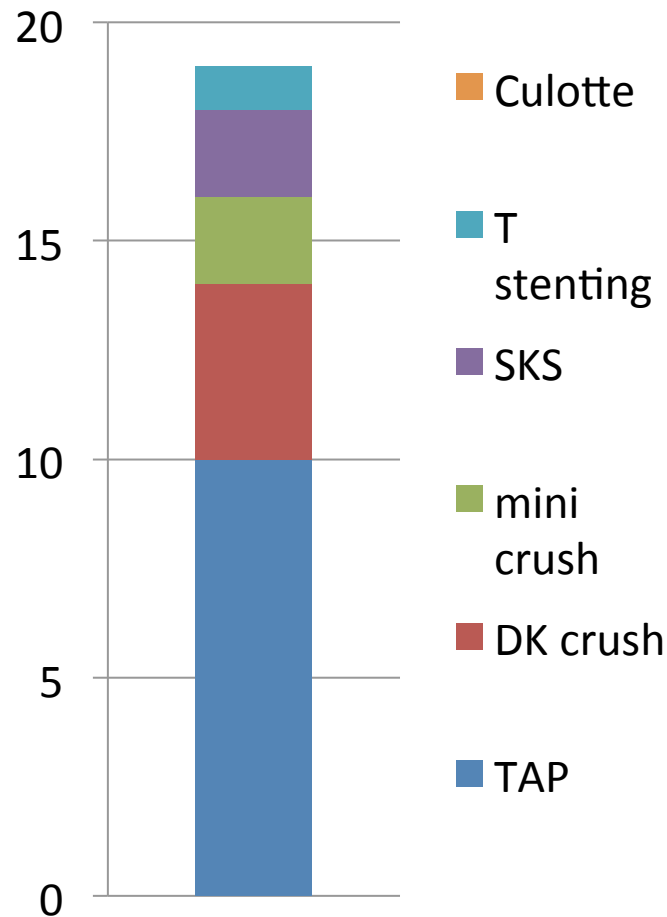
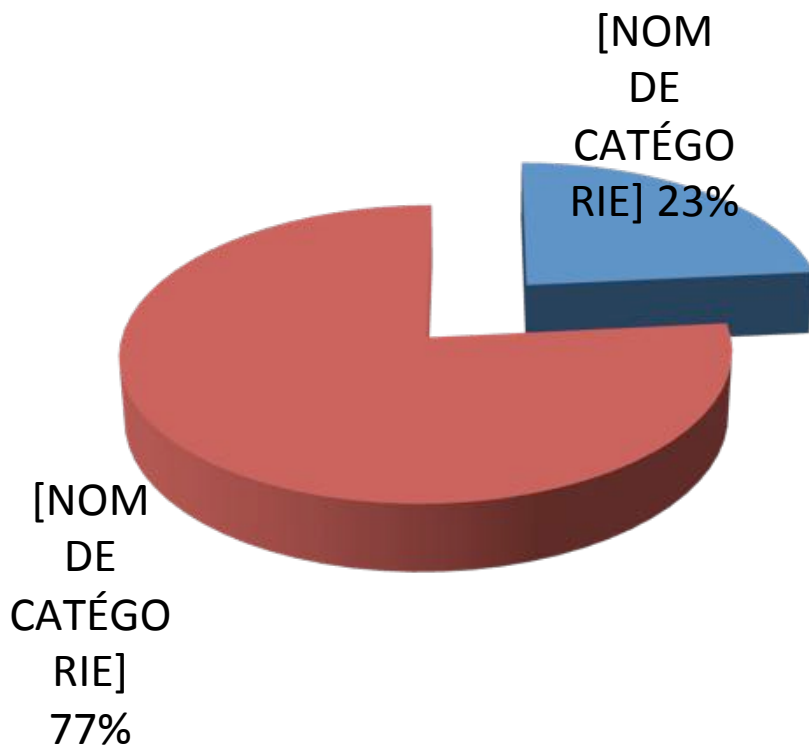


# Caractéristiques procédurales

	Notre série	Sfax	Excel	Noble
Voie radiale	<b>86,7%</b>	<b>32% / 93%</b>	26,9%	ND
Kissing final	54%	35%/48%	ND	55%
POT final	<b>79%</b>		ND	ND
Technique à 2 stents	23,4%	35%/ 7%		35%
Recours IVUS/ OCT	<b>3,2%</b>	<b>0%</b>	77%	74%
Recours FFR	0,7%	0%	9%	
clopidogrel	100%	100%	77%	78%



# Quelles techniques à 2 stents?





# RÉSULTATS IMMÉDIATS ET À MOYEN TERME?



# Résultats immédiats et Complications procédurales et

- Succès immédiat avec un flux TIMI 3 : 100%.
- 1 seule complication per procédurale 0,7%.
- Mortalité hospitalière : aucun cas.



# Résultats à moyen terme

	Notre série 85pts	Sfax	Excel	Noble
Durée de suivi	2,2 ans	6 ans	3 ans	5 ans
MACCE	18%	28,2%	15,4%	29%
Thrombose de stent	1,2%	ND	1,3%	1%
Resténose	8,4%	7,3%	12,6%	13%
stroke	3,7%	ND	2,3%	5%
Mortalité CV	2,4%	8,2%	4,4%	3%





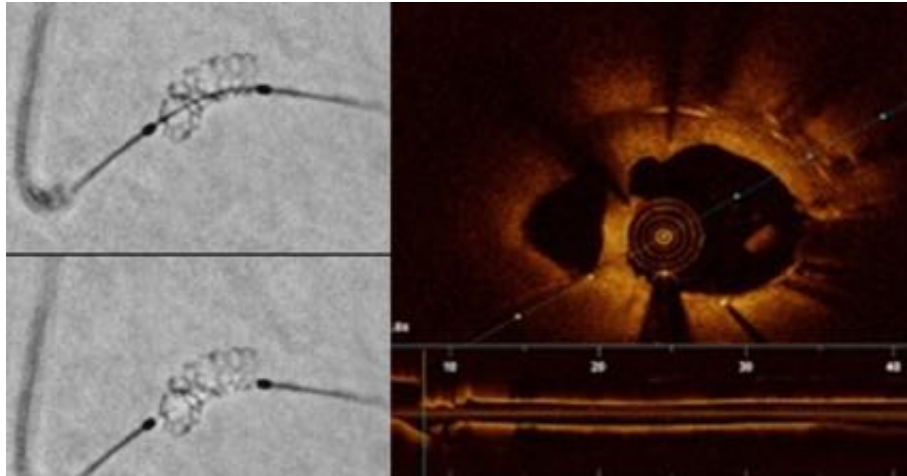
## les facteurs prédictifs de MACCE

	Caractéristiques	Nombre de patients	MACCE	%MACCE	Log rank p
<b>Syntax score</b>	>22	49	13	26,5%	0,056
	<22	34	3	8,8%	
<b>TCD avec sténose de la CX proximale</b>	Oui	16	5	31,2%	0,052
	Non	44	9	20,4%	
<b>EDC</b>	Oui	2	2	100%	0,001
	Non	81	14	17,2%	



