ATC d'un TC combinée à une dilatation mitrale percutanée

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Histoire clinique

- Homme 63 ans
- Grand fumeur
- ATCD AVC ischémique sans déficit moteur
- Admis février 2014 pour DT de repos durée 30 min + syncope+ IVG killip 2
- **ECG:** AC/FA permanente, ESV nombreuses+ onde T négative en antérieure

- **Biologie**
- Hb à 14.4g/dl
- créatinine à 79 µmol/l (*cl= 84 ml/mn*)
  Troponines positives à 1.68

Echographie cardiaque TT

- **ETT:**

VG non dilaté avec altération de la fonction VG (*FEVG = 33%*)

Hypokinésie globale

OG dilatée

Des valves mitrales épaissies avec soudure bicommissurale, SM = 1.2 cm2 , quelques calcifications loin des commissures, IM minime, cordages et ASV moyennement remaniés.

Des valves aortiques épaissies calcifiées (Vmax= 2.3 m/s, grad moy= 20 mmHg, SAo= 1.1 cm^2)

Insuffisance aortique minime

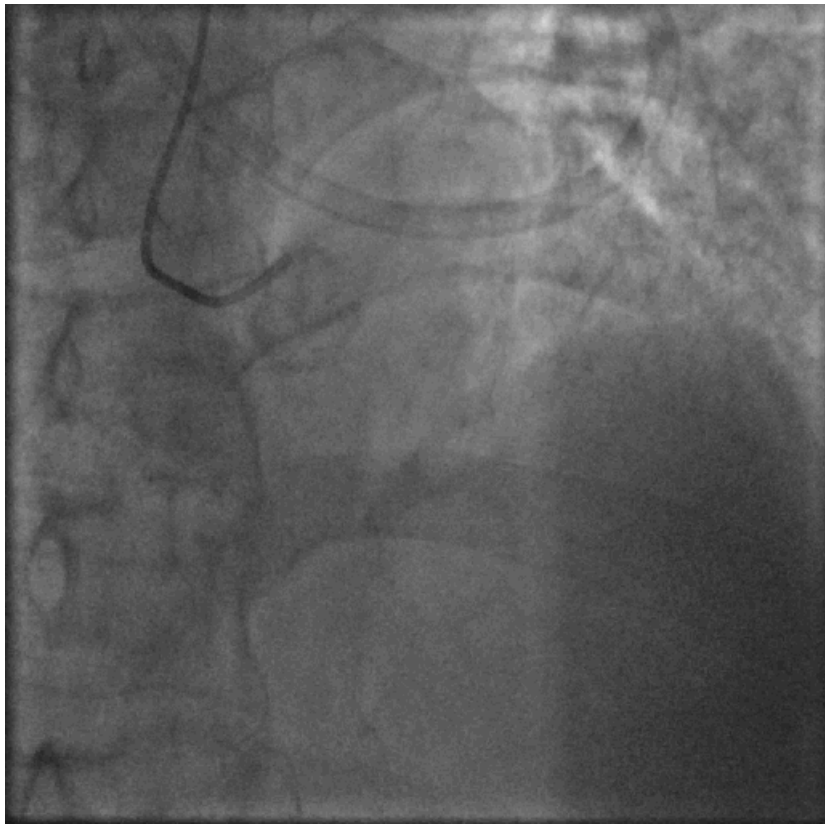
HTAP à 45-50 mmHg

- RM serrée avec une anatomie favorale à un traitement percutanée
- RAO modéré
- Dysfonction VG systolique

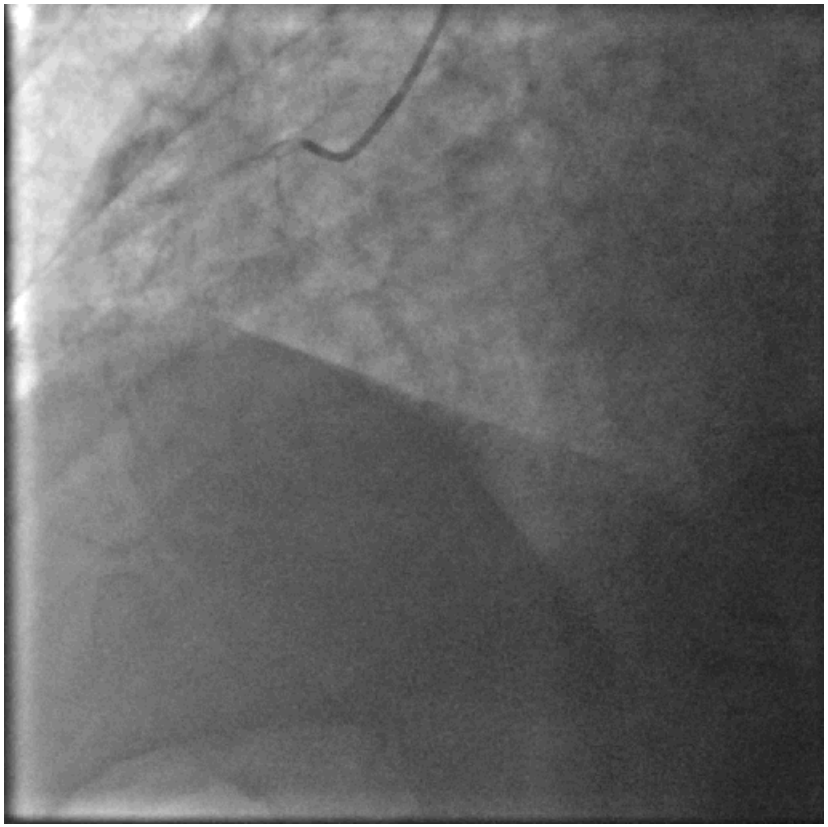
Coronarographie par voie radiale droite

Trifurcation très serrée du TC , sténose serrée de la circonflexe moyenne

Lésion serrée de la bifurcation IVA moyenne/diagonale



Pas de lésion sur la CDte



Diagnostic clinique

- IDM sans onde Q dans le territoire antérieur en rapport avec une atteinte serrée du TC distal +2 lésions (IVA moyenne + Cx moyenne)
- Compliqué IVG killip 2
- Chez un patient porteur d'un RM rhumatismale serré, d'un RAO calcifié modéré
- En AC/FA permanente avec un ATCD d'AVC ischémique

Acute coronary syndromes in patients with pre-existing moderate to severe valvular disease of the heart: lessons from the Euro-Heart Survey of acute coronary syndromes

David Hasdai[a], Eli I. Lev[a], Solomon Behar[b], Valentina Boyko[b], Nicholas Danchin[c], Alec Vahanian[d], Alexander Battler[a*]

[a] *Department of Cardiology, Rabin Medical Center, 39 Jabotinsky Street, Petah Tikva 49100, Israel*
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[c] *Hôpital Européen Georges Pompidou, Paris, France*
[d] *Hopital Bichat, Paris, France*

Table 1 Characterisation of the pre-existing valvular pathology based on the initial electrocardiographic type of ACS

	ST↑	No ST↑	Und. ECG
Mod-Sev aortic stenosis	35	80	14
Mod-Sev aortic regurgitation	9	22	5
Mod-Sev mitral stenosis	5	5	2
Mod-Sev mitral regurgitation	80	125	33
Mod-Sev aortic stenosis/regurgitation	5	16	5
Mod-Sev mitral stenosis/regurgitation	4	2	1
Combined mitral/aortic disease	10	14	9
Unknown	1	5	2
Total	149	269	71

ST↑=ST-segment-elevation ACS; Und. ECG=undetermined-electrocardiogram ACS; Mod-Sev=moderate to severe.

Baseline demographic and clinical characteristics with V(+) and without V(−) pre-existing VD based on the initial electrocardiographic type of ACS

	ST↑		No ST↑		Und. ECG	
	V(−)	V(+)	V(−)	V(+)	V(−)	V(+)
	4190	149	4941	269	587	71
Age (years)	64	72	66	73	73	76
Male gender	72	62	65	52	67	55
Weight (kg)	78	75	77	75	77	73
Diabetes mellitus	21	32	23	30	30	41
Hyperlipidemia	47	46	55	57	46	50
Hypertension	51	59	63	75	65	56
Family history CAD	27	38	29	32	24	15
Current smoker	44	22	28	16	21	14
Prior MI	22	36	35	44	45	51
Prior AP	56	75	74	81	71	82
Prior CABG	3	5	11	13	13	13
Prior PCI	7	8	15	14	14	16
Prior CVA/TIA	6	7	8	15	14	14
Prior heart failure	7	38	10	39	25	53
Pacemaker	<1	4	2	3	10	27
PVD	7	11	10	17	18	20
Cancer	5	4	6	8	7	16
Prior renal failure	3	12	6	9	11	17
COPD	8	10	8	14	13	15
Prior GI bleeding	5	8	4	7	6	12

European Heart Journal (2003) **24**, 623–629

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admission of patients with V(+) and without V(−) pre-existing VD based on the initial electrocardiographic type of ACS

	ST↑		No ST↑		Und. ECG	
	V(−)	V(+)	V(−)	V(+)	V(−)	V(+)
	4190	149	4941	269	587	71
Major complaint						
Typical angina	89	79	87	77	74	72
Atypical chest pain	4	5	6	8	6	10
Syncope	1	5	1	2	3	3
Heart failure	2	6	2	6	9	8
Other	4	5	4	7	8	7
Killip class						
I	78	50	85	60	64	45
II	16	39	11	30	21	39
III	3	9	3	8	10	10
IV	2	3	<1	1	5	4
Systolic BP (mmHg)	136	135	143	140	140	132
Diastolic BP (mmHg)	80	80	80	80	80	80
Heart rate (bpm)	77	80	75	80	80	85

