Rotational Atherectomy for Unprotected Left Main Coronary Artery: (Case report)

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I have no conflicts of interest to this presentation

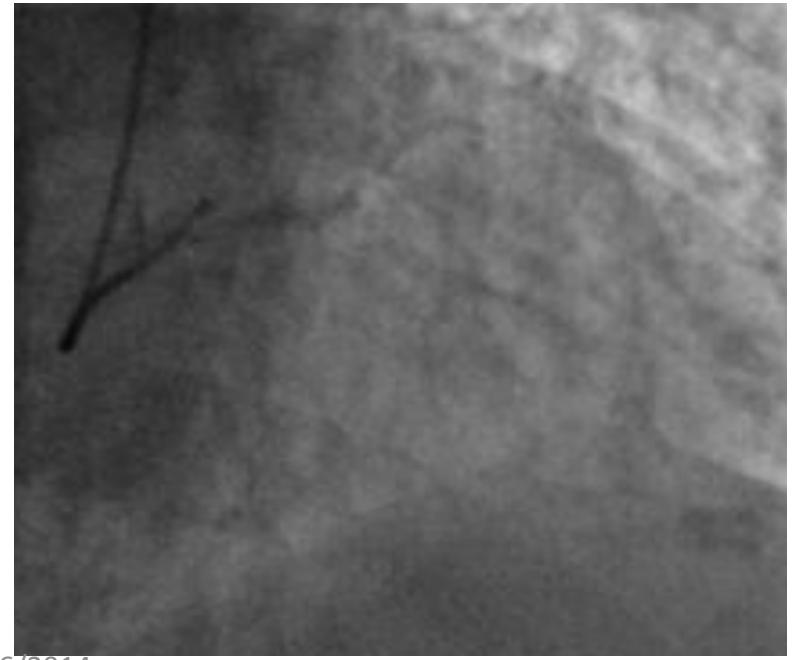
Case

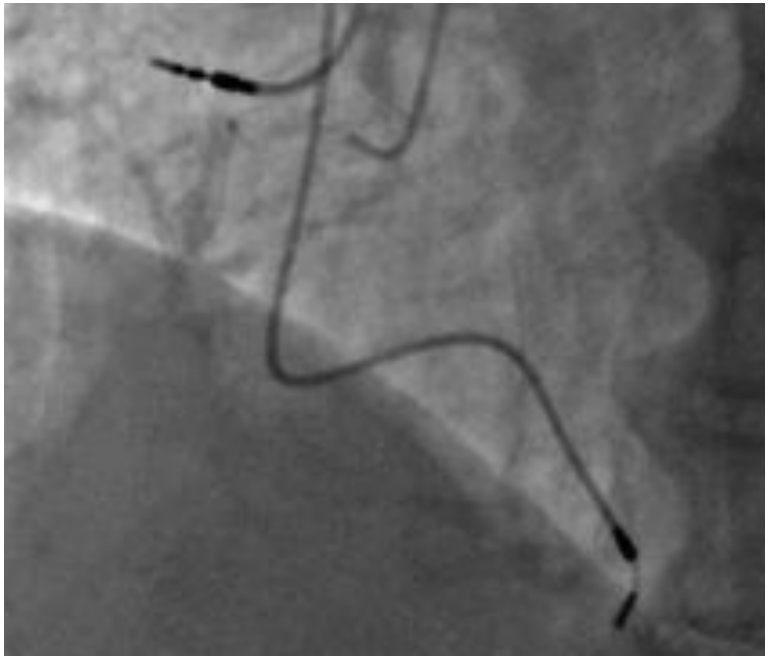
- 89 years old man
- Past medical history:
  - PM
  - Severe renal impairment. Clearance= 25ml/min/1,73m2
  - Dyslipidémia
  - HTN
  - Microcytic anemia

Hospitalization

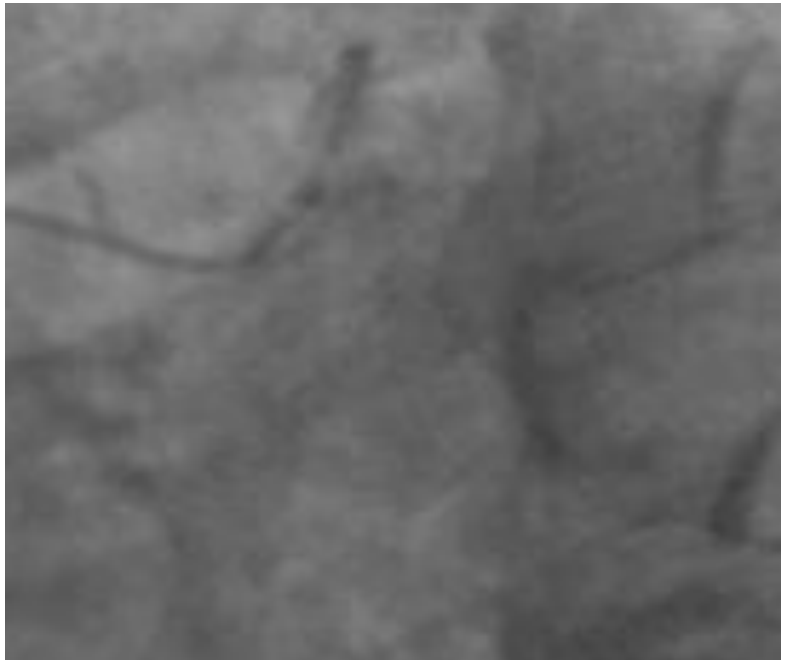
- Recurrent chest pain
- Dynamic ECG changes
- Troponins +
- TTE: EF=50% (Simpson biplan).
- **Pretreatment**:
  - Clopidogrel 600mg
  - Aspirin 250mg
  - HNF
    - ➔Coronary angiography 24h