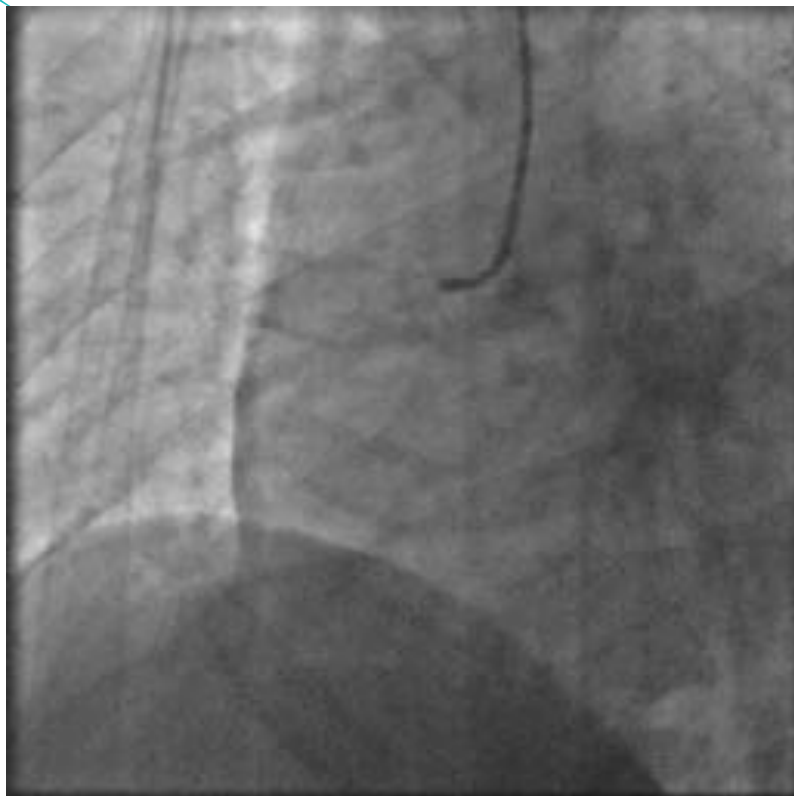
# FFR et OCT

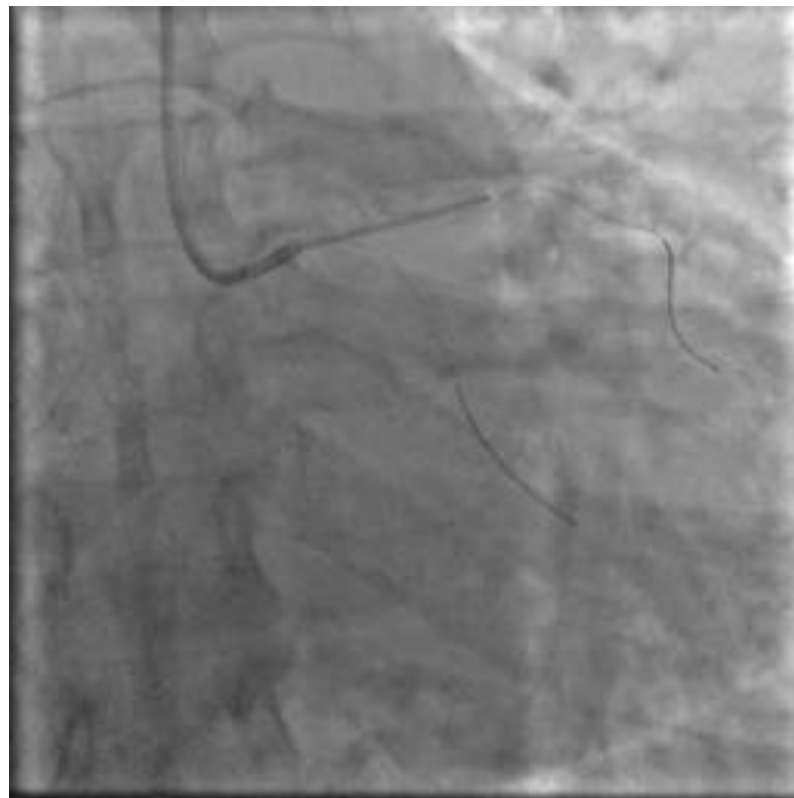
- FFR : 1 patient (0,8).
- OCT : 4 patients (4,8%).

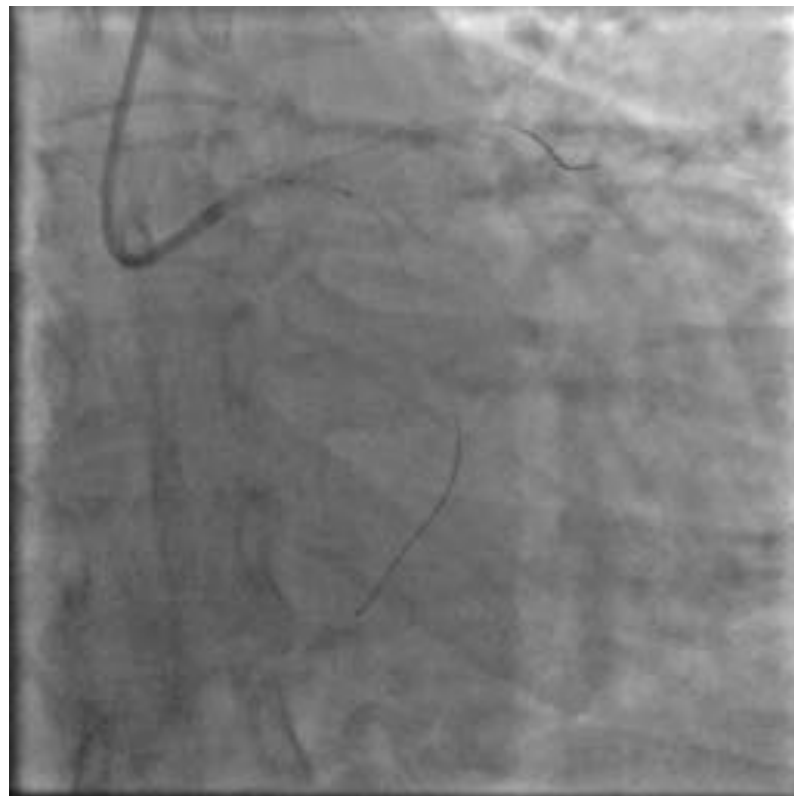
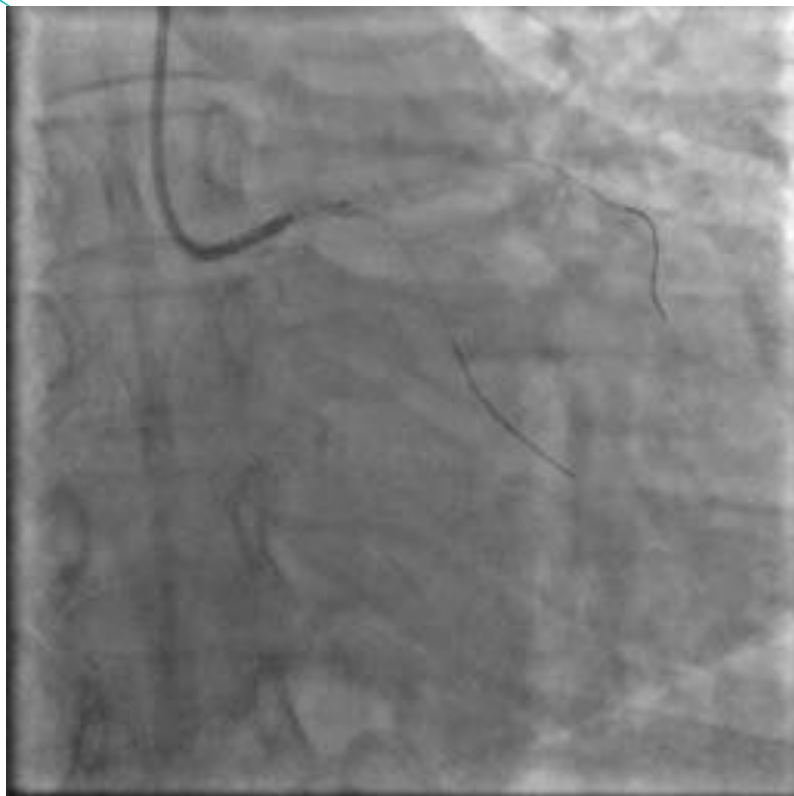


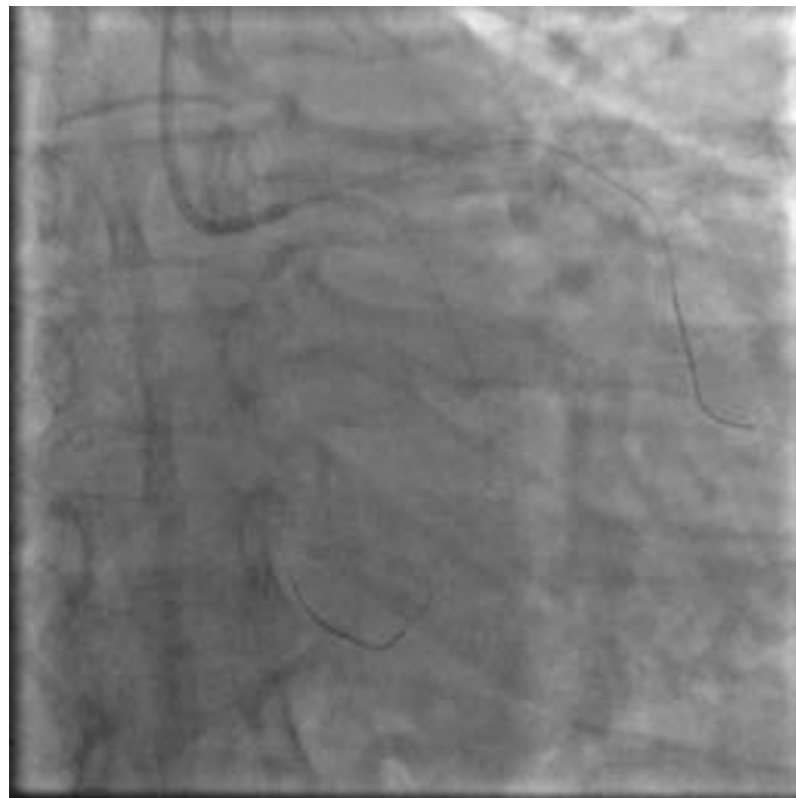
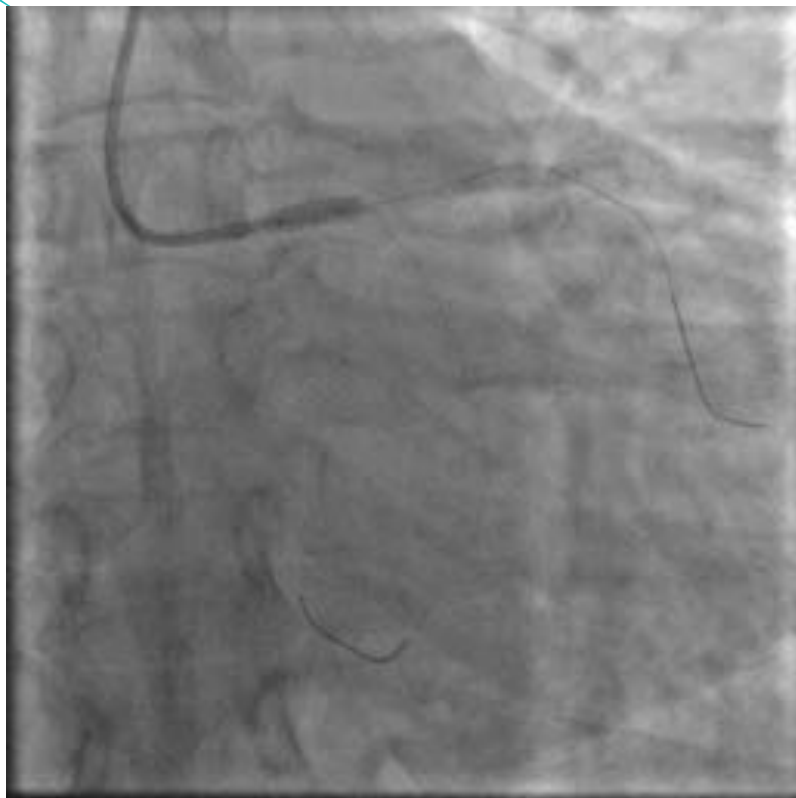


