CSC 2025
CORONARY AND STRUCTURAL CONGRESS
CONGRESO CORONARIO Y ESTRUCTURAL
MADRID

5, 6 y 7 NOVIEMBRE
HOTEL RIU PLAZA DE ESPAÑA

DEB Clinical Focus Group Switzerland

DCB EN LESIÓN DE NOVO

BIFURCACIÓN

Juan F. Iglesias

Hospitales Universitarios de Ginebra

Suiza

Hôpitaux Universitaires Genève

UNIVERSITÉ DE GENÈVE

Disclosures

Speaker's name : Juan F. Iglesias

☑ I have the following potential conflicts of interest to report:

- **Consultant**: Biotronik, Cordis, Medtronic, Recor Medical.

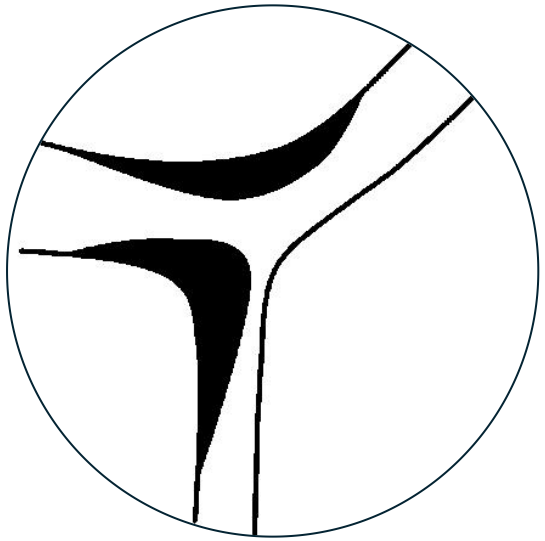
- **Honoraria/speaker's fee**: Astra Zeneca, Biotronik, Biosensors, Bristol Myers Squibb/Pfizer, Cordis, Concept Medical, Medtronic, Novartis, Terumo Corp., Penumbra Inc., Philips Volcano, Recor Medical.

- **Institutional grant/research support**: Abbott Vascular, Astra Zeneca, Biotronik, Concept Medical, Philips Volcano, SMT, Terumo Corp.

This presentation has been developed for an educational purpose and represents independent evaluations and opinions of the authors and contributors independently from the operating company sponsoring the present symposium.
Dr. Juan F. Iglesias is compensated by and presenting on behalf of Cordis and must present information in accordance with applicable regulatory requirements.
Before using any medical device, review all relevant information, including the label and the Instructions for Use.
RA 06/11/25

Coronary Bifurcations Lesions

Background



Coronary bifurcation lesions account for ~ **20%** of all PCIs and are associated with **increased procedural complexity**[1].

Metallic DES remain the **cornerstone** of treatment and a **stepwise provisional strategy** is recommended for the majority of **true LM and non-LM bifurcation lesions**[2].

Metallic DES-based bifurcation PCI is associated with **lower procedural success rates** and **worse clinical outcomes** compared to non-bifurcation PCI[3,4].

DCBs have emerged as a **promising alternative** to mitigate the need for **permanent metallic implants**, reduce the risk of **late complications** and preserve **native vessel geometry**[5].

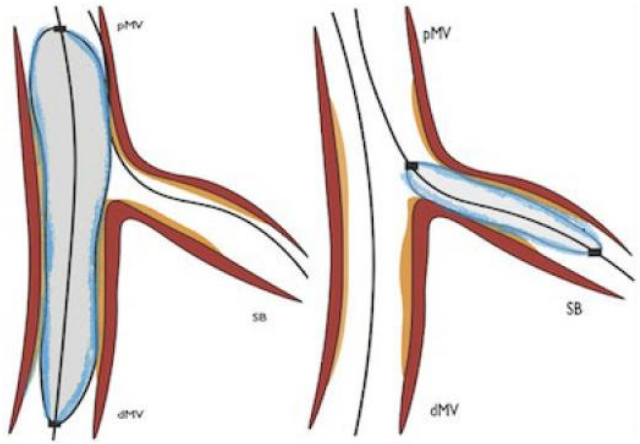
[1]Lunardi M, et al., EuroIntervention. 2023;19(10):e807-e831; [2]Burzotta F, et al., EuroIntervention. 2024;20(15):e915-e926; [3]Burzotta F, et al., Coron Artery Dis. 2020;31(5):438-445; [4]Park TK, et al., Circ J. 2015;79(9):1954-62; [5]Fezzi S, et al., EuroIntervention. 2025;21(20):e1177-e1197