Table 5 In-hospital complications of patients with V(+) and without V(−) pre-existing VD based on the initial electrocardiographic type of ACS

	ST↑		No ST↑		Und. ECG	
	V(−)	V(+)	V(−)	V(+)	V(−)	V(+)
	4190	149	4941	269	587	71
Mild-moderate HF	19	40	12	32	28	47
Pulmonary edema	7	16	4	13	12	20
Cardiogenic shock	7	12	2	5	8	10
FWR	<1	<1	<1	0	<1	1
VSR	<1	0	0	0	0	0
Acute MR	<1	2	<1	2	1	1
Asystole	5	11	1	5	6	11
Sustained VT	5	8	2	3	5	1
VF	5	4	1	3	4	6
Atrial Fib/Flutter	7	17	6	15	11	16
2nd/3rd degree AVB	5	7	1	1	4	1
Reischemia	10	11	14	12	11	13
Reinfarction	3	5	1	2	2	1
Major bleeding	2	2	1	2	2	3
Stroke	1	1	1	2	1	0
Renal failure	3	9	3	7	6	11

European Heart Journal (2003) 24, 623–629

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Table 8 In-hospital and 30-day mortality status of patients with and without pre-existing VD based on the initial electrocardiographic type of ACS

	ST↑		No ST↑		Und. ECG	
	V(−)	V(+)	V(−)	V(+)	V(−)	V(+)
In-hospital death	6.4	13.4	2.0	7.1	10.0	19.7
Unadjusted risk		2.28 (1.40, 3.71)		3.76 (2.26, 6.24)		2.20 (1.16, 4.18)
Age-adjusted risk		1.58 (0.96, 2.61)		2.78 (1.66, 4.65)		1.98 (1.03, 3.82)
Adjusted risk		1.55 (0.85, 2.80)		1.92 (1.03, 3.59)		1.77 (0.75, 4.17)
30-Day death	7.7[a]	15.5[a]	5.5[b]	12.5[b]	11.7[c]	19.7

Mortalité hospitalière et à J30: 2 à 3 fois plus élevé en cas de valvulopathie

European Heart Journal (2003) **24**, 623–629

Quelle stratégie thérapeutique?

- Remplacement valvulaire mitrale + triple pontage coronaire +/- RVA0

- Stenting du TC distal+ IVA moyenne + dilatation mitrale percutanée

European Heart Journal
doi:10.1093/eurheartj/ehs109

ESC/EACTS GUIDELINES

Guidelines on the management of valvular heart disease (version 2012)

The Joint Task Force on the Management of Valvular Heart Disease of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS)

Authors/Task Force Members: Alec Vahanian (Chairperson) (France), **Ottavio Alfieri (Chairperson)** (Italy), Felicita Andreotti (Italy), Manuel J. Antunes (Portugal), Gonzalo Barón-Esquivias (Spain), Helmut Baumgartner (Germany), Michael Andrew Borger (Germany), Thierry P. Carrel (Switzerland), Michele De Bonis (Italy), Arturo Evangelista (Spain), Volkmar Falk (Switzerland), Bernard Iung (France), Patrizio Lancellotti (Belgium), Luc Pierard (Belgium), Susanna Price (UK), Hans-Joachim Schäfers (Germany), Gerhard Schuler (Germany), Janina Stepinska (Poland), Karl Swedberg (Sweden), Johanna Takkenberg (The Netherlands), Ulrich Otto Von Oppell (UK), Stephan Windecker (Switzerland), Jose Luis Zamorano (Spain), Marian Zembala (Poland)

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www.escardio.org/guidelines

European Heart Journal 2012 - doi:10.1093/eurheartj/ehs109 &
European Journal of Cardio-Thoracic Surgery 2012 -
doi:10.1093/ejcts/ezs455).

Management of coronary artery disease in patients with valvular heart disease

	Class	Level
Diagnosis of coronary artery disease		
Coronary angiography is recommended before valve surgery in patients with severe valvular heart disease and any of the following: • history of coronary artery disease, • suspected myocardial ischaemia, • left ventricular systolic dysfunction, • men aged over 40 years and postmenopausal women, • ≥ 1 cardiovascular risk factor.	I	C
Coronary angiography is recommended in the evaluation of secondary mitral regurgitation.	I	C
Indications for myocardial revascularisation		
CABG is recommended in patients with a primary indication for aortic/mitral valve surgery and coronary artery diameter stenosis ≥ 70%.	I	C
CABG should be considered in patients with a primary indication for aortic/mitral valve surgery and coronary artery diameter stenosis ≥ 50-70%.	IIa	C

European Heart Journal 2012 - doi:10.1093/eurheartj/ehs109 & European Journal of Cardio-Thoracic Surgery 2012 - doi:10.1093/ejcts/ezs455).

Indications for percutaneous mitral commissurotomy

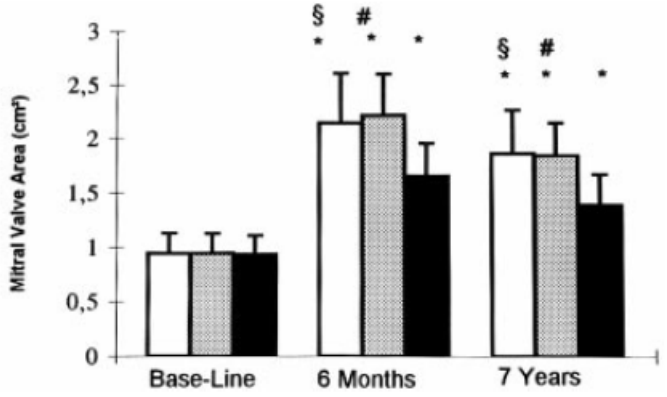
	Class	Level
PMC is indicated in symptomatic patients with favourable characteristics.	I	B
PMC is indicated in symptomatic patients with contraindication or high risk for surgery.	I	C
PMC should be considered as initial treatment in symptomatic patients with unfavourable anatomy but without unfavourable clinical characteristics.	IIa	C
PMC should be considered in asymptomatic patients without unfavourable characteristics and: • high thromboembolic risk (previous history of embolism, dense spontaneous contrast in the left atrium, recent or paroxysmal atrial fibrillation), and/or • high risk of haemodynamic decompensation (systolic pulmonary pressure > 50 mmHg at rest, need for major non-cardiac surgery, desire for pregnancy).	IIa	C

European Heart Journal 2012 - doi:10.1093/eurheartj/ehs109 & European Journal of Cardio-Thoracic Surgery 2012 - doi:10.1093/ejcts/ezs455).

Percutaneous Balloon Versus Surgical Closed and Open Mitral Commissurotomy

Seven-Year Follow-up Results of a Randomized Trial

Mohamed Ben Farhat, MD; Mokdad Ayari, MD; Faouzi Maatouk, MD; Fethi Betbout, MD; Habib Gamra, MD; Mourad Jarrar, MD; Mabrouk Tiss, MD; Sonia Hammami, MD; Rafik Thaalbi, MD; Faouzi Addad, MD



- Consequently, freedom from reintervention was 90% in group 1 (BMC), 93% in group 2 (CMCO), and 50% in group3 (CMCF) (*P<0.001).*

Circulation. 1998;97:245-250

2014 AHA/ACC Guideline for the Management of Patients With Valvular Heart Disease

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

Developed in Collaboration With the American Association for Thoracic Surgery, American Society of Echocardiography, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Anesthesiologists, and Society of Thoracic Surgeons

Table 14. Summary of Recommendations for MS Intervention

Recommendations	COR	LOE	References
PMBC is recommended for symptomatic patients with severe MS (MVA $\leq$1.5 cm^2, stage D) and favorable valve morphology in the absence of contraindications	I	A	(280–284,286)
Mitral valve surgery is indicated in severely symptomatic patients (NYHA class III/IV) with severe MS (MVA $\leq$1.5 cm^2, stage D) who are not high risk for surgery and who are not candidates for or failed previous PMBC	I	B	(319–324)
Concomitant mitral valve surgery is indicated for patients with severe MS (MVA $\leq$1.5 cm^2, stage C or D) undergoing other cardiac surgery	I	C	N/A
PMBC is reasonable for asymptomatic patients with very severe MS (MVA $\leq$1.0 cm^2, stage C) and favorable valve morphology in the absence of contraindications	IIa	C	(293,325–327)
Mitral valve surgery is reasonable for severely symptomatic patients (NYHA class III/IV) with severe MS (MVA $\leq$1.5 cm^2, stage D), provided there are other operative indications	IIa	C	N/A