# POT-SIDE-Re-POT



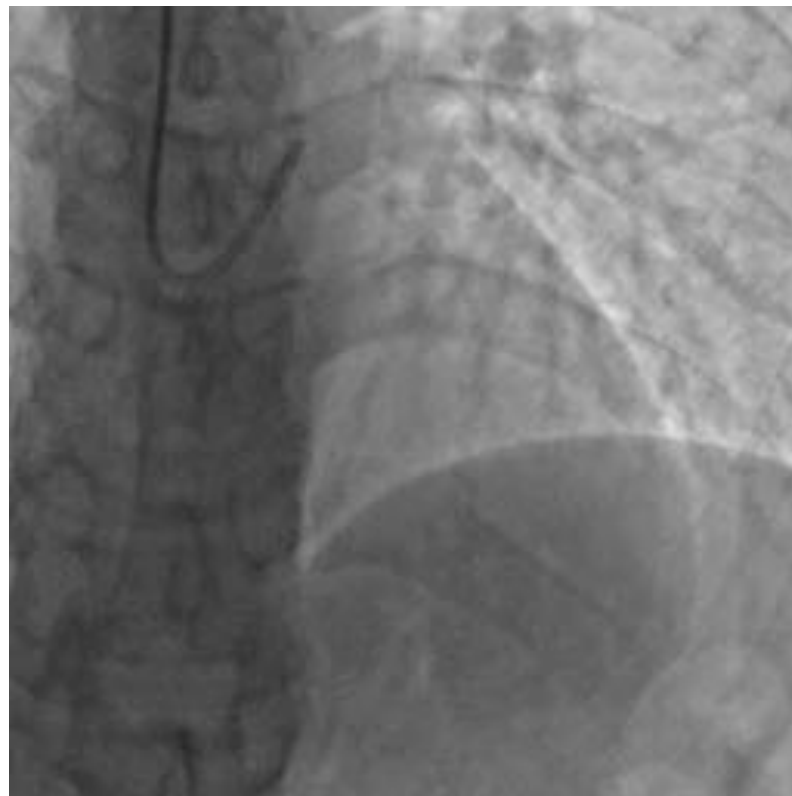
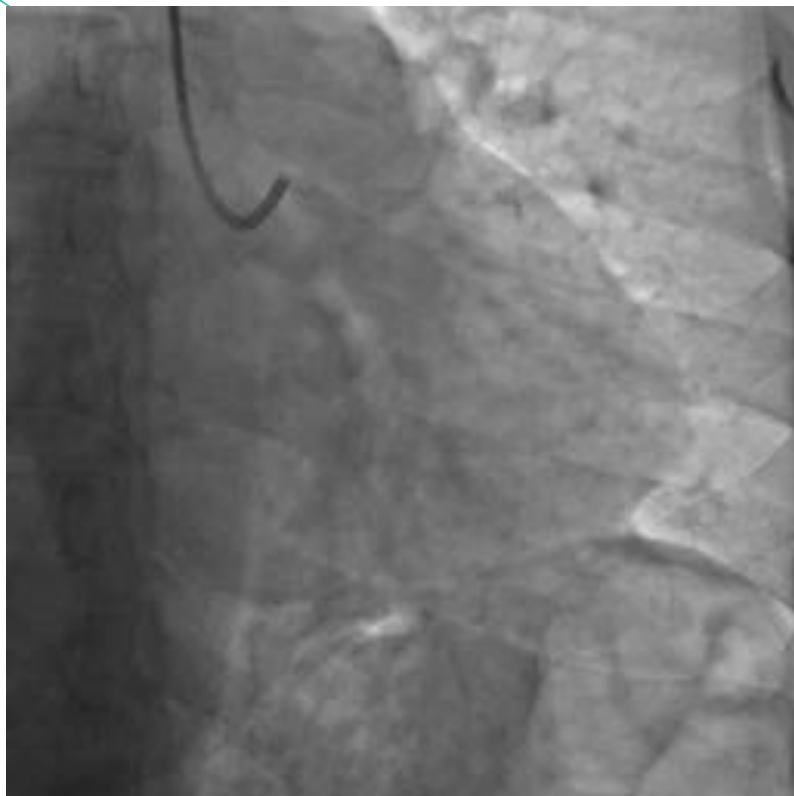