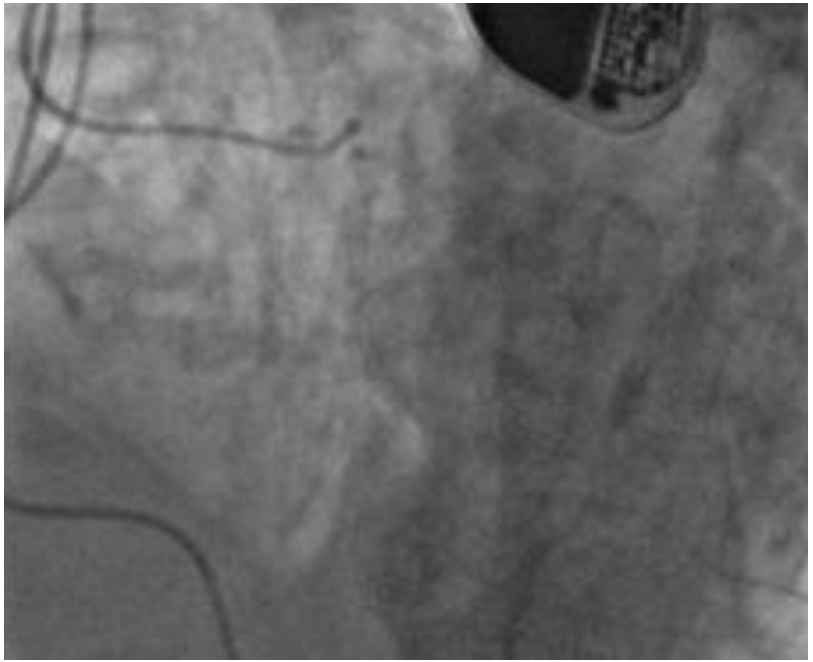
Angiography I



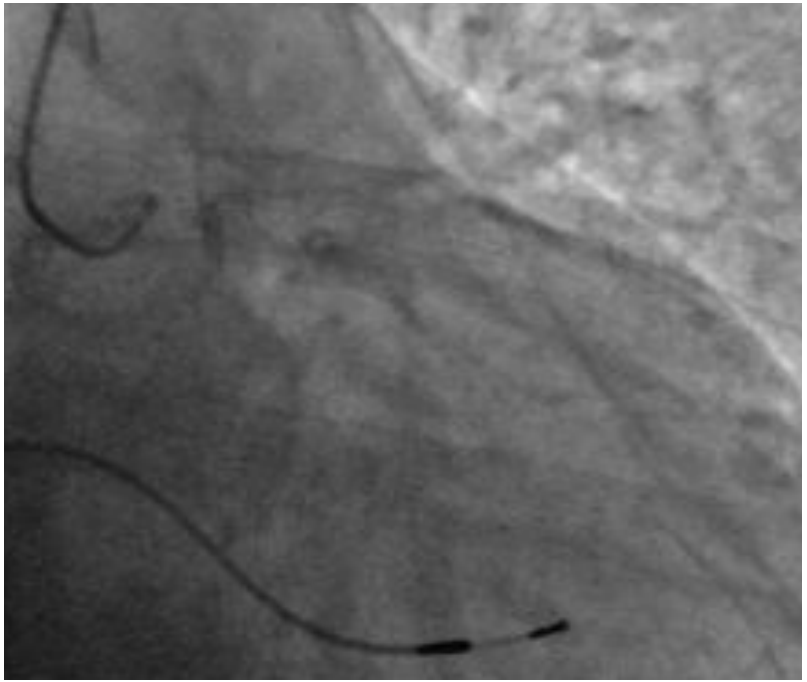


Angiography II





Angiography III



What is your strategy?

Syntax score = 38
Euroscore: 17
Crusade bleeding risk: 48 ➔ high risk

- Medical treatment?
- Coronary artery bypass graft surgery?
- Percutaneous coronary intervention?

Discussion with the patient and family

Patient refused surgery

The patient do not want come back to cath lab!!!!!

strategy?

- LAD alone?
- CX alone?
- CX and LAD in the same time?
- CX, LAD and Left main?
- One procedure or Two procedure?