STS score

Risk Model and Variables - STS Adult Cardiac Surgery Database Version 2.81

RISK SCORES

Procedure: MV Replacement + CAB

Risk of Mortality: 17.839%

Morbidity or Mortality: 70.384%

Long Length of Stay: 43.394%

Short Length of Stay: 3.883%

Permanent Stroke: 5.889%

Prolonged Ventilation: 52.531%

DSW Infection: 0.527%

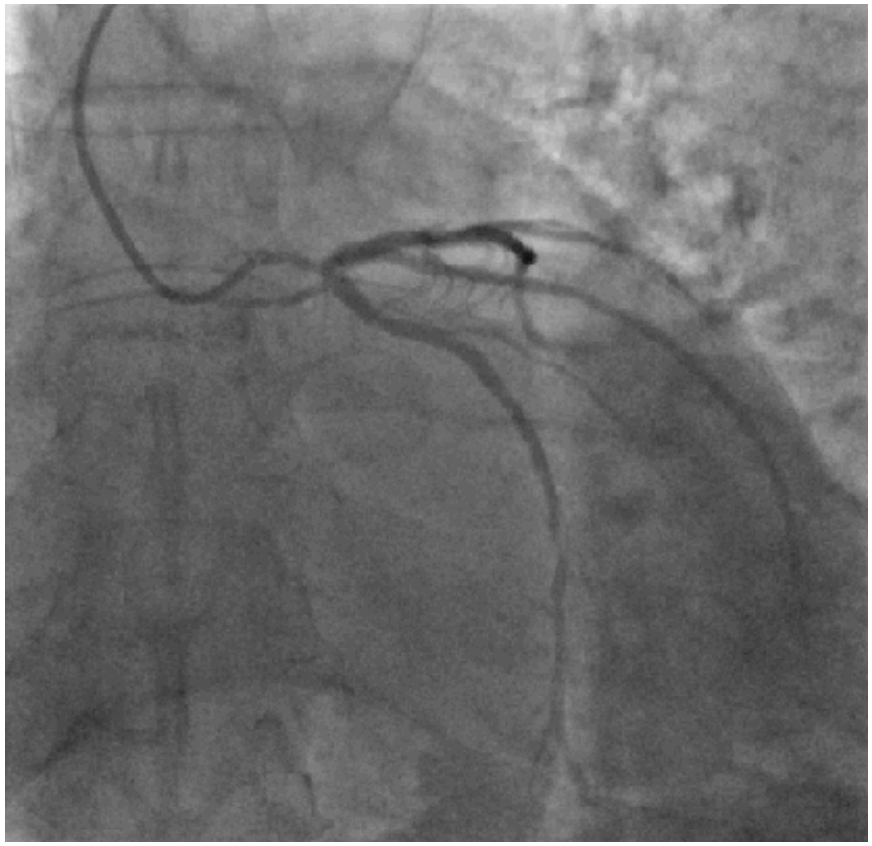
Renal Failure: 36.571%

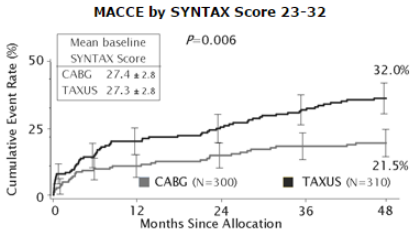
Reoperation: 27.16%

Table 7. Risk Assessment Combining STS Risk Estimate, Frailty, Major Organ System Dysfunction, and Procedure-Specific Impediments

	Low Risk (Must Meet ALL Criteria in This Column)	Intermediate Risk (Any 1 Criterion in This Column)	High Risk (Any 1 Criterion in This Column)	Prohibitive Risk (Any 1 Criterion in This Column)
STS PROM*	<4% **AND**	4% to 8% **OR**	>8% **OR**	Predicted risk with surgery of death or major morbidity (all-cause) >50% at 1 y **OR**
Frailty†	None **AND**	1 Index (mild) **OR**	≥2 Indices (moderate to severe)	

Syntax score





The cumulative MACCE rate is displayed for the SYNTAX Trial group this score corresponds to.

Summary

Lesion 1	
(segment 5): 5x2=	10
Trifurcation 3 diseased segment(s) involved	5
Sub total lesion 1	*15*
Lesion 2	
(segment 7): 2.5x2=	5
Bifurcation Type: Medina 1,0,0:	1
Angulation <70°	1
Sub total lesion 2	*7*
Lesion 3	
(segment 13): 0.5x2=	1
Sub total lesion 3	*1*
TOTAL:	*23*

Syntax score=23

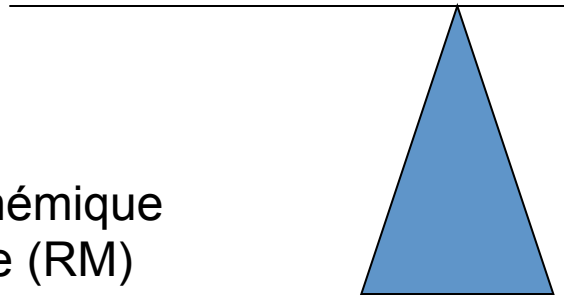
2014 ESC/EACTS Guidelines on Myocardial Revascularization

Recommendations according to extent of CAD	CABG		PCI	
	Class[a]	Level[b]	Class[a]	Level[b]
One or two-vessel disease without proximal LAD stenosis.	IIb	C	I	C
One-vessel disease with proximal LAD stenosis.	I	A	I	A
Two-vessel disease with proximal LAD stenosis.	I	B	I	C
Left main disease with a SYNTAX score ≤ 22.	I	B	I	B
Left main disease with a SYNTAX score 23–32.	I	B	IIa	B
Left main disease with a SYNTAX score >32.	I	B	III	B
Three-vessel disease with a SYNTAX score ≤ 22.	I	A	I	B
Three-vessel disease with a SYNTAX score 23–32.	I	A	III	B
Three-vessel disease with a SYNTAX score >32.	I	A	III	B

Balance risque Thrombotique et risque Hémorragique

Risque thrombotique

Non STEMI
TC distal
ATCD AVC ischémique
ACFA valvulaire (RM)



Risque hémorragique

AVK au long cours

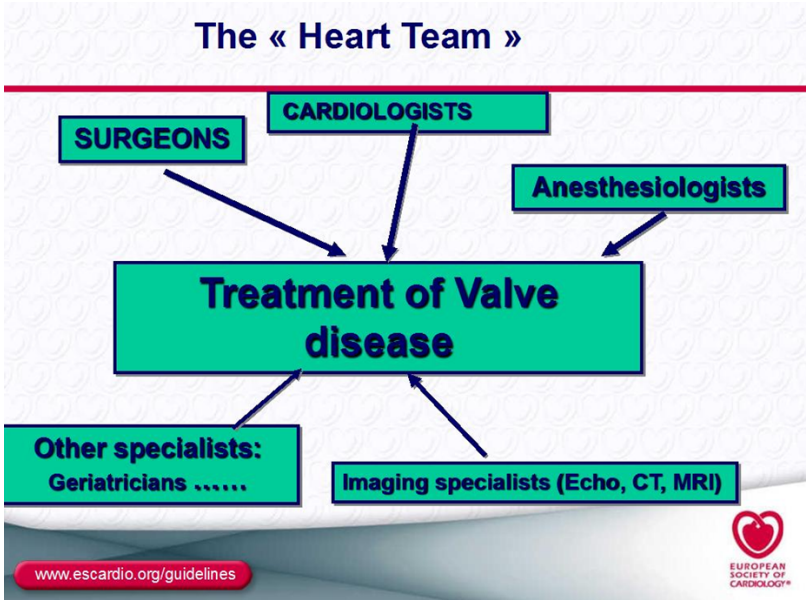
Bénéfice clinique net

Stratégie antiplaquettaire individualisée
Proscrire ticagrelor/prasugrel
Éviter un stent actif?

Décision thérapeutique

- Il a été décidé le double remplacement valvulaire mitro-aortique + triple PAC

- Refusé par le patient et la famille

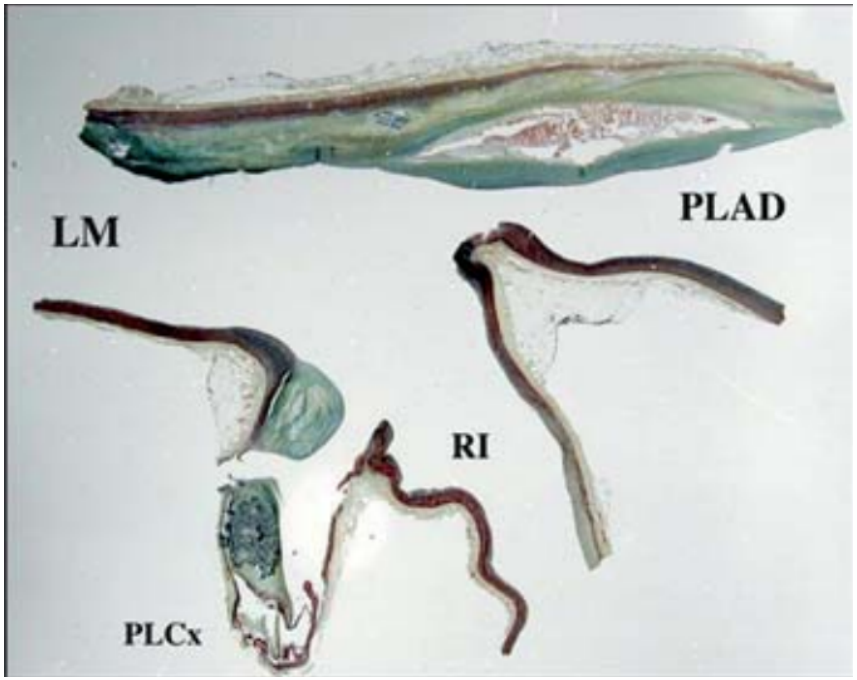


Stenting actif du TC distal et IVA puis Dilatation mitrale percutanée dans un 2ème temps