DCB | Coronary Bifurcations Lesions

Concepts

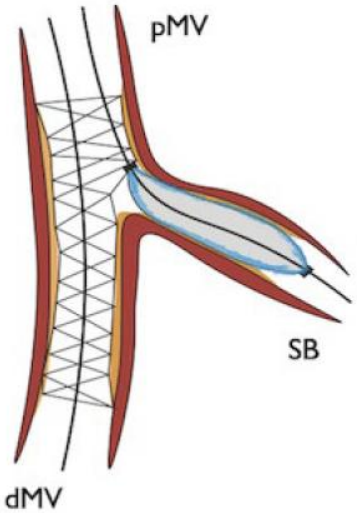
Fezzi S et al., EuroIntervention 2025;21:e1177-e1197

DCB-ONLY PCI
('Leave Nothing Behind')



Advantages
- Efficient and sustained drug delivery
- No polymers or permanent implants
- Preserves vessel geometry and SB access
- DAPT de-escalation

BLENDED ('HYBRID') PCI
(Provisional pathway)



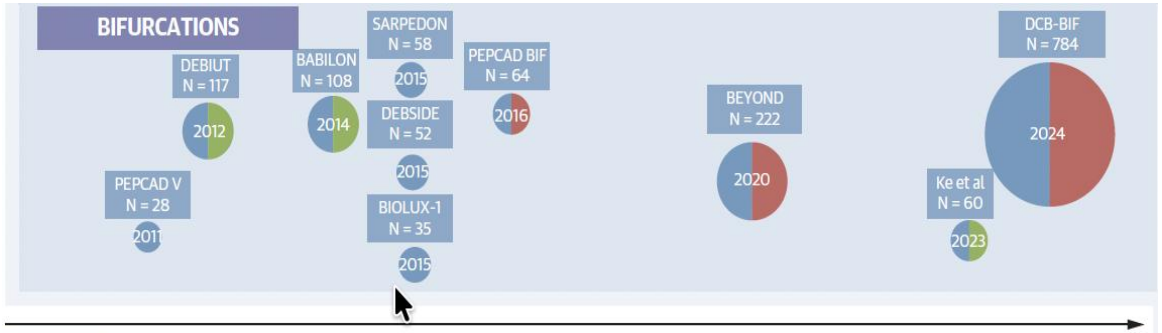
Advantages
- ↑ use of provisional vs 2-stent strategy
- ↓ stent burden
- Avoids issues related to polymer and strut crushing
- Allows SB late lumen enlargement