Right radial access

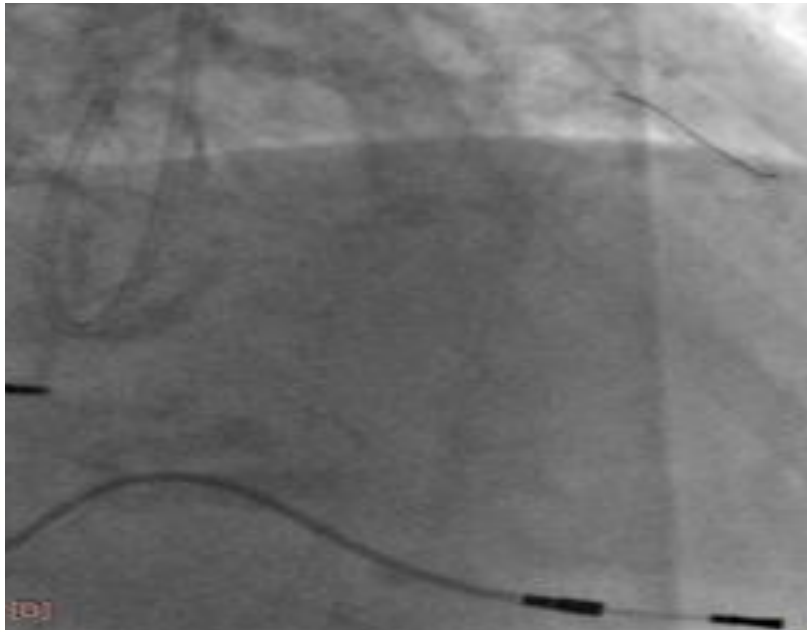
HEPARIN 50 mg

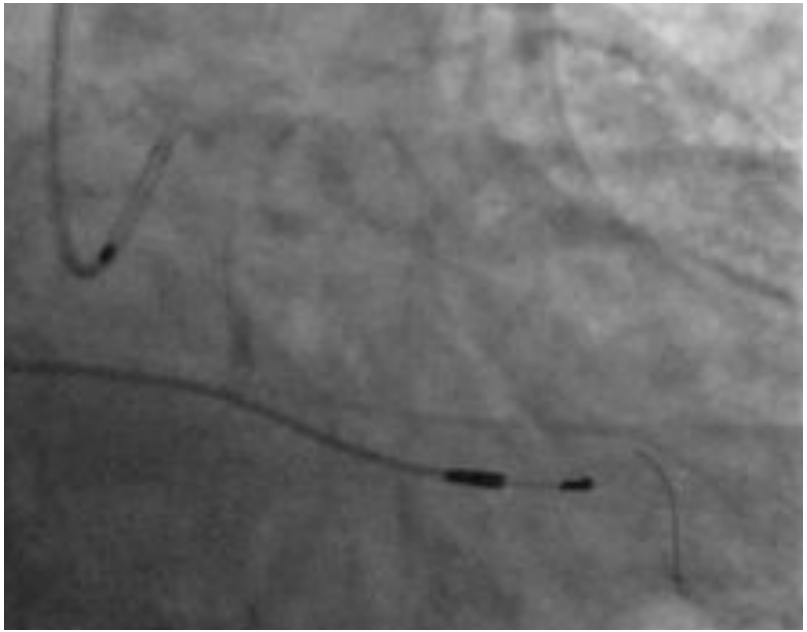
Extra Bak-Up (EBU) 6F

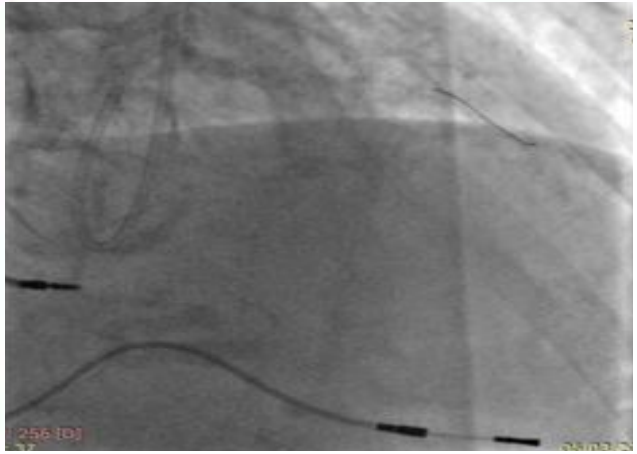
Guidewire BMW in the circumflex

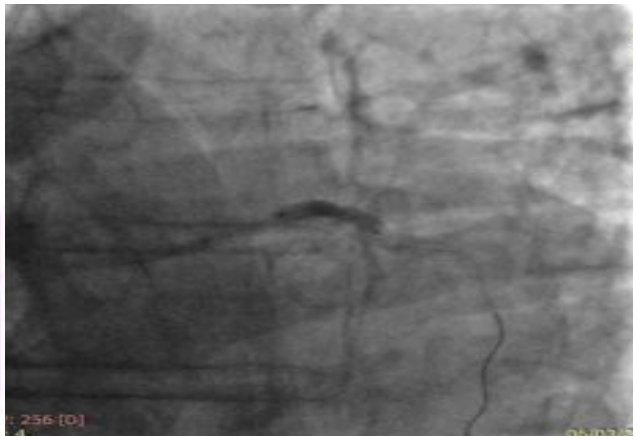
Rotablator athyrectomy burr size 1,5

Angioplasty



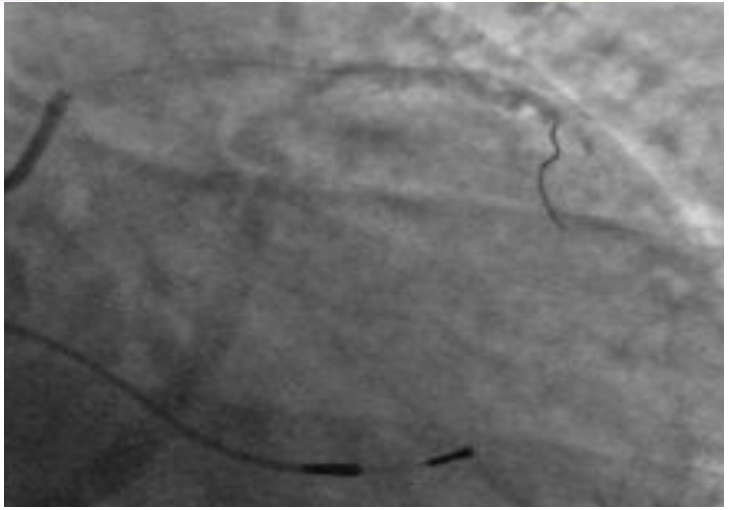