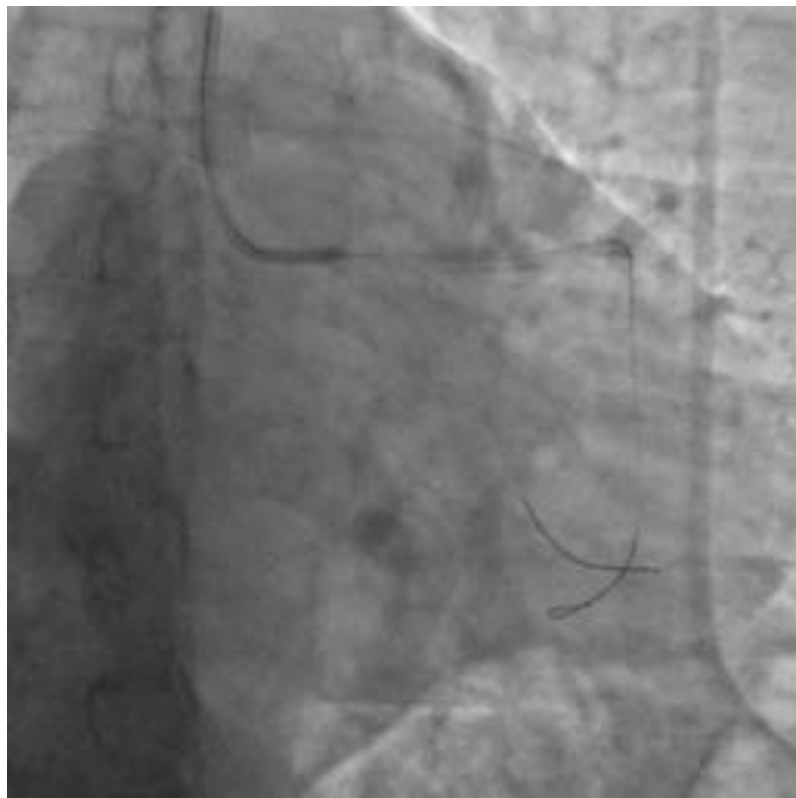




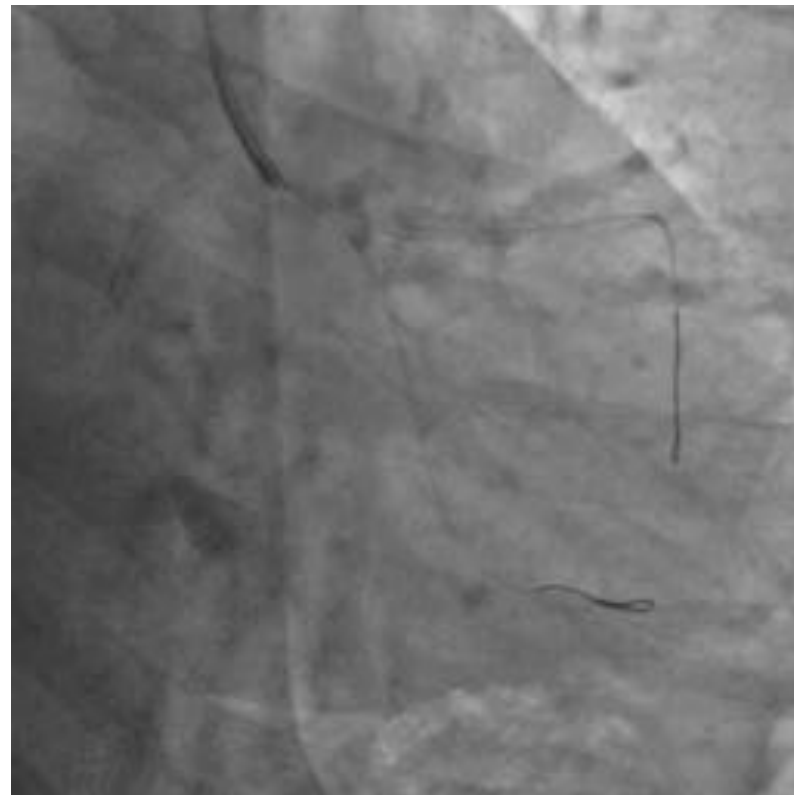
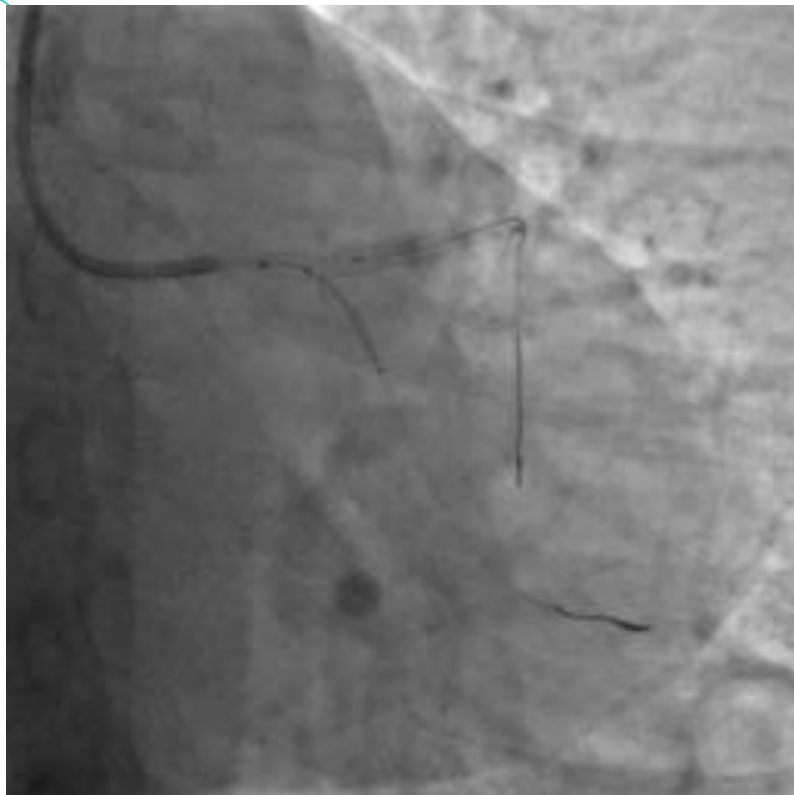


# TAP technique



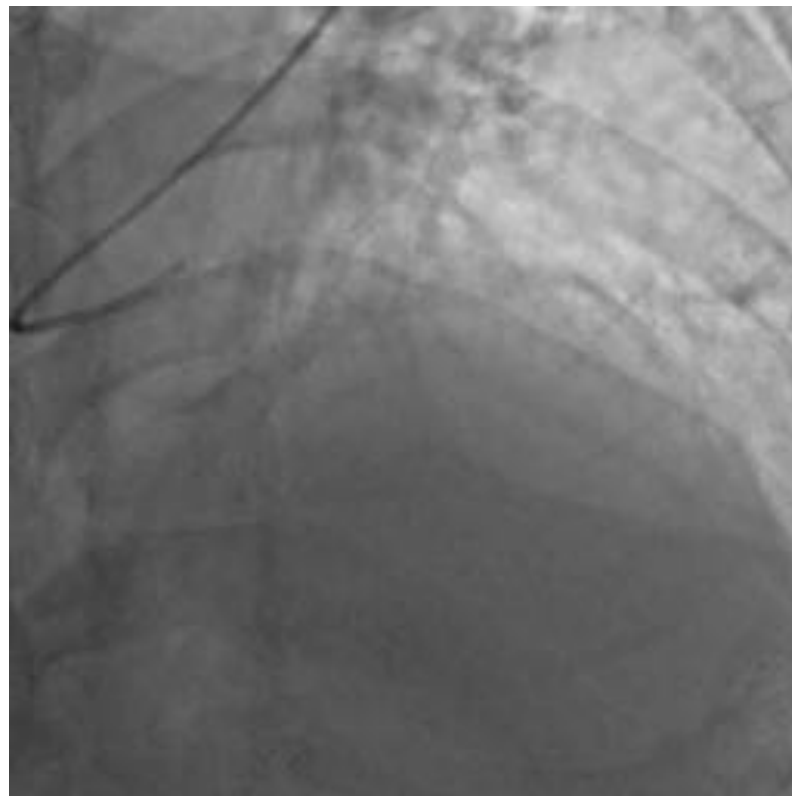
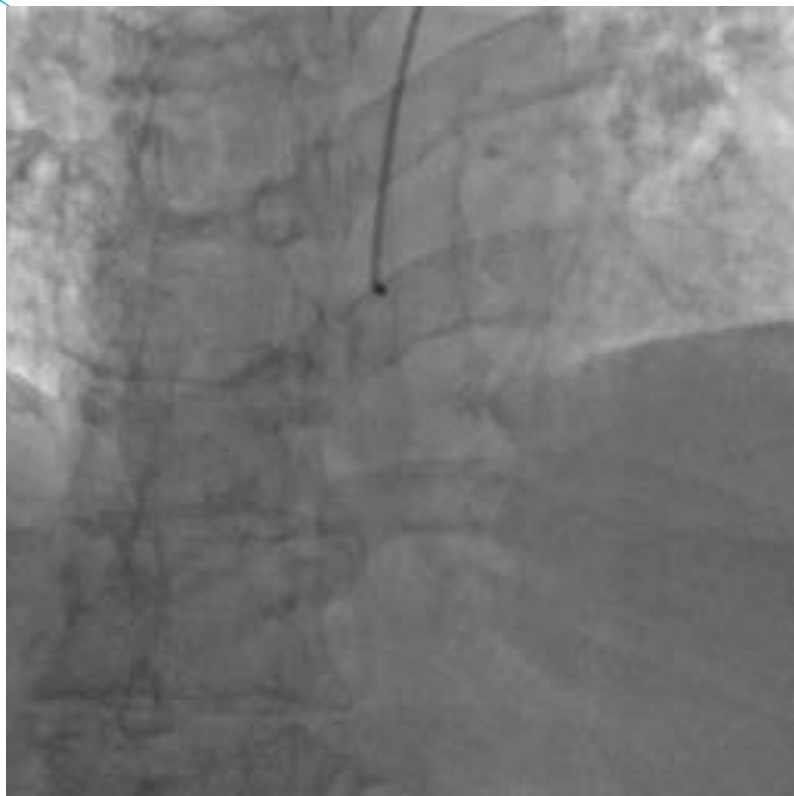