Stenting du TC distal

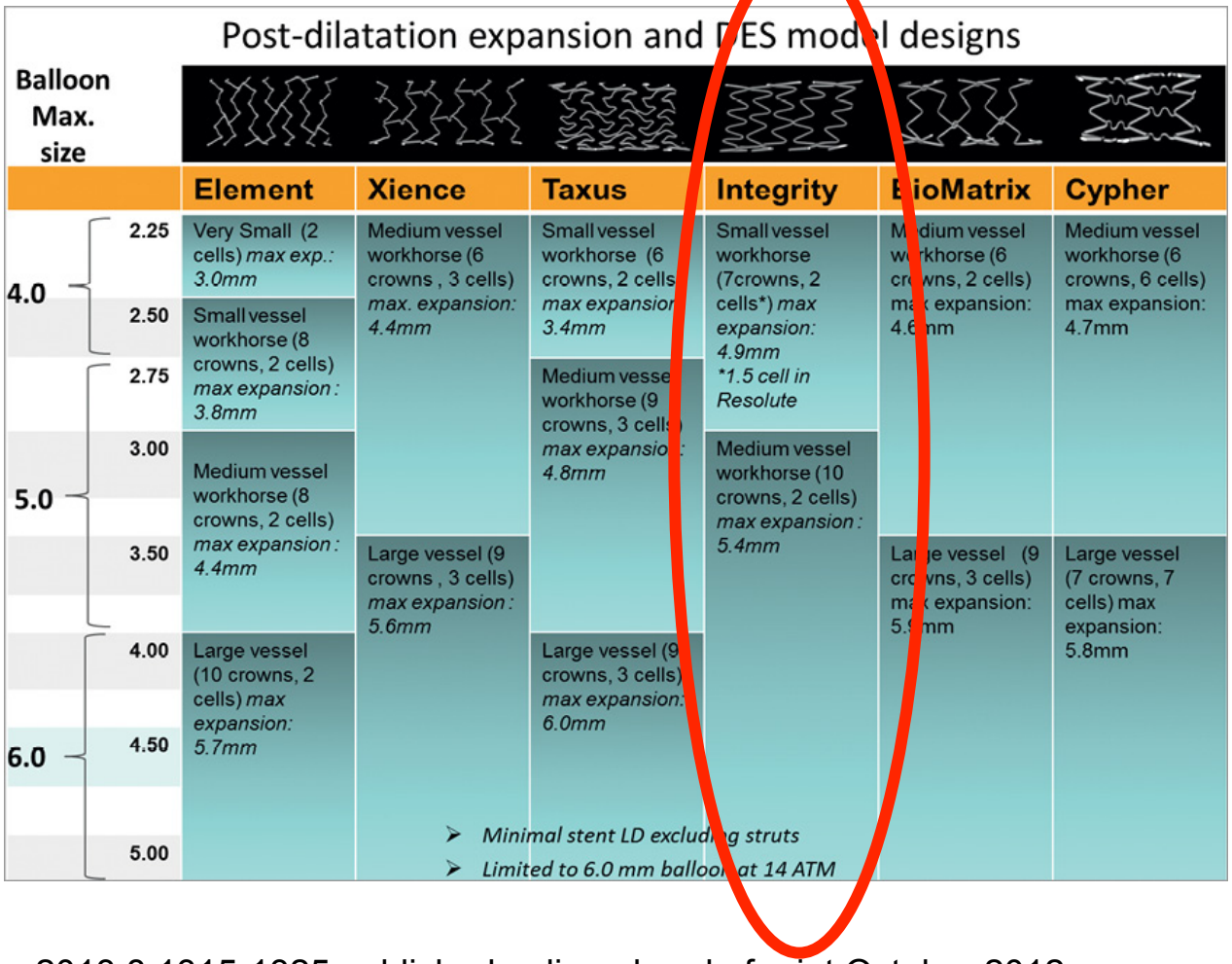
- 1. technique à 1 stent?
- 2. technique à 2 stents? TAP/DK-crush/culotte
- 3. 2 ou 3 guides?
- 4. BCPIA?
- 5. quel diamètre de stent

Les carènes sont indemnes de plaques



Analyse des angles

EuroIntervention



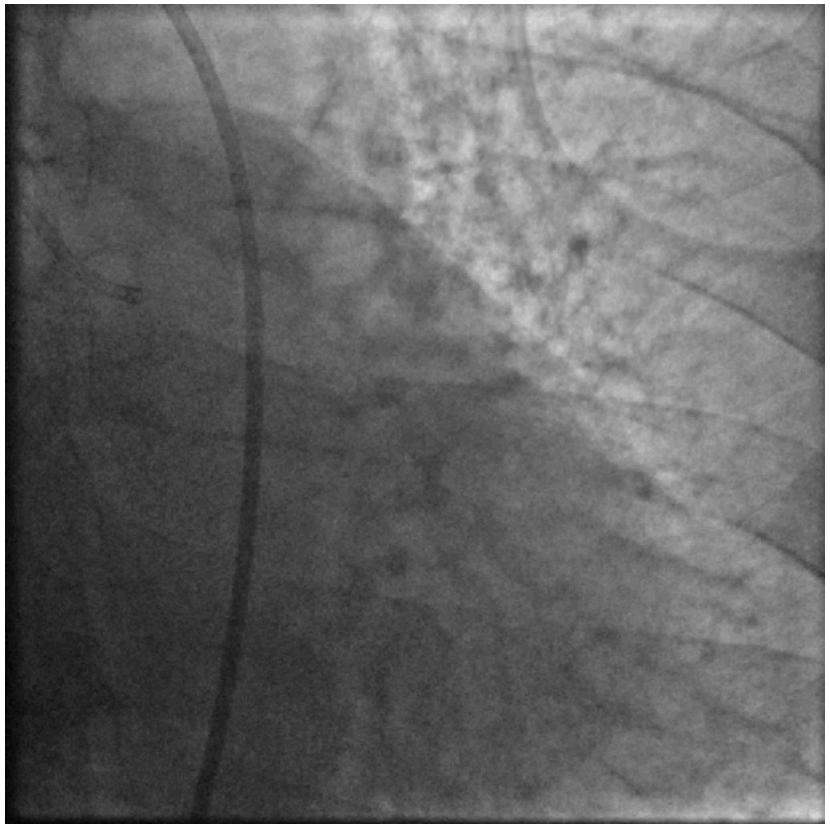
EuroIntervention 2013;8:1315-1325 published online ahead of print October 2012

Maximal expansion capacity with current DES platforms: a critical factor for stent selection in the treatment of left main bifurcations?