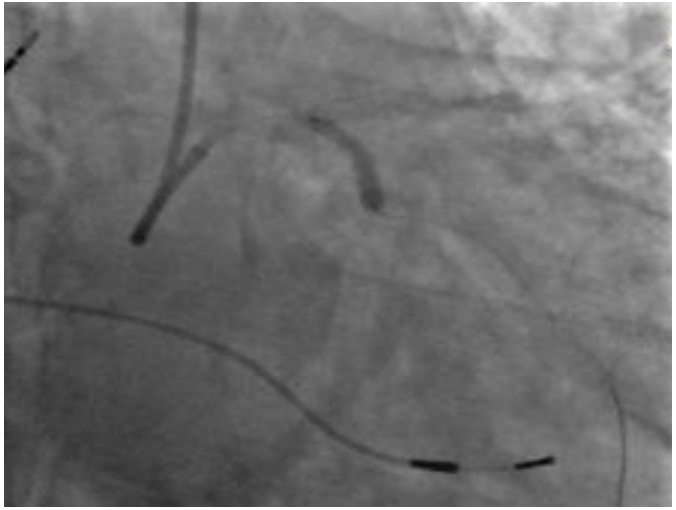
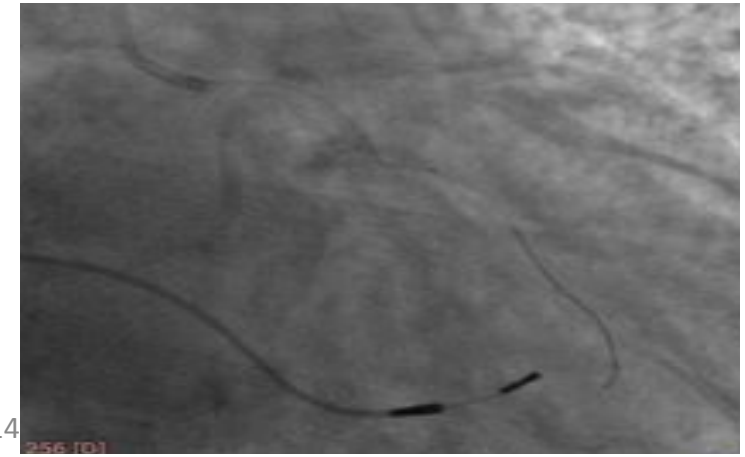
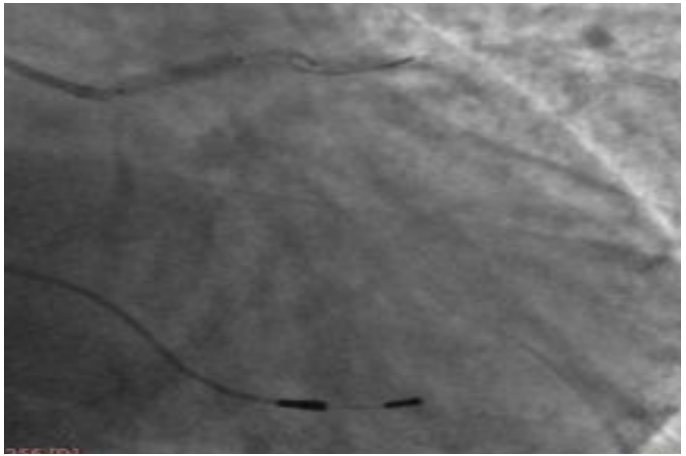




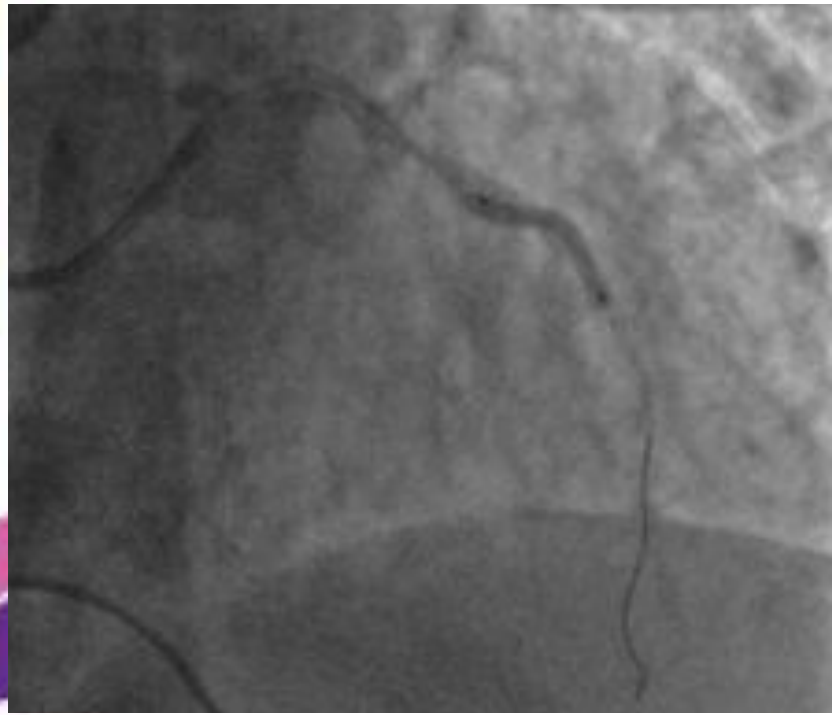


Dégradation rapide de l'état hémodynamique avec apparaition d'une douleur thoracique

Arrêt cardio circulatoire: récupéré après 2mn de massage cardiaque externe.