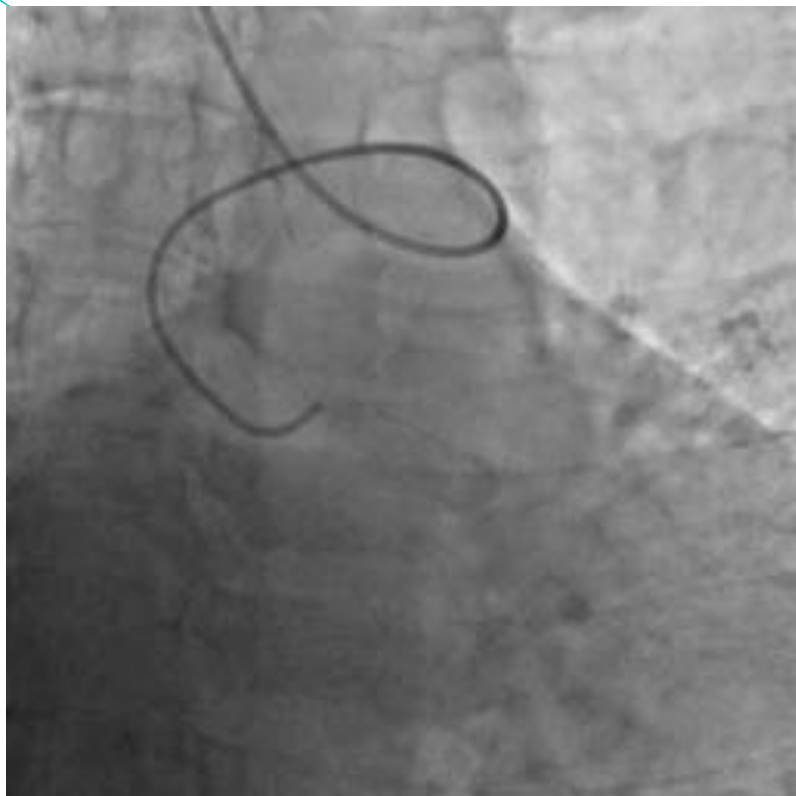


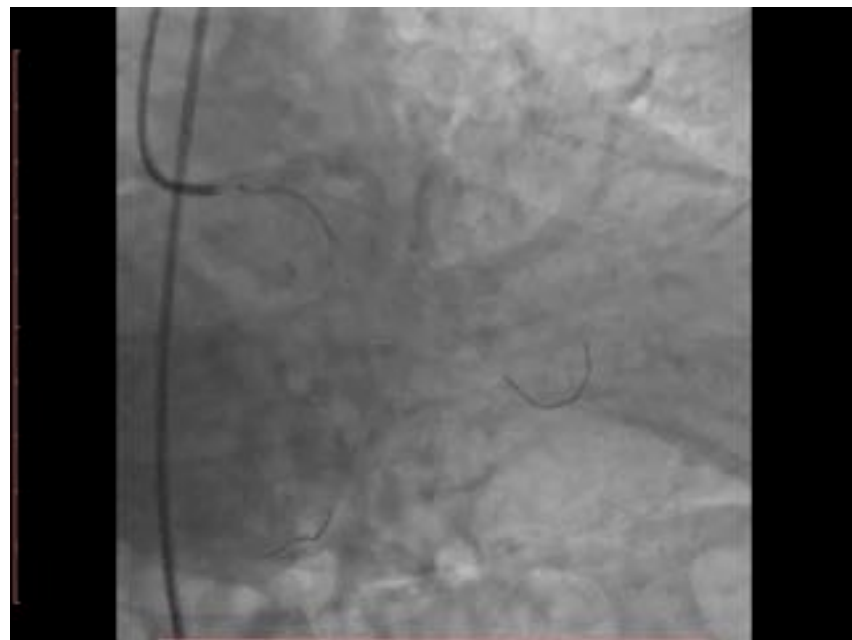
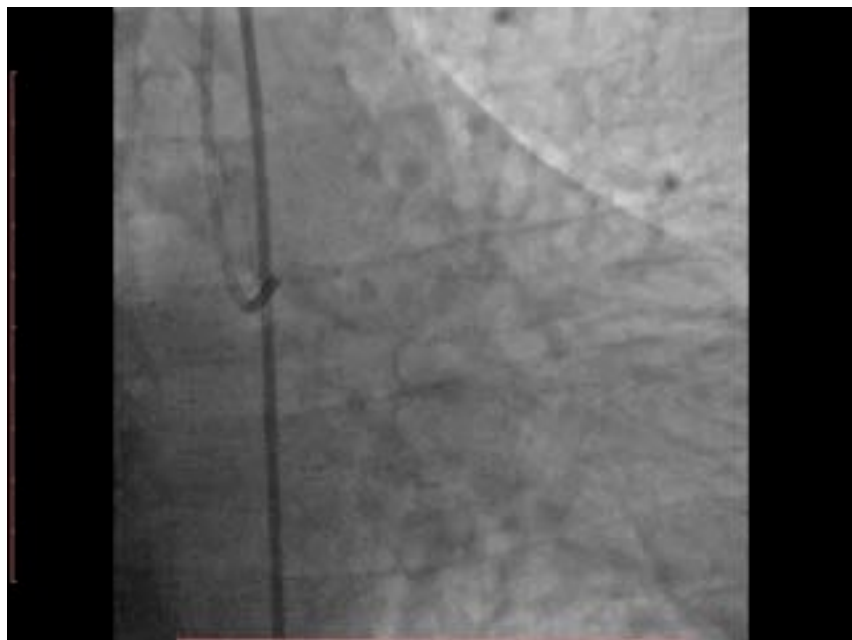


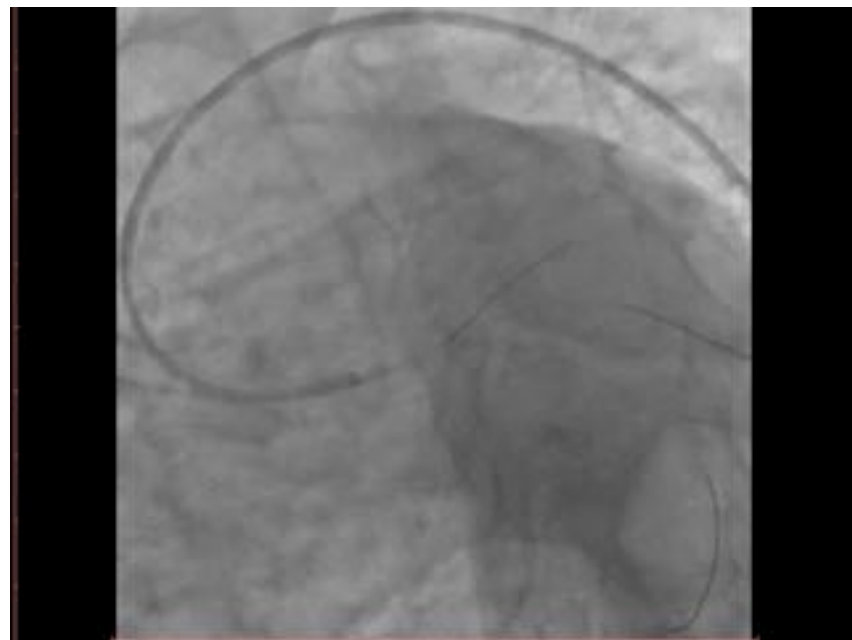
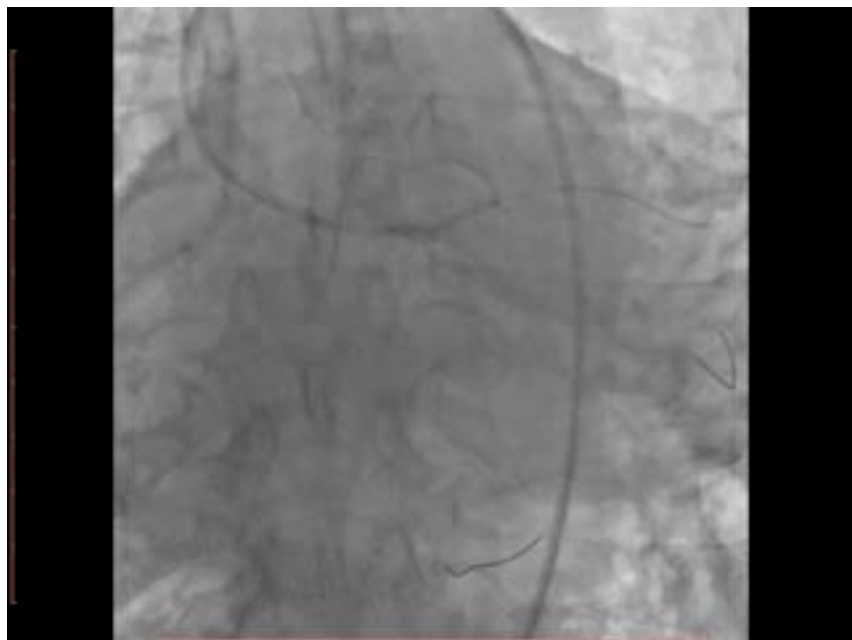


# ATC complexe



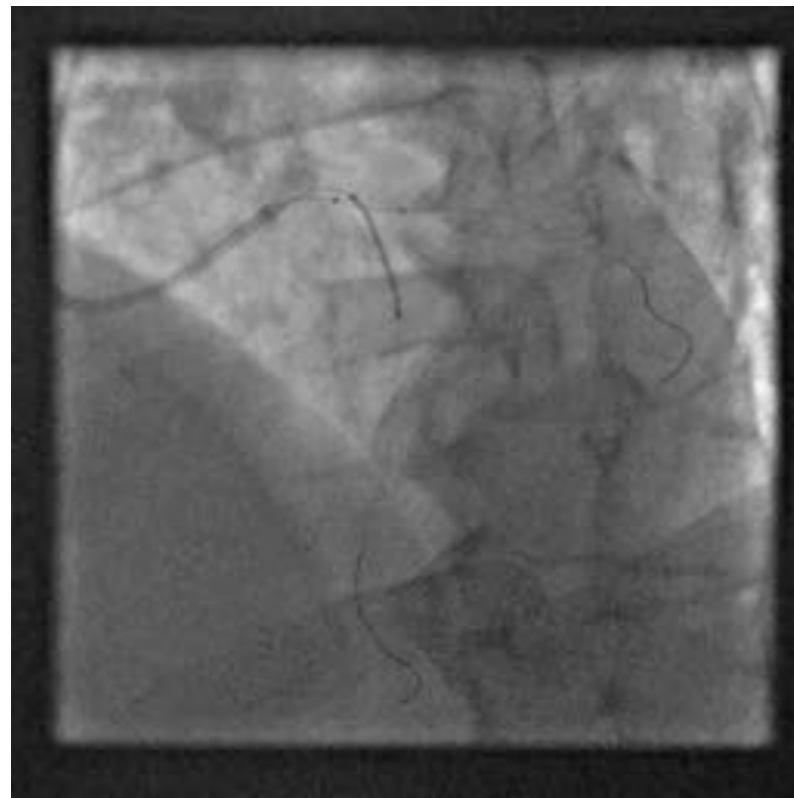
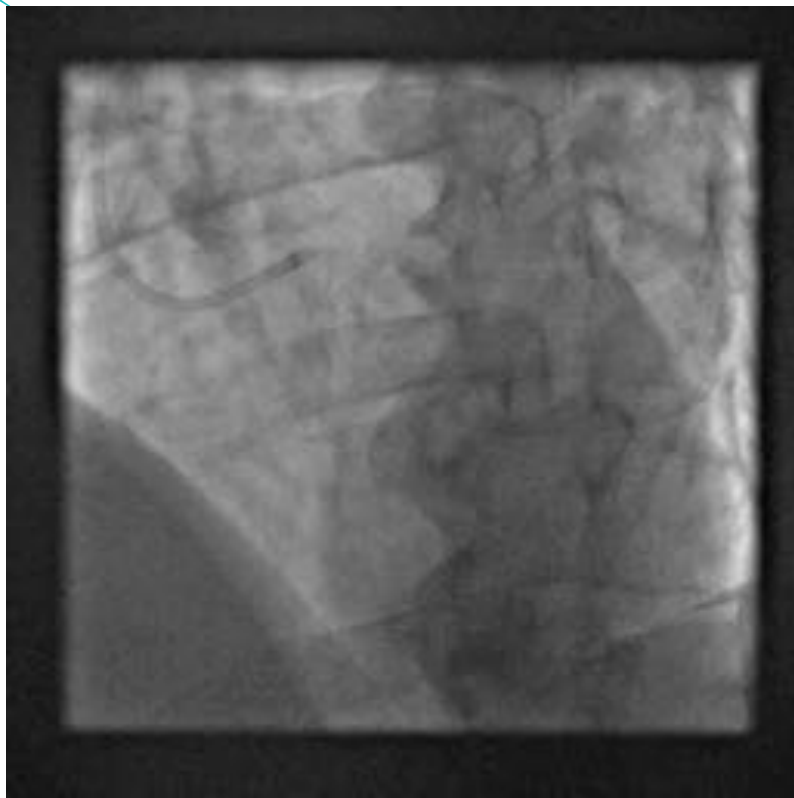