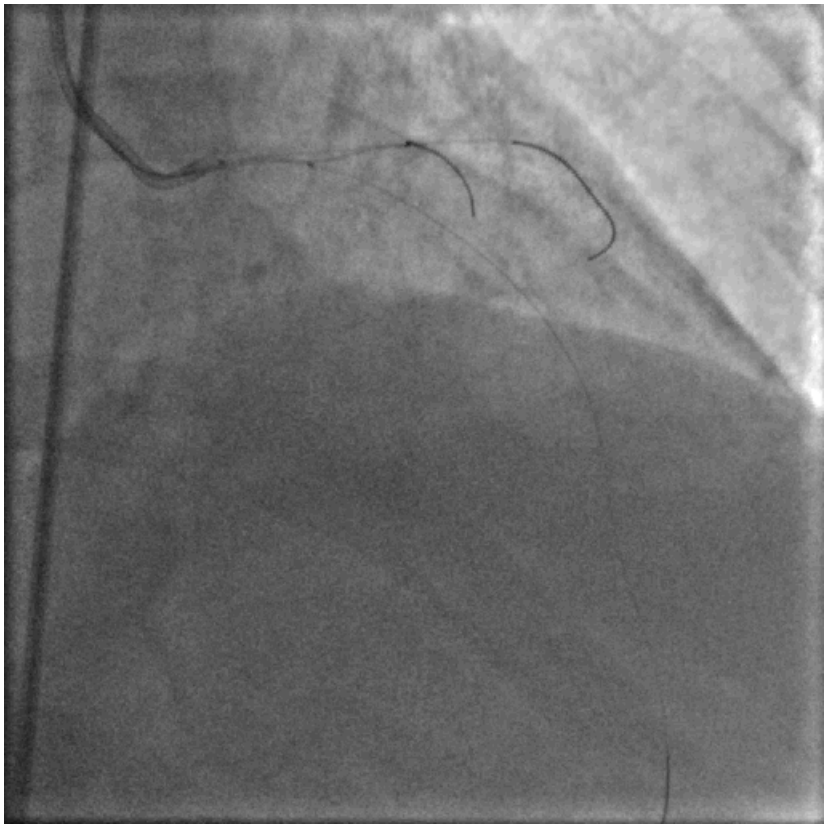
Stenting du TC

provisional T stenting

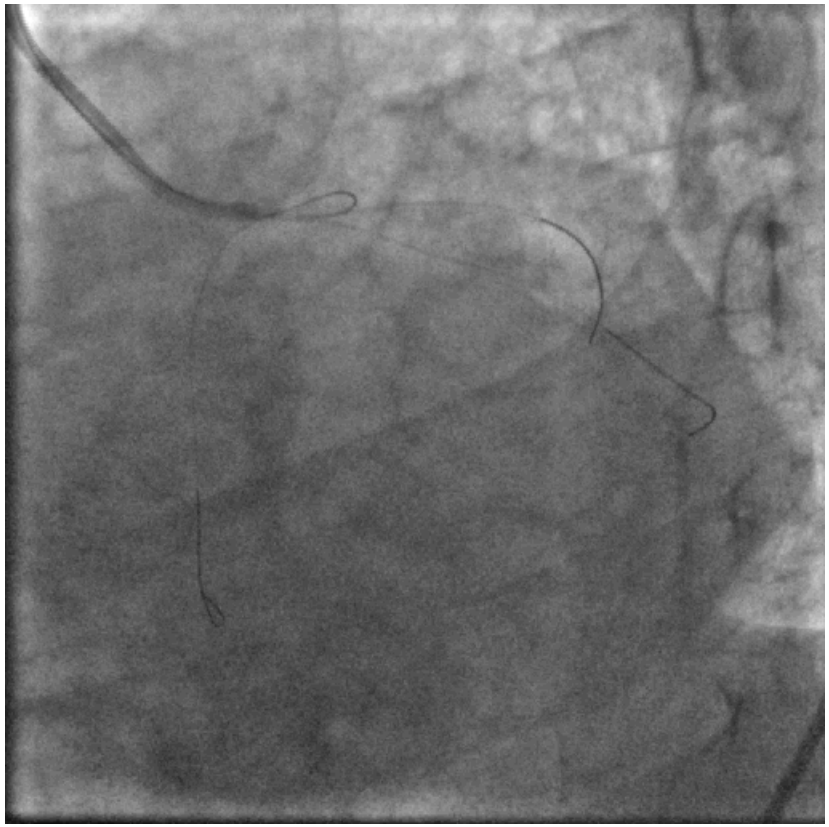
JL 4.0 7F par voie fémorale



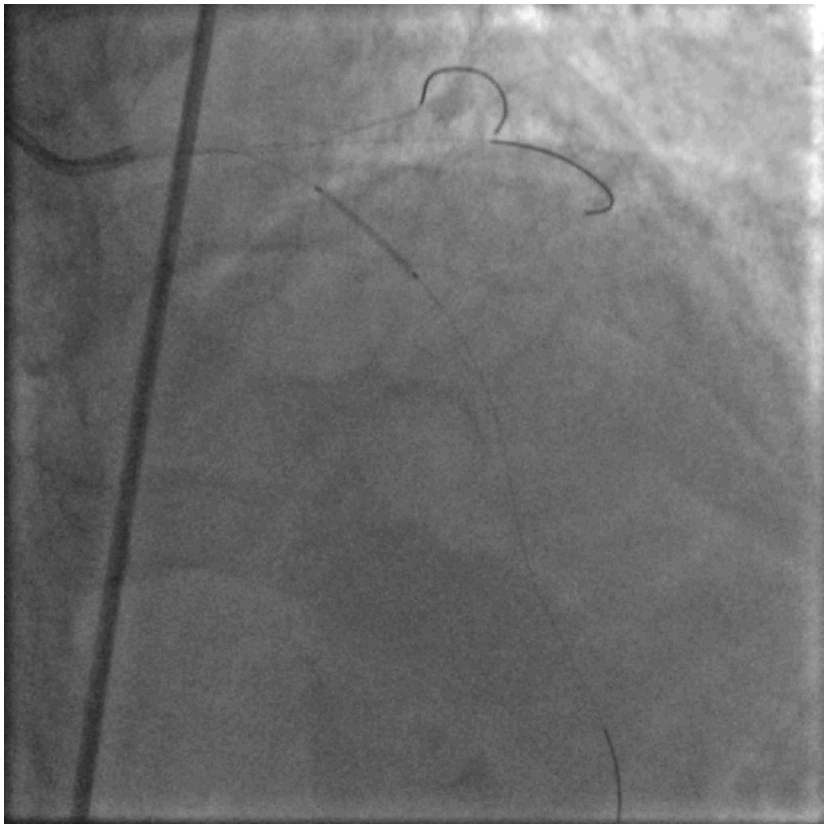
3 guides, prédilatation ballonNC



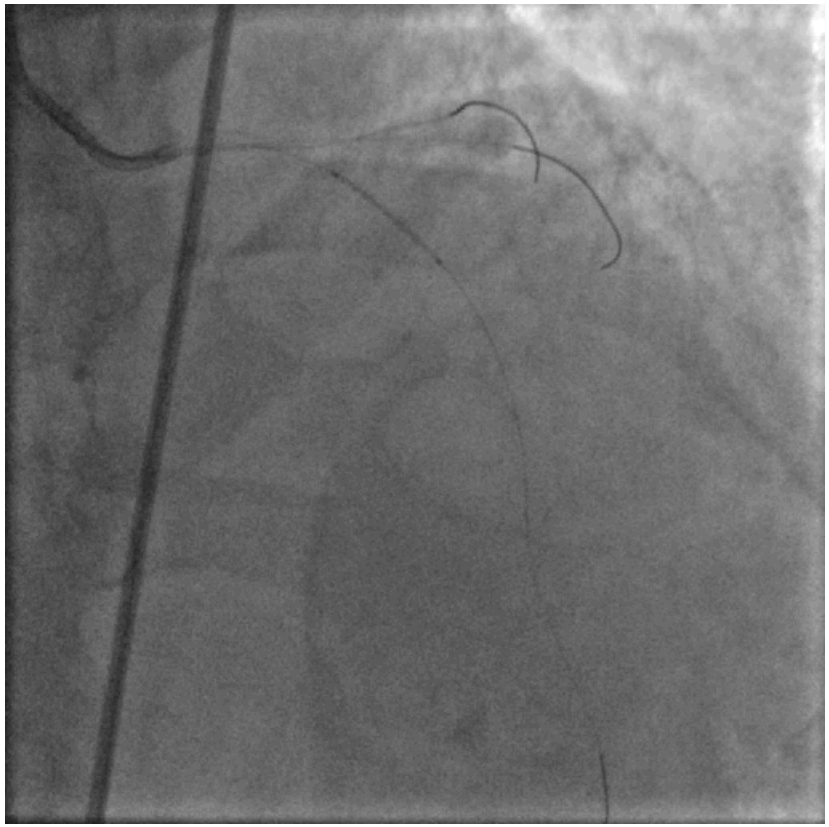
Dissection type A du TC

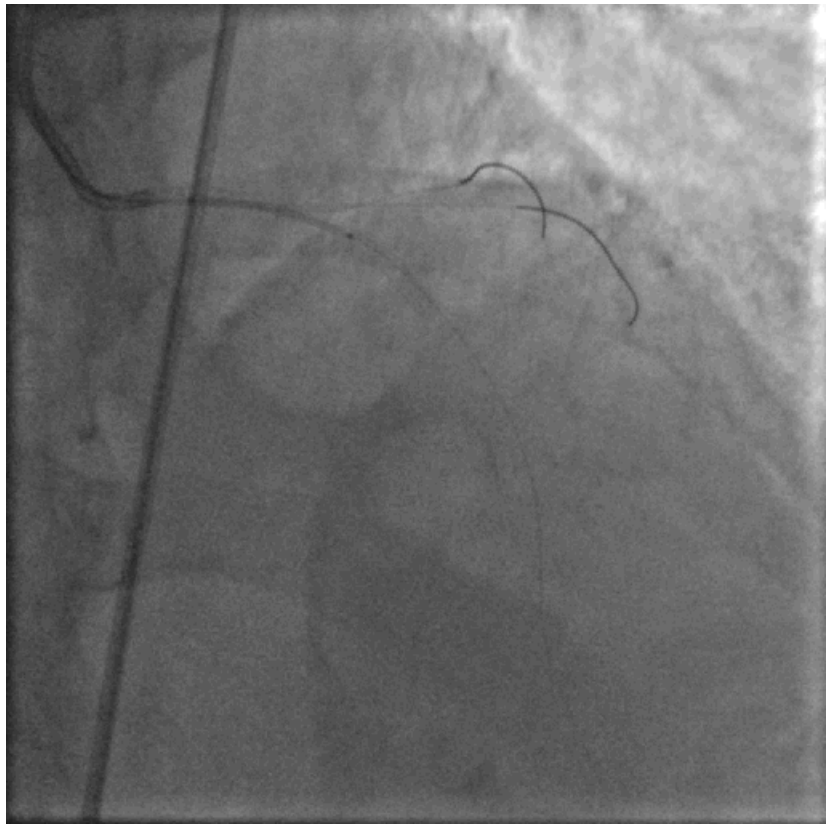


Stenting direct IVA proximale resolute 3.0X15 mm