Angioplasty



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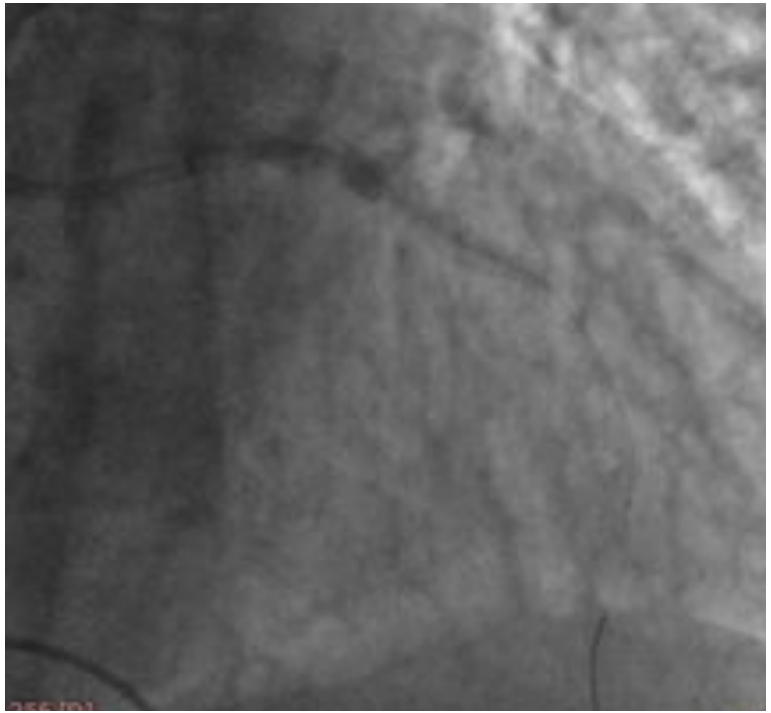
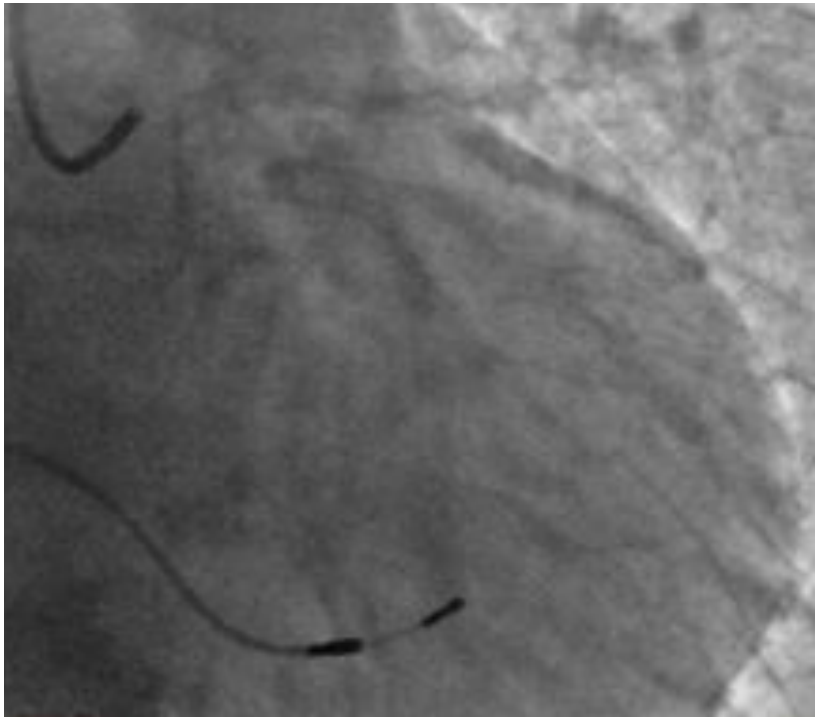




ETT: pas d'epanchement péricardique

dysfonction VG sévère FEVG <20%

Evolution:

Dissociation électromécanique sur table

Patient décédé après une heure de réanimation cardiorespiratoire.

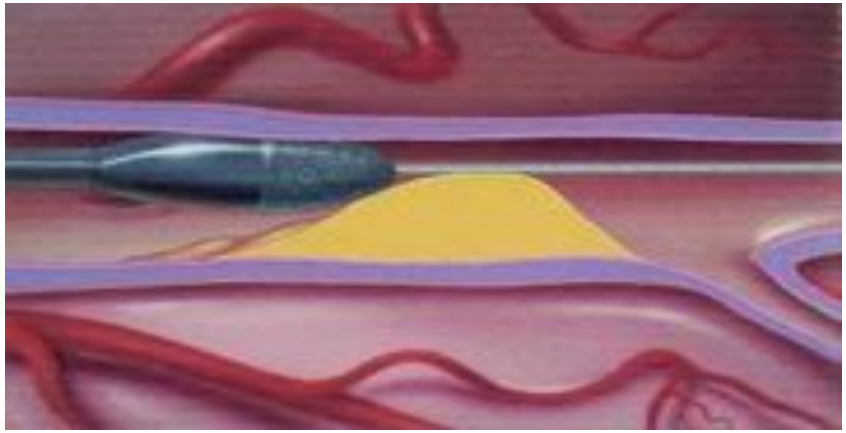
Ballon de contre pulsion intra-aortique non utilisé vue la dégradation rapide du patient.

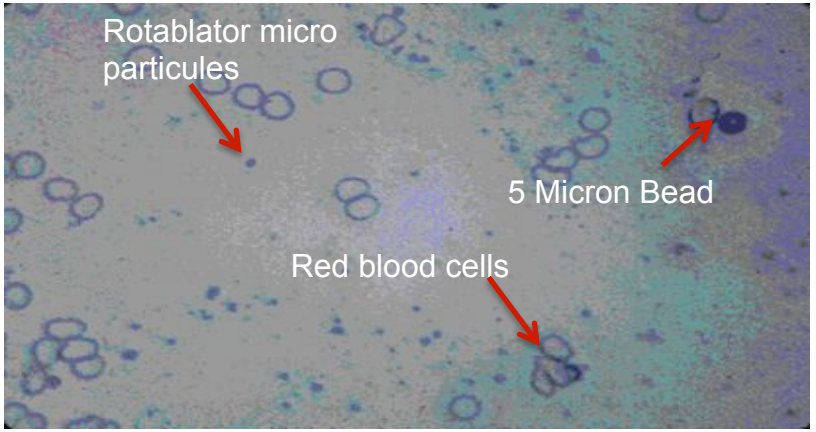
?

1- Tronc commun gauche distal avec une occlusion de la coronaire droite qui est clairement une situation à plus haut risque par rapport à une CD normale

2- dans une procédure adhoc on a tendance à sous estimer la complexitée de la lésion et les risques de l'angioplastie.

Discussion





The abraded plaque is pulverized into microparticles (size of RBCs), which are 5–10 μm in diameter. These particles are small enough to pass through the coronary microcirculation and ultimately undergo phagocytosis in the liver, spleen.