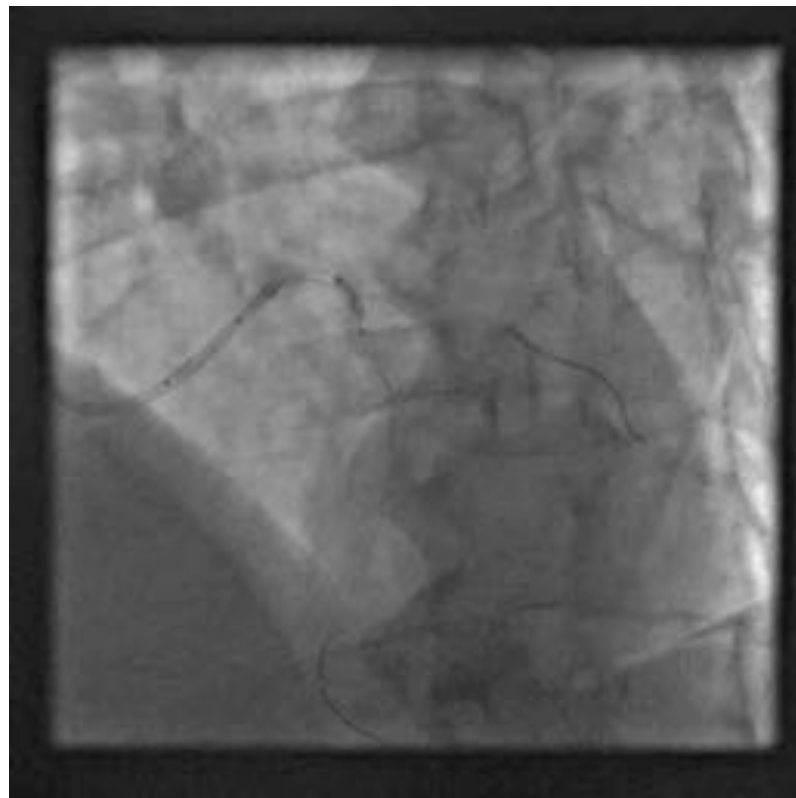
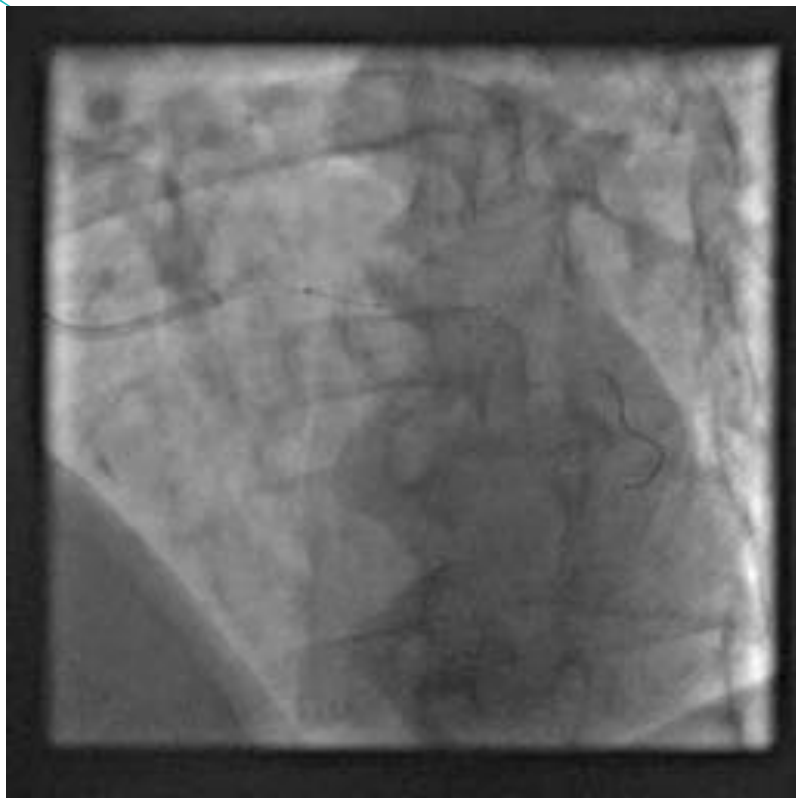


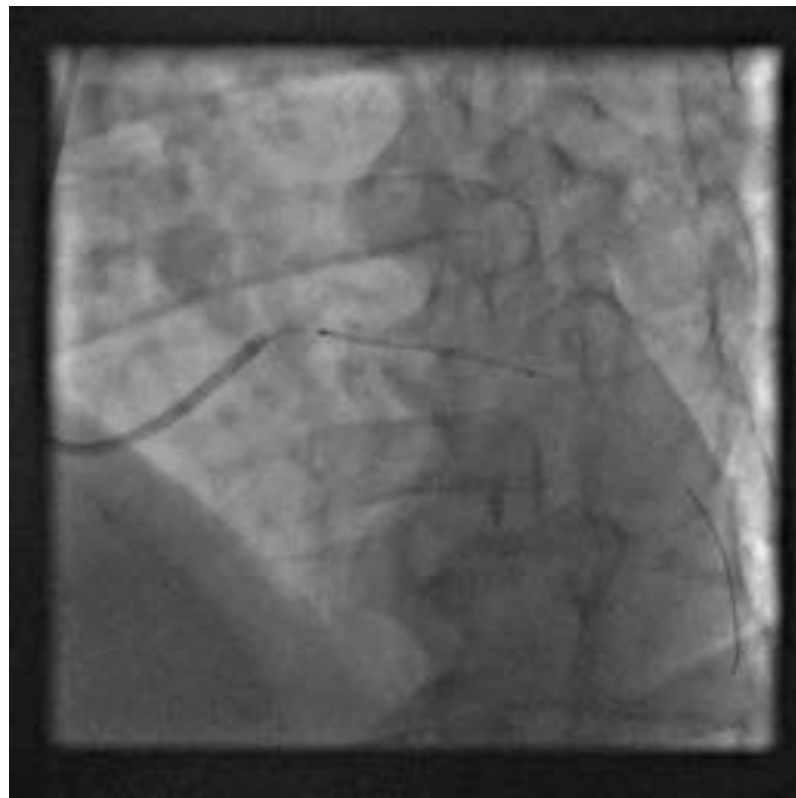
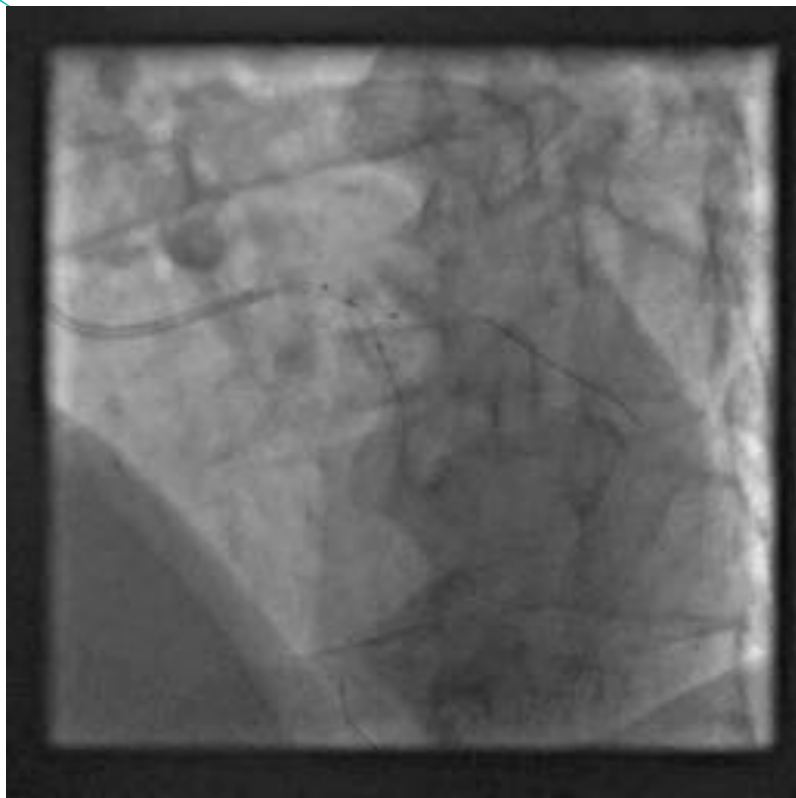