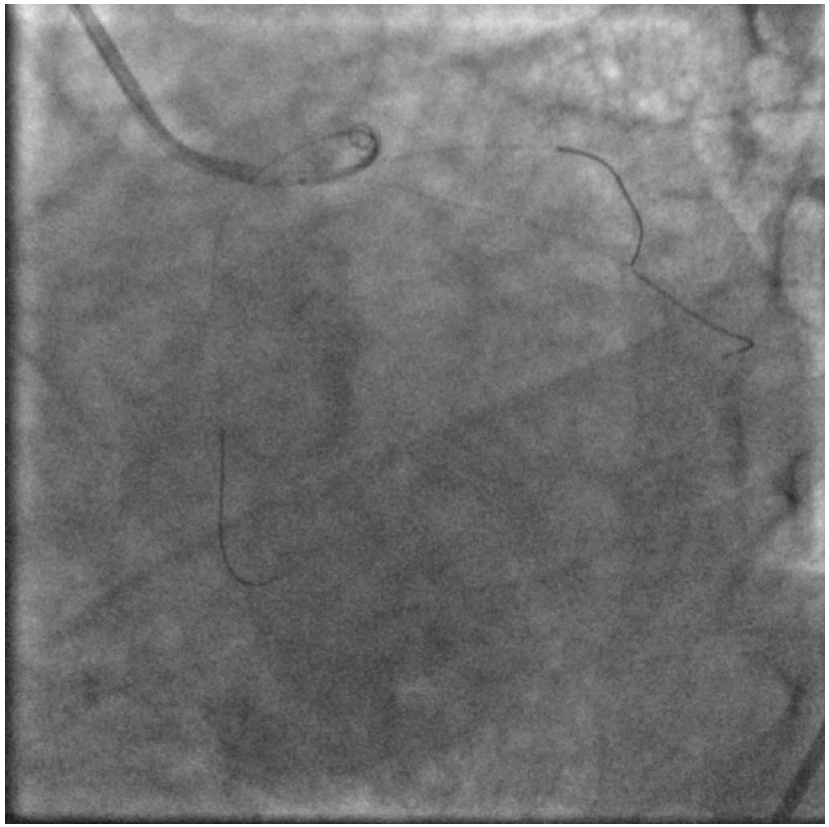


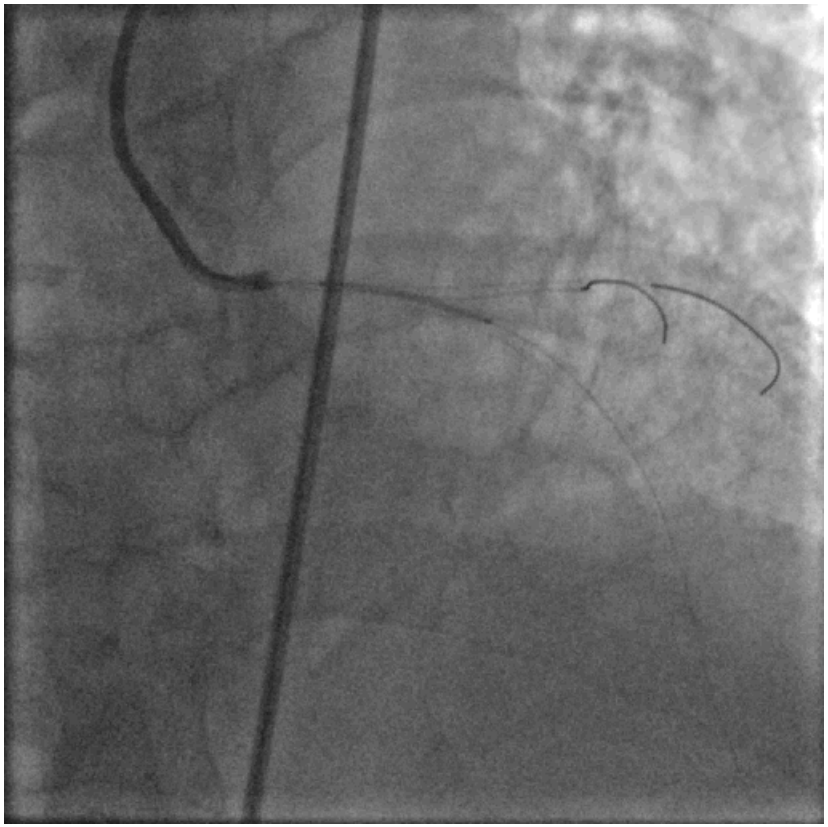
Resolute 4.0 X 18 mm



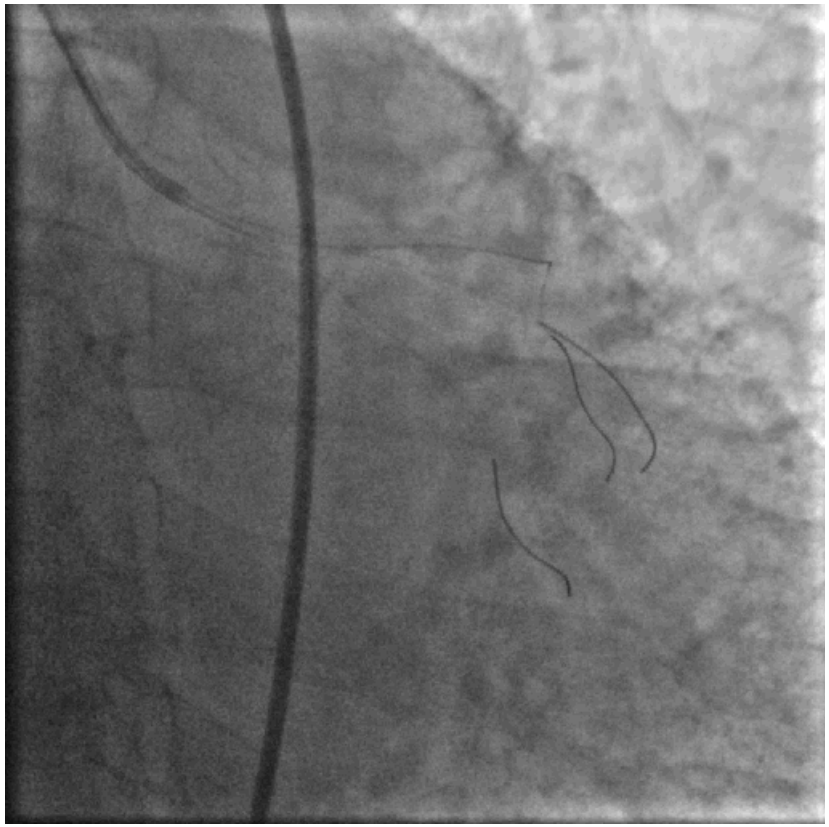


Couverture de l'ostium TC



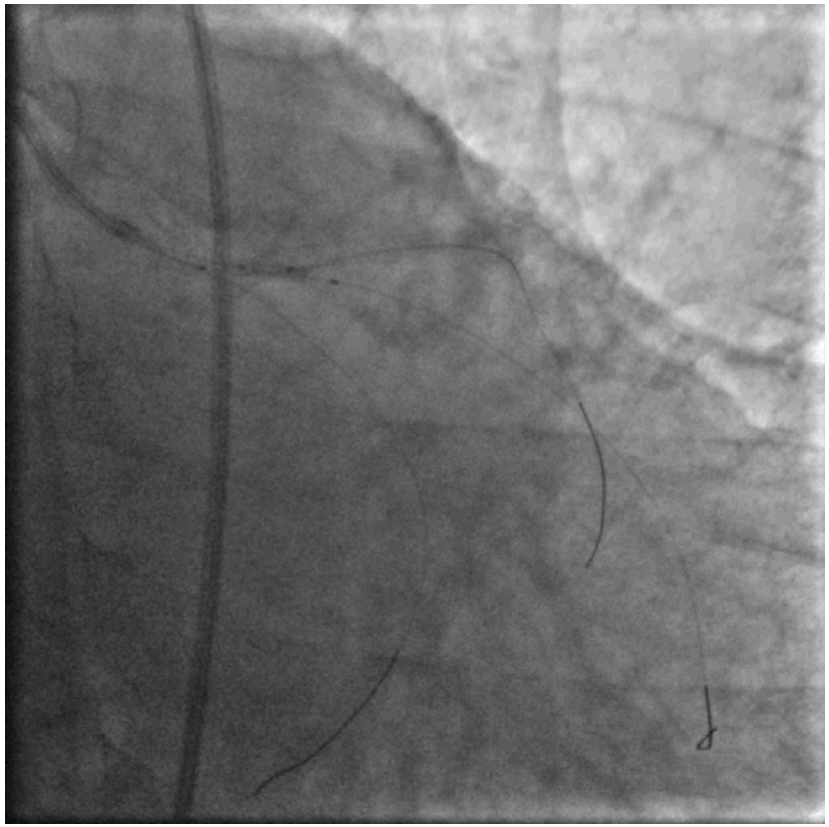


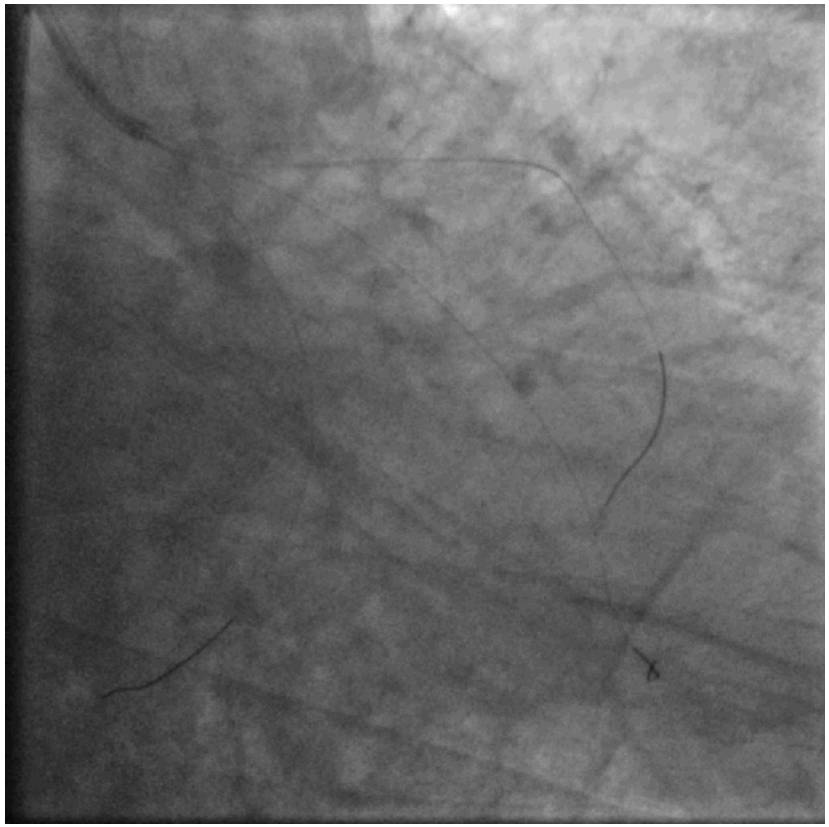
Résultat après POT ostial



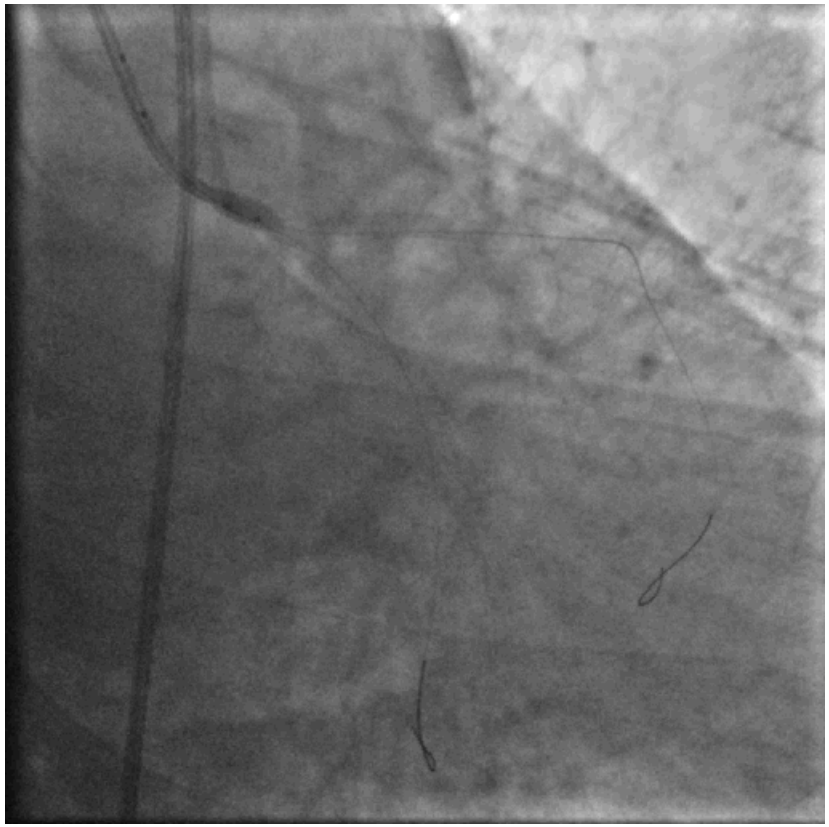
Trissing à 3 ballons NC

Kissing 2 ballons

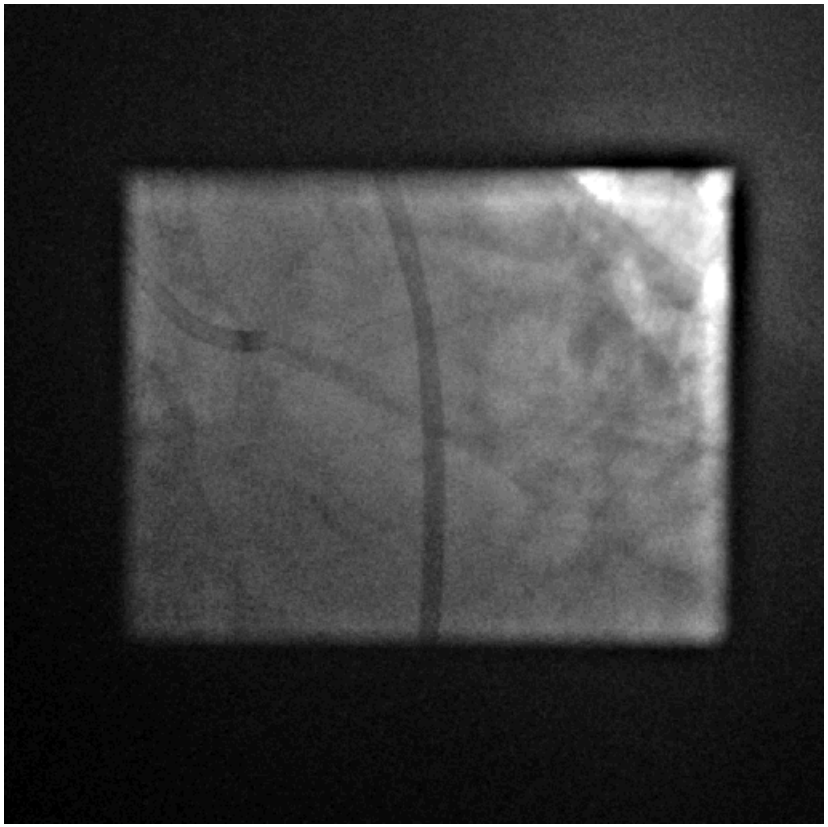