DCB | Coronary Bifurcations Lesions

Randomized evidence

Fezzi S et al., J Am Coll Cardiol. 2025;86(15):1170-1202

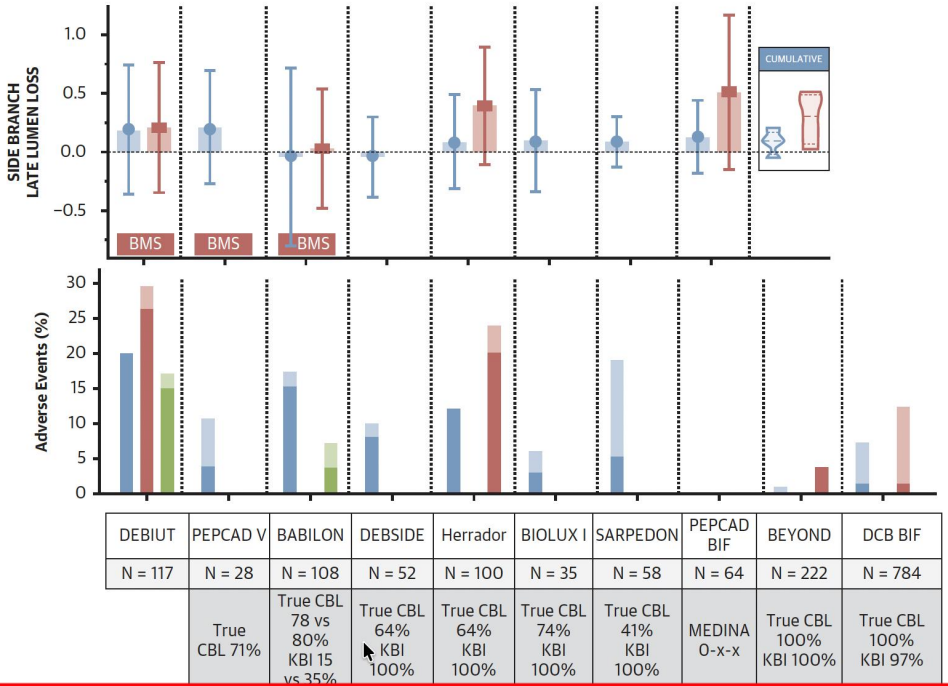
RCTs EVALUATING DCB PERFORMANCE FOR BIFURCATION LESIONS



Available evidence remains limited:

- Small sample sizes.
- Heterogeneous study protocols, bifurcation PCI techniques, and devices.
- Low rates of true bifurcation lesions.
- **Limited data on DCB-only PCI for bifurcation lesions.**

ANGIOGRAPHIC AND CLINICAL OUTCOMES DCBs FOR SB TREATMENT



DEBIUT	PEPCAD V	BABILON	DEBSIDE	Herrador	BIOLUX I	SARPEDON	PEPCAD BIF	BEYOND	DCB BIF
N = 117	N = 28	N = 108	N = 52	N = 100	N = 35	N = 58	N = 64	N = 222	N = 784
	True CBL 71%	True CBL 78 vs 80% KBI 15 vs 35%	True CBL 64% KBI 100%	True CBL 64% KBI 100%	True CBL 74% KBI 100%	True CBL 41% KBI 100%	MEDINA O-x-x	True CBL 100% KBI 100%	True CBL 100% KBI 97%

DCBs in SB reduce late lumen loss and possibly TLR

DCB | Coronary Bifurcations Lesions

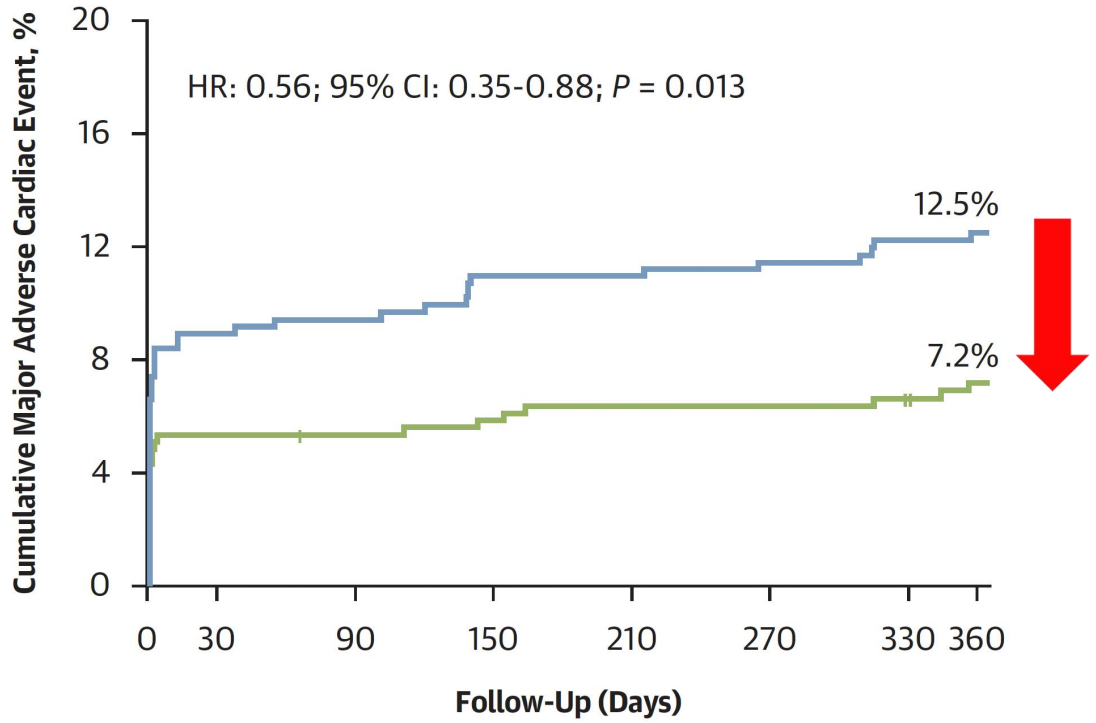
Sidebranch Treatment | Clinical Outcomes