Distal embolization is common after directional atherectomy in coronary arteries and saphenous vein grafts

Coronary embolization is a complication of coronary intervention procedures. The incidence, predictors, and clinical significance of this phenomenon during directional atherectomy were examined in 111 consecutive patients who underwent directional atherectomy to 120 lesions. Distal embolization occurred in 31 (28%) of the patients. It was noted mainly in the saphenous

Distal embolization occurred in 31 (28%) of the patients

The only difference in clinical outcome was a longer hospitalization in the distal embolization group with 3.9 ± 3.7 days versus the rest of the patients 2.4 ± 2.4 days ($p = 0.01$). In the majority of patients there was no significant adverse clinical outcome. (Am Heart J 1995;129:430-5.)

Complications. Angiographic and clinical complications are listed in Table IV. Among 111 patients who underwent directional atherectomy, clinical distal embolization occurred in 33 (30%) of patients; however, angiographic complications were recognized in only 15 (14%) patients. Nine patients had atherectomy at two sites during the same procedure;

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5 (55%) of the 9 patients had distal embolization during the procedure

after the procedures were noted in 53 (48%) patients.

Waksman et al. American Heart Journal Volume 129, Number 3

Mechanisms of Hypoperfusion

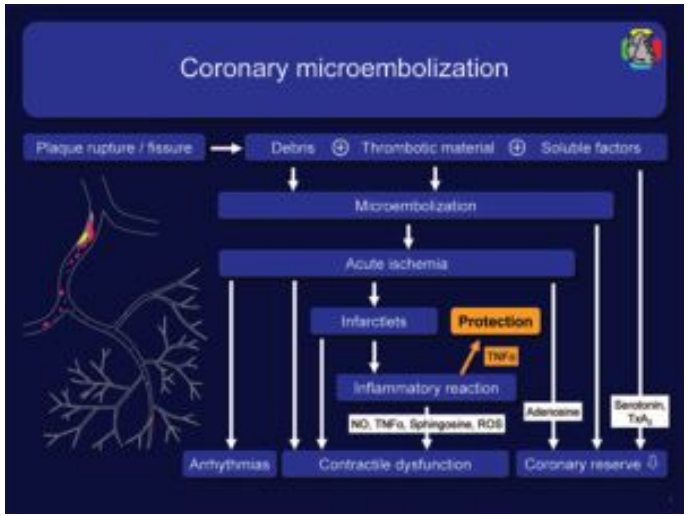
Microembolization of calcified debris,

Release of vasoactive substances,

Microcavitation,

Vessel spasm

Platelet activation.



JNM The Journal of NUCLEAR MEDICINE

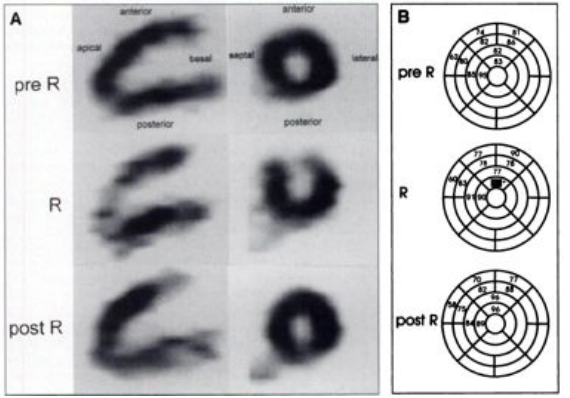
Quantitative Assessment of Transient Regional Ischemia During Rotational Atherectomy

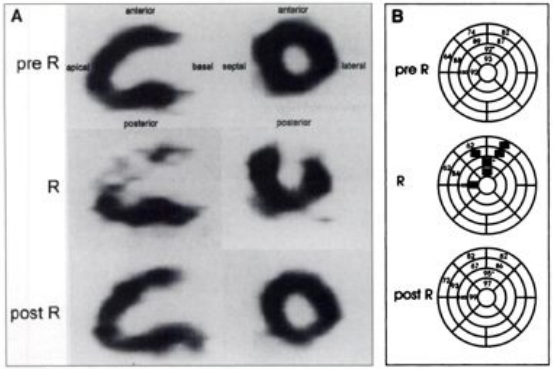
Karl-Christian Koch, Eduard Kleinhans, Heinrich G. Klues, Gernot Schulz, Martin Sigmund, Udalrich Buell, Peter Hanrath and Juergen vom Dahl

J Nucl Med. 1998;39:402-408.

CONCLUSION

Despite the absence of elevation of myocardial enzymes, significant scintigraphic perfusion defects could be demonstrated in the majority of patients. Thus, transient myocardial ischemia seems to be common and a closely procedure-related phenomenon. Lesion calcification could be identified as a risk factor for larger perfusion defects. Serial SPECT imaging with quantitative analysis as proposed in this study may be used in the future to evaluate pharmacological approaches to reduce rotational atherectomy-induced hypoperfusion.





Qu ’est ce que on aurai pu faire?

✓ Ballon de contre pulsion intra-aortique

✓ Les AntiGIIbIIIa

Conclusion

✓ Savoir résister au chantage du patient et bien réfléchir la procédure et les risques

✓Les lésions du Tronc commun gauche distal sans support de la coronaire droite ont de pronostic plus mauvais.

✓La micoro-embolisation distale décrite comme étant anodine au cours de l'athérectomie rotative ne l'est pas forcement chez les patients fragiles.

✓Ce risque pourrait être minimisé en traitant la lésion la plus serrée avec un approche simple.