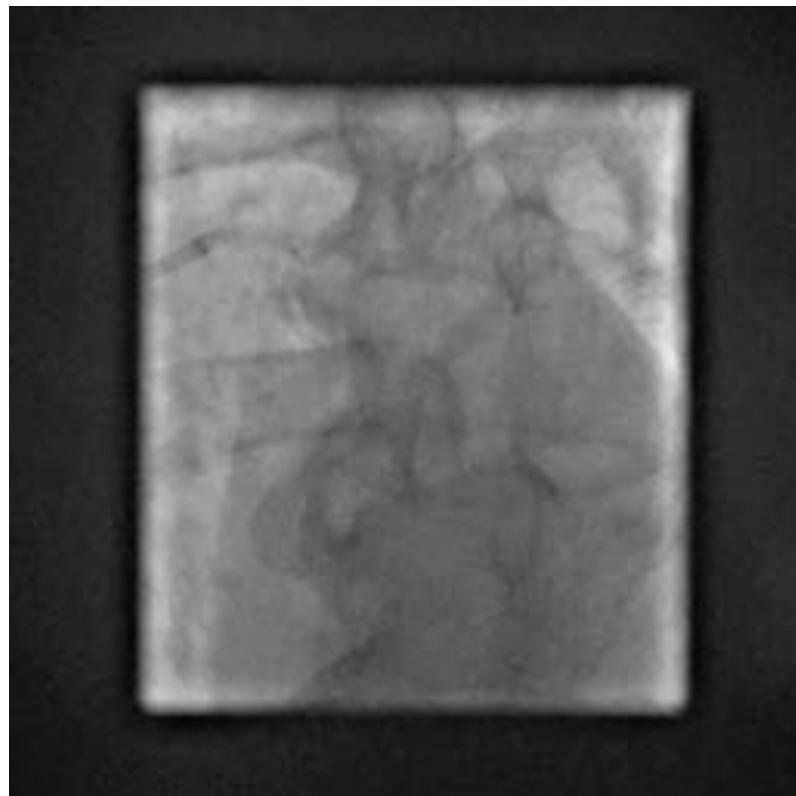
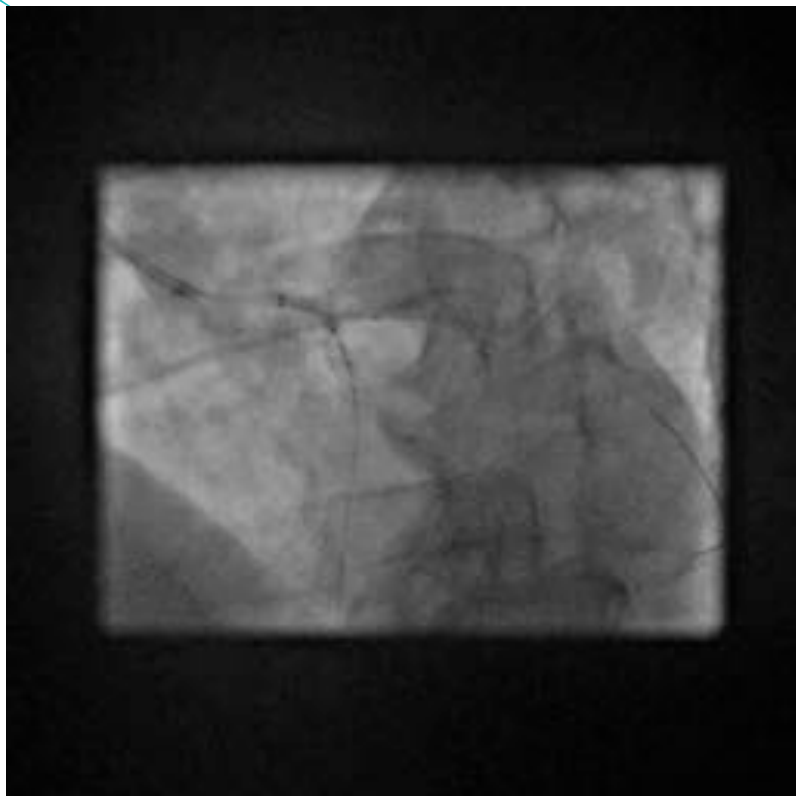
# DK-crush













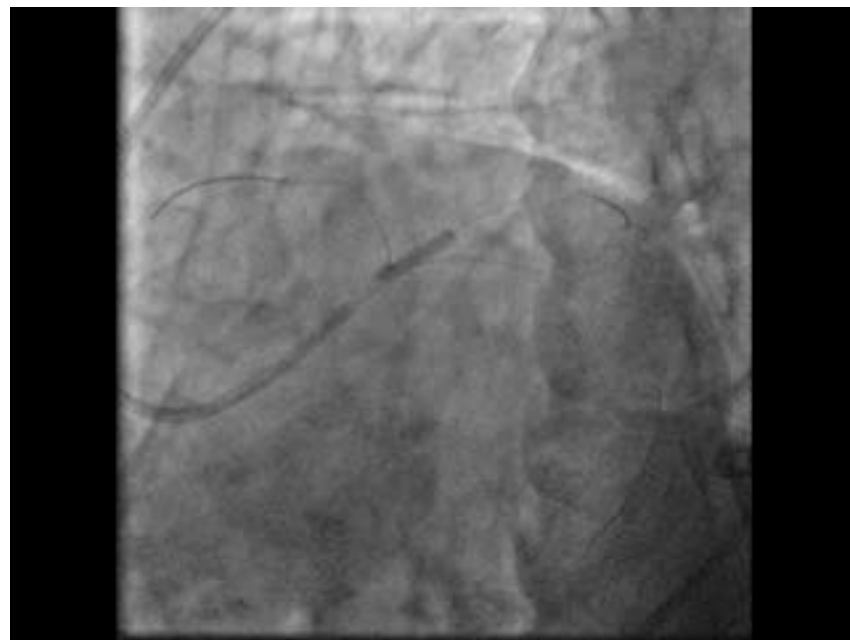
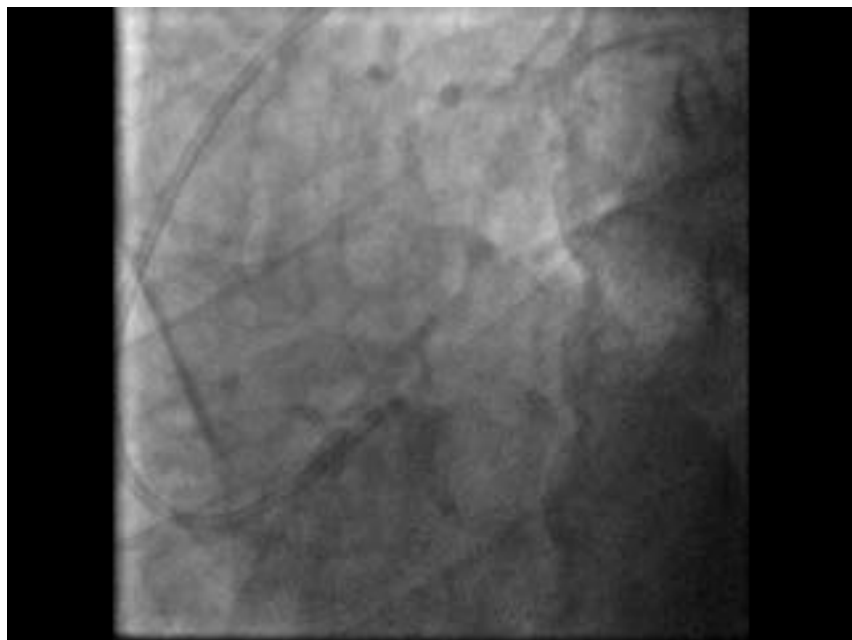
# Contrôle à 1 an