DCB-BIF

MV-DES PCI, DCB vs. NCB SB PCI (n=784)

Gao X, et al., J Am Coll Cardiol. 2024:S0735-1097(24)08451-1

TARGET VESSEL FAILURE @ 1 YEAR

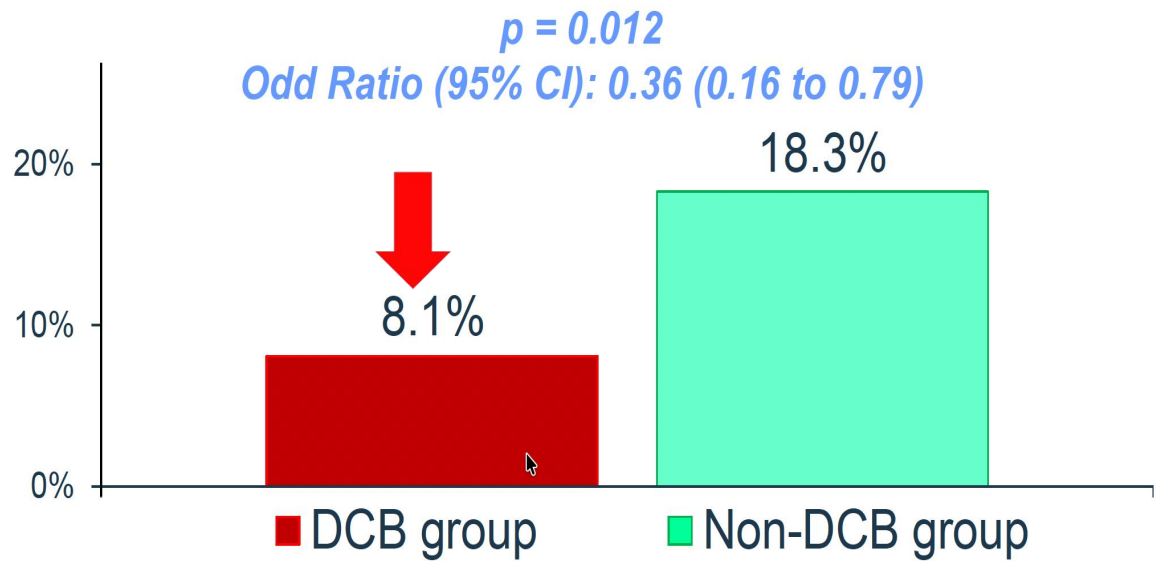


OCVC-BIF

MV DES-PCI, DCB vs. no DCB SB PCI (n=300)