Merci de votre attention

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CORONARY ARTERY DISEASE

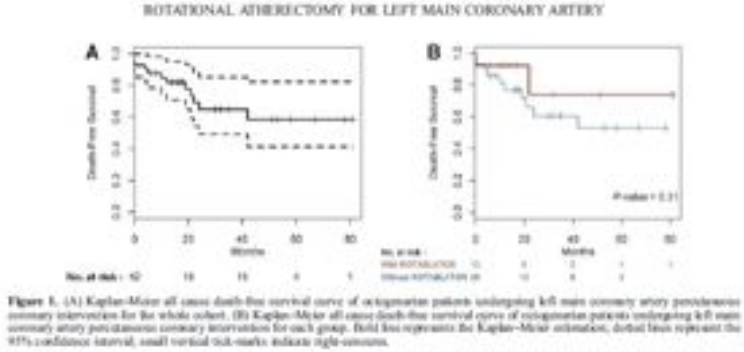
Rotational Atherectomy for Left Main Coronary Artery Disease in Octogenarians: Transradial Approach in a Tertiary Center and Literature Review

ZIAD DAHDOUH, M.D.,[1,2] VINCENT ROULE, M.D.,[1,2] AUDREY EMMANUELLE DUGUÉ, M.D.,[2,3] RÉMI SABATIER, M.D.,[1,2] THÉRÈSE LOGNONÉ, M.D.,[1,2] and GILLES GROLLIER, M.D.[1,2]

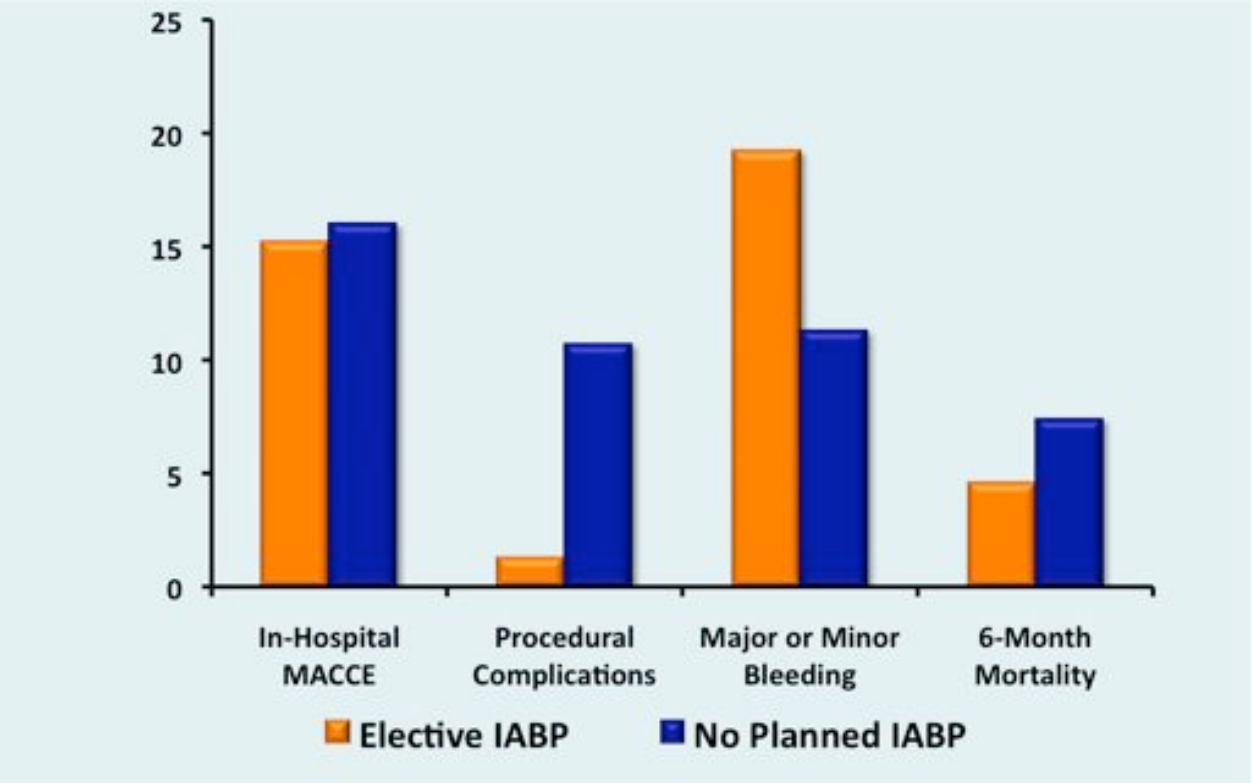
From the [1]CHU de Caen, Department of Interventional Cardiology, Caen, France; [2]Université de Caen Basse-Normandie, Medical School, Caen, France; and [3]CHU de Caen, Department of Biostatistics and Clinical Research, Caen, France