inflation ballon 4.0 X 6 mm



Résultat final

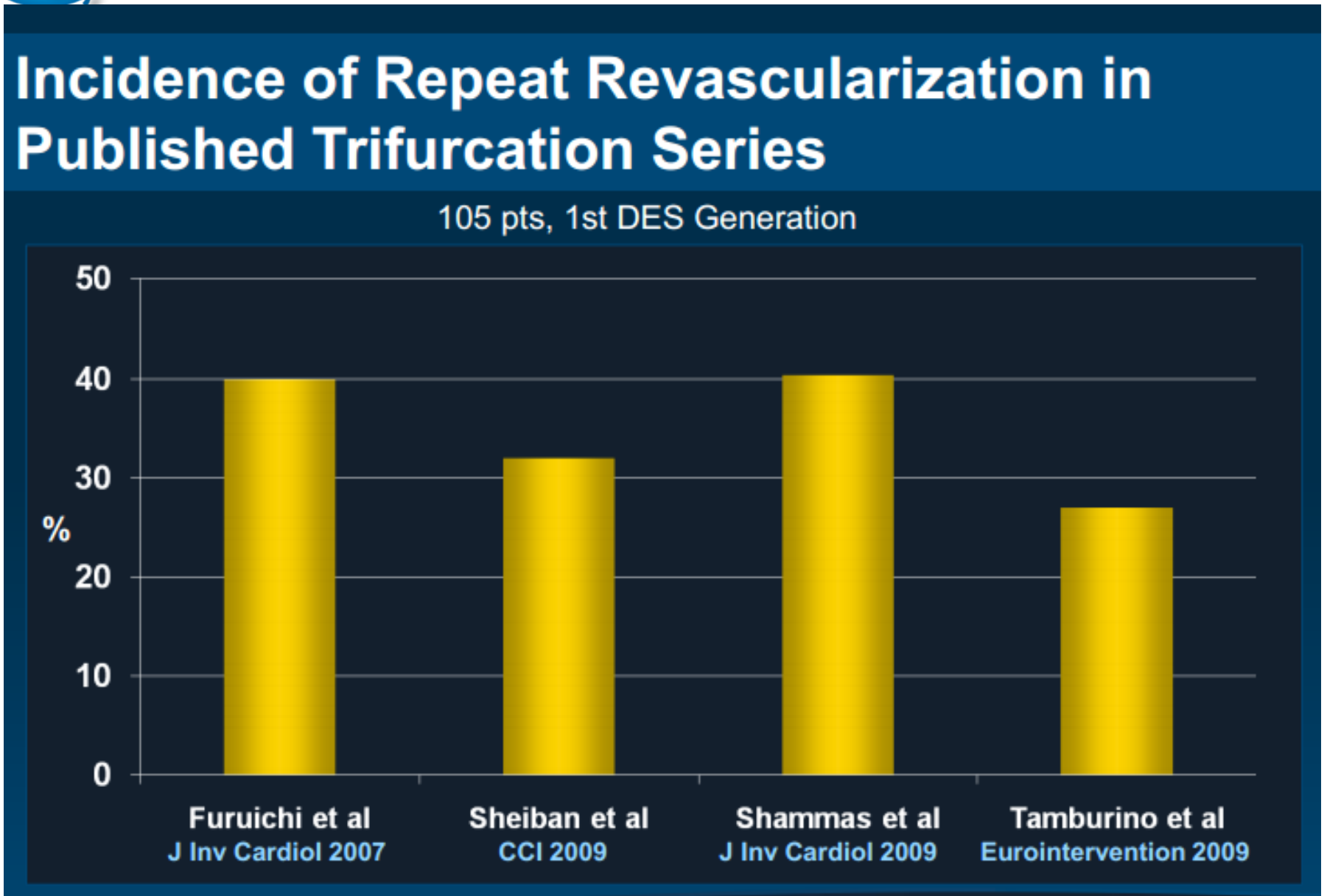


Protocole d'antiaggrégation plaquettaire

- Aspirine 100 mg/j + clopidogrel 75 mg/j+ AVK avec INR entre 2 et 3/ 3 mois
- Clopidogrel + AVK jusqu'à 12 mois
- AVK + Aspirine 100 mg à vie

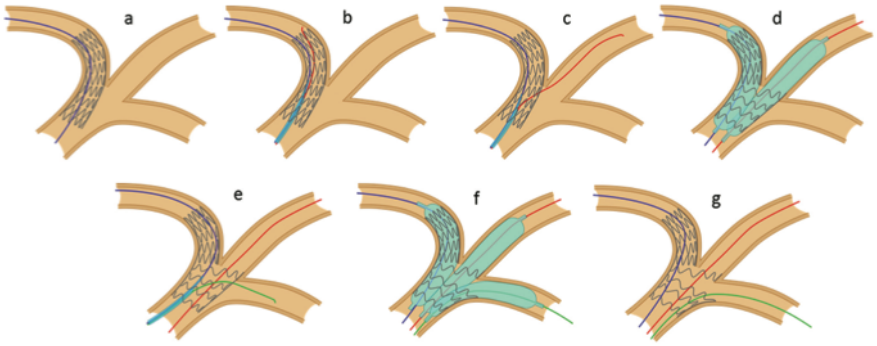
- Délai pour la DMPC en fonction de l'amélioration clinique entre 3 et 6 mois