Ishihara T, TCT Conference, San Francisco, USA 2025

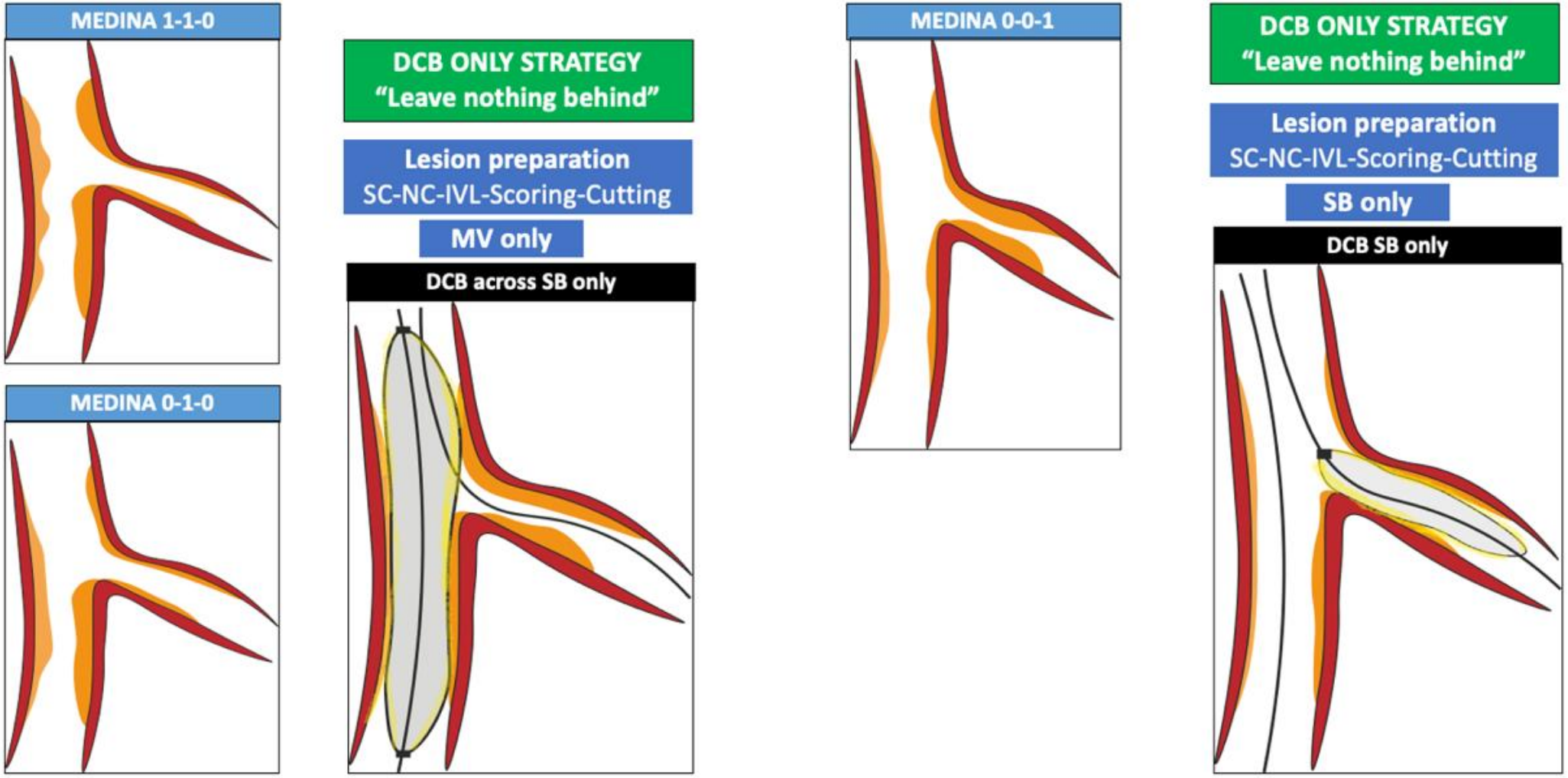
SIDEBRANCH RESTENOSIS @ 9 MONTHS



DCB in Coronary Bifurcations Lesions | Techniques

Non-True Bifurcation Lesions | DCB-only Strategy