Conclusions

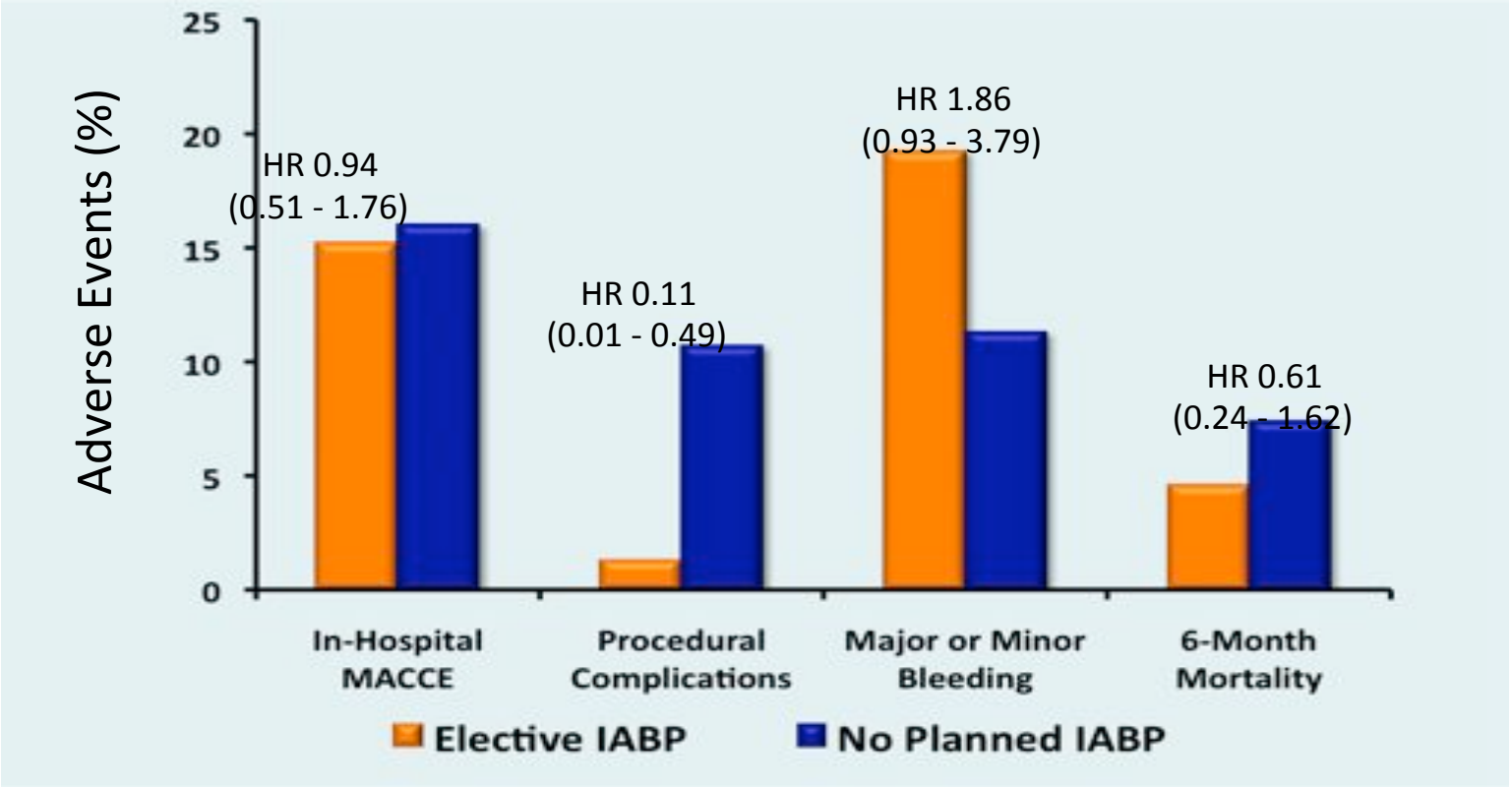
Rotational atherectomy followed by stent implantation by transradial approach, when applied to heavily calcified lesions, demonstrates to be a safe and effective strategy for the treatment of LMCA disease in octogenarians who were refused for surgery and who represented a high risk population for PCI and coronary events. Indeed, it seems able to preserve durability of vessel patency reducing the risk of death and myocardial infarction for this specific population with heavy basal state.



DAHDOUH, et al. Journal of Interventional Cardiology Vol. 26, No. 2, 2013

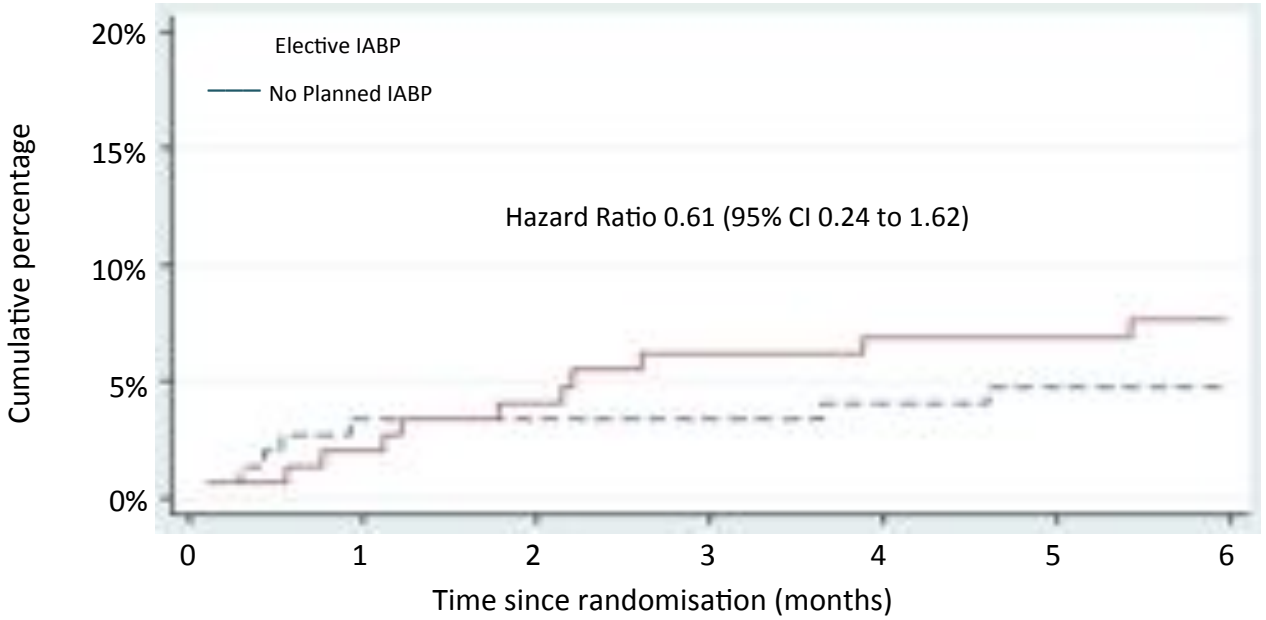

25
20
15
10
5
0
In-Hospital MACCE
Procedural Complications
Major or Minor Bleeding
6-Month Mortality
Elective IABP
No Planned IABP

Major Outcomes



JAMA 2010; 304(8):867-874

Secondary Outcome: 6 month Mortality



Elective IABP	151	146	146	146	145	144	144
No Planned IABP	150	147	144	141	140	140	139

JAMA 2010; 304(8):867-874

Merci de déclarer les liens d'intérêt potentiels liés à votre présentation

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