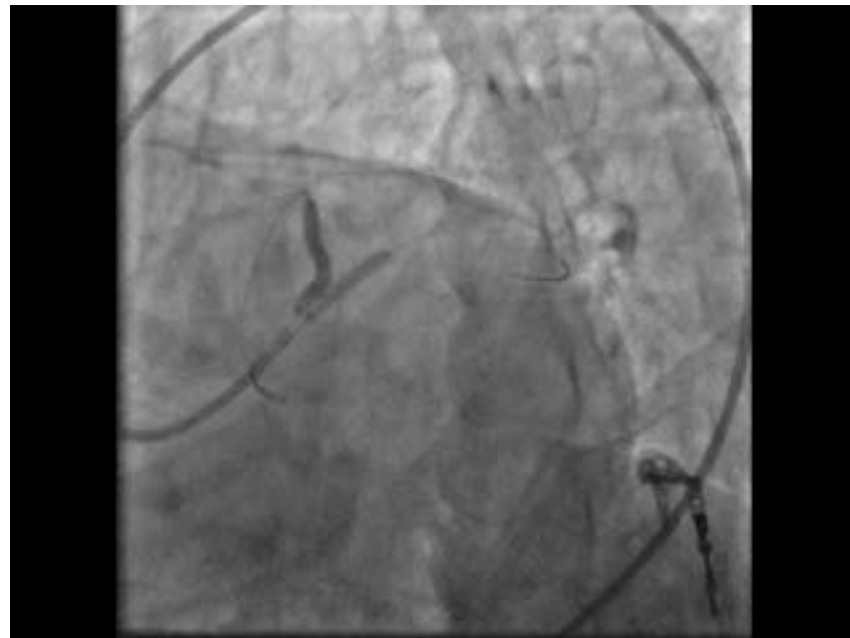
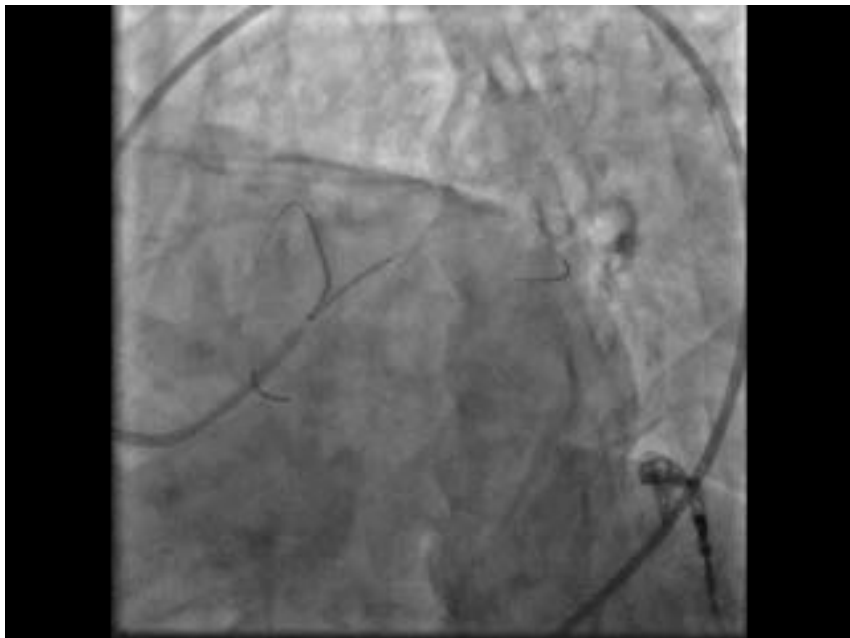




# SKS technique

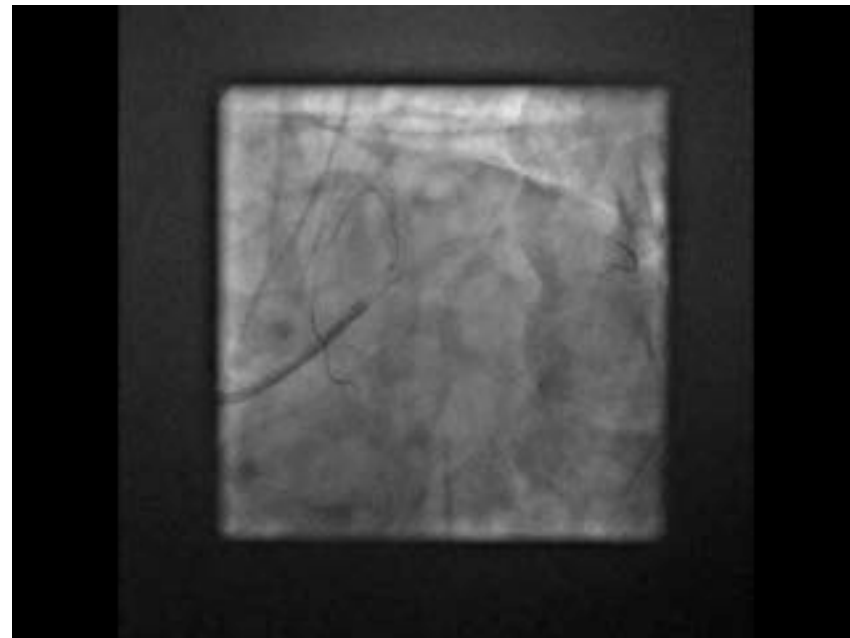
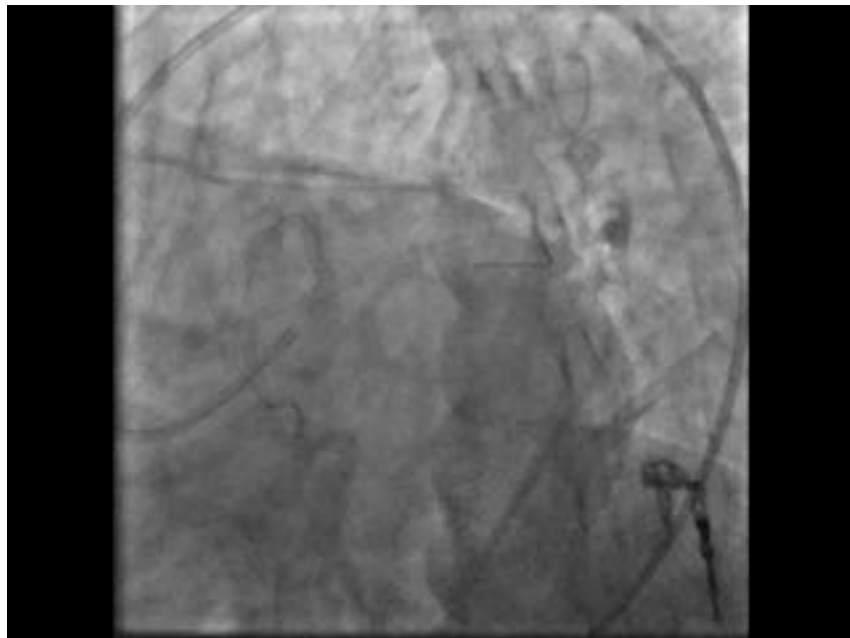
86 ans, OAP cardiogénique, I Rénale C





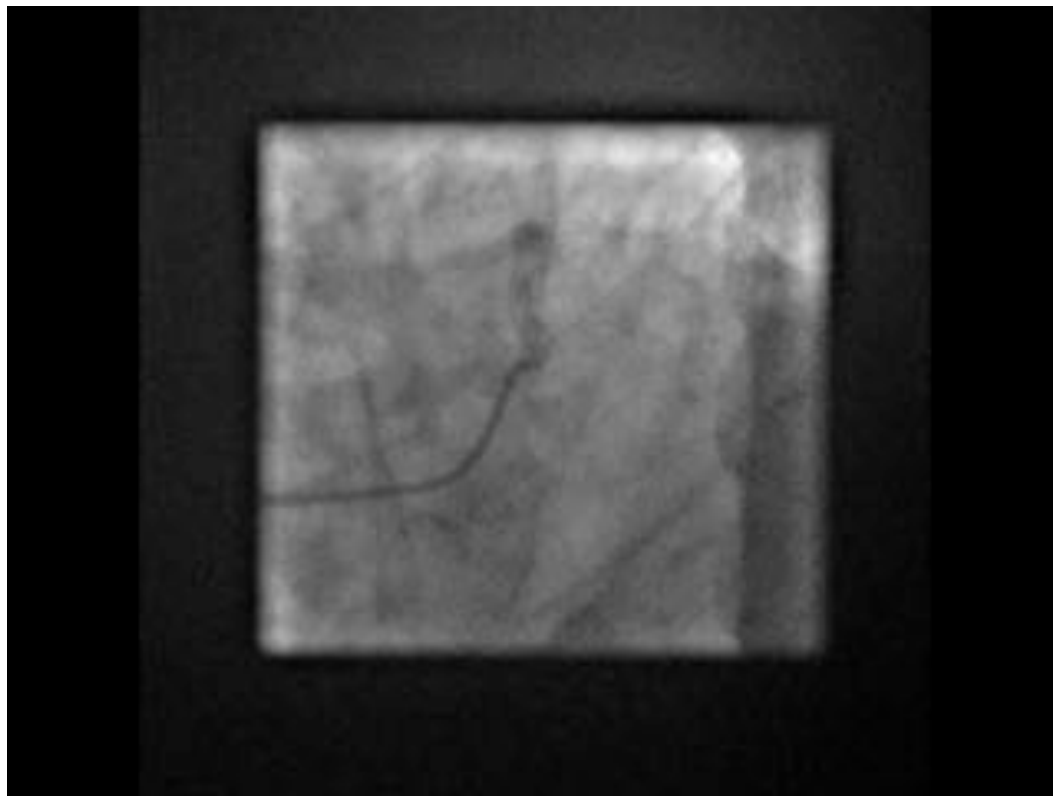


# Résultat final





# Contrôle à 2 ans





# Conclusions

- Les candidats à une angioplastie du TC en Tunisie sont plus fréquemment diabétique et tabagique
- La présentation clinique est majoritairement dans un contexte d'urgence
- La voie radiale est très souvent utilisée



# Conclusions

- Le Kissing final n'est pas systématique sauf dans les techniques à 2 stents
- Le POT est incontournable
- Malgré le très faible recours à l'imagerie invasive ou la FFR, les résultats immédiats et à moyen terme sont excellents (faible mortalité CV)