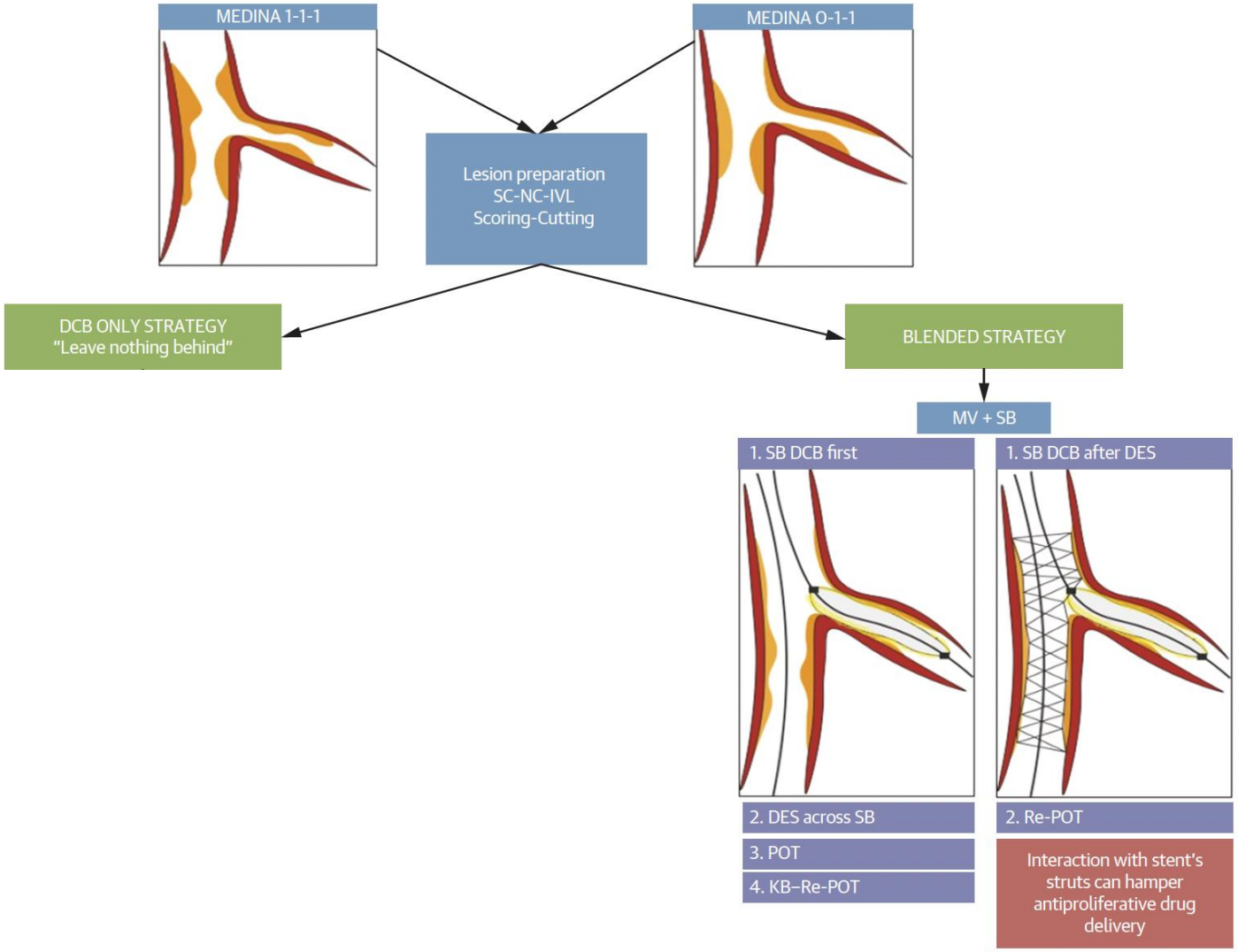
Fezzi S et al., J Am Coll Cardiol. 2025;86(15):1170-1202



DCB in Coronary Bifurcations Lesions | Techniques

True Bifurcation Lesions | DCB only and Hybrid strategies