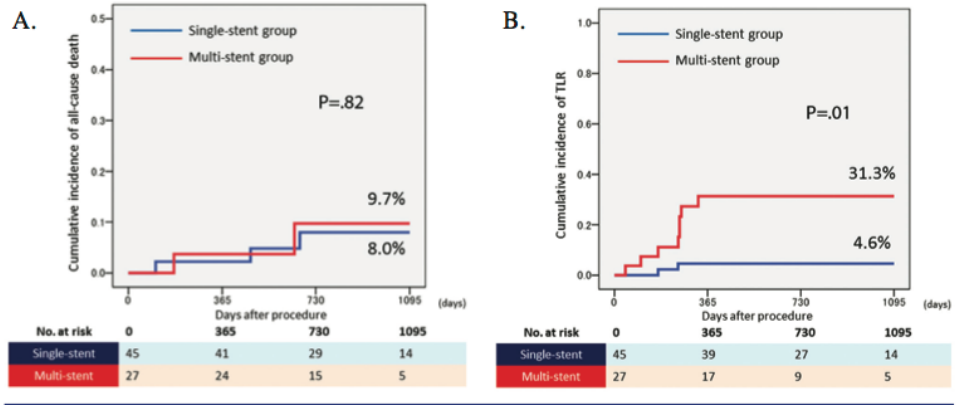
Résultats trifurcation TC



Clinical and Angiographic Outcomes After Drug-Eluting Stent Implantation With Triple-Kissing-Balloon Technique for Left Main Trifurcation Lesion: Comparison of Single-Stent and Multi-Stent Procedures

Shunsu; Mahmoud Sabbah, MD; Suguru Otsuru, MD; Daiji Hasegawa, MD; Seiji Habara, MD; Takeshi Tada, MD, PhD; Hiroyuki Tanaka, MD; Yasushi Fuku, MD; Harumi Katoh, MD, PhD; Tsuyoshi Goto, MD; Kazuaki Mitsudo, MD





Conclusion

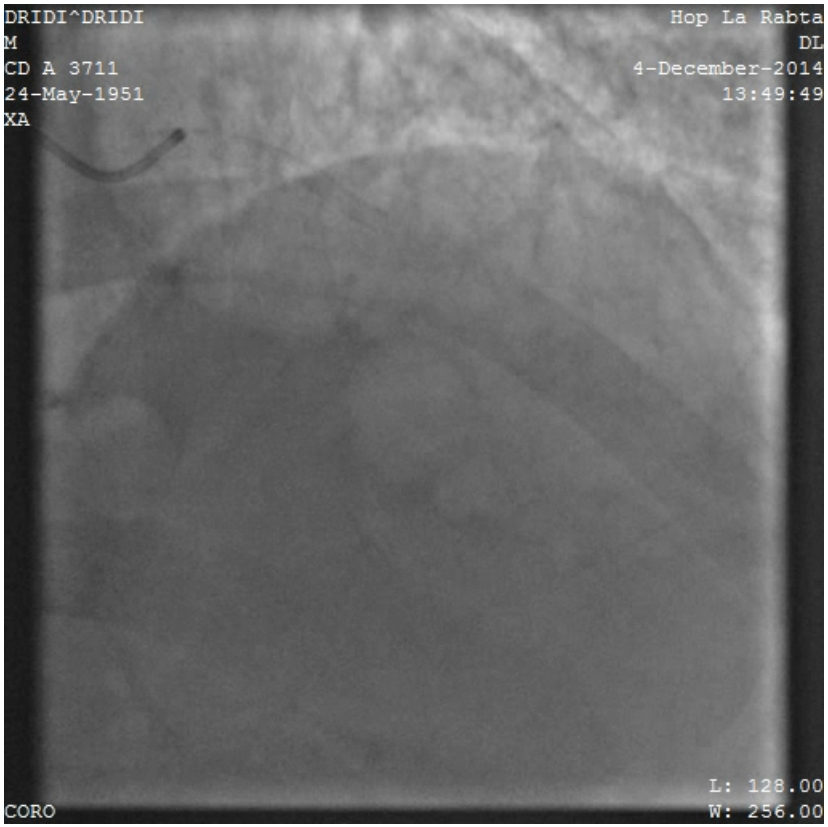
DES implantation with triple-KBT is a safe and feasible technique for LM trifurcation lesion. When using triple-KBT for LM trifurcation lesions, favorable clinical outcomes could be achieved by single-stent procedure compared with multi-stent procedure.

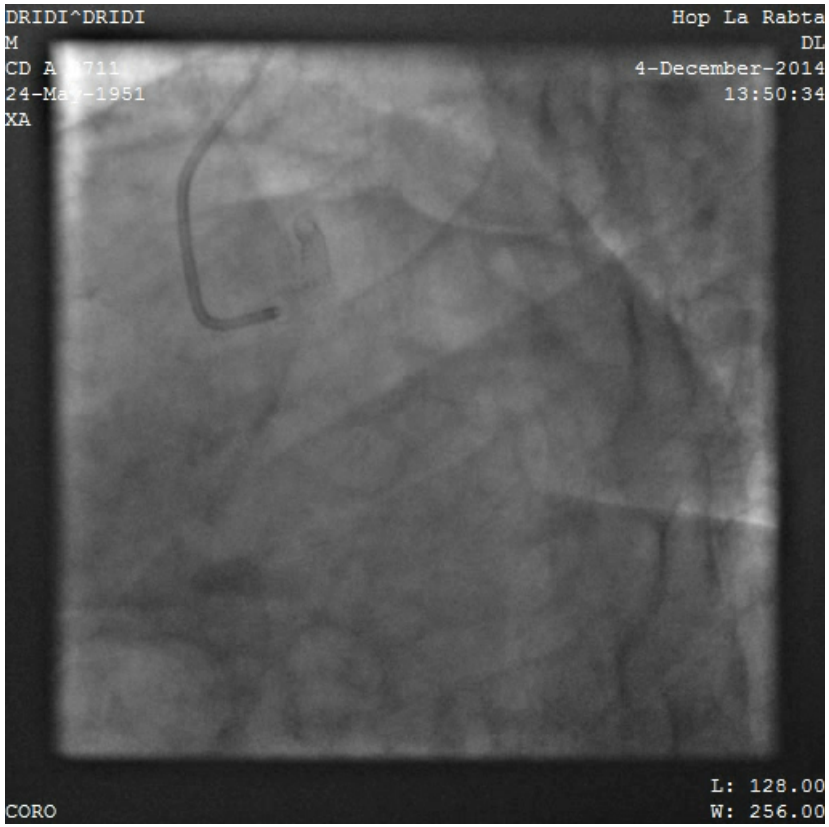
J INVASIVE CARDIOL 2014;26(11):571-578

Coro de contrôle à 6 mois juste avant DMPC

Absence de resténose TC

Absence de resténose IVA

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24-May-1951
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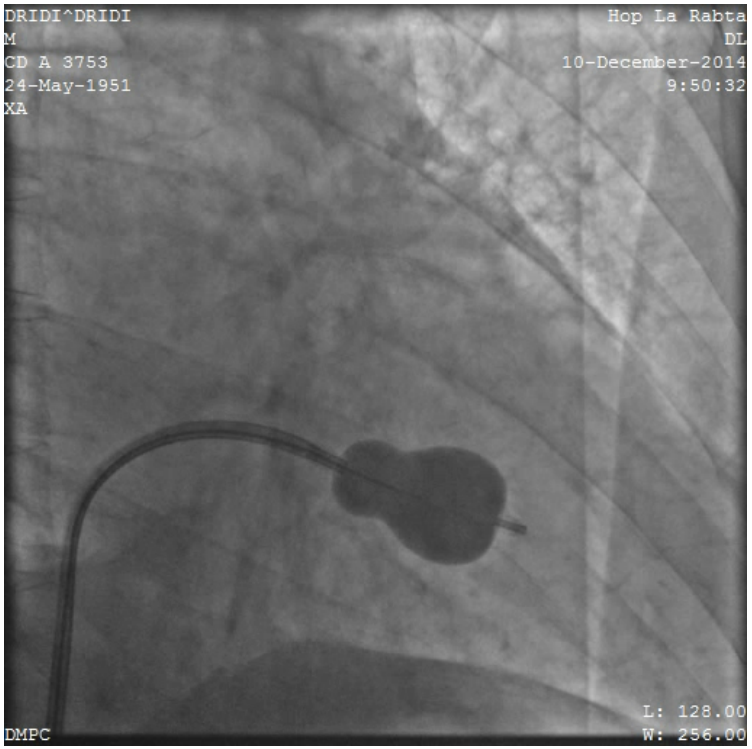
L: 128.00
W: 256.00
CORO

Dilatation mitrale percutanée

6 mois plus tard

Dilatation ballon Inoué 30 mm



Bon résultat: SM de 1.2 cm2 à 2.0 cm2
Pression OG 24 à 19 mmHg
Pas d'IM

Conclusions

- La coexistente d'un SCA et d'une valvulopathie est de mauvais pronostic
- L'association avec une sténose mitrale sévère est plus rare
- Cette association se prête le mieux à un traitement percutanée si les conditions anatomiques de la VM sont favorables

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JOINT CONGRESS BETWEEN THE
PAN-AFRICAN SOCIETY OF CARDIOLOGY
AND
TUNISIAN SOCIETY OF CARDIOLOGY AND CARDIOVASCULAR SURGERY

3 - 7 October 2015

Médina Yasmine Hammamet
Tunisia

www.pascar-stcccv2015.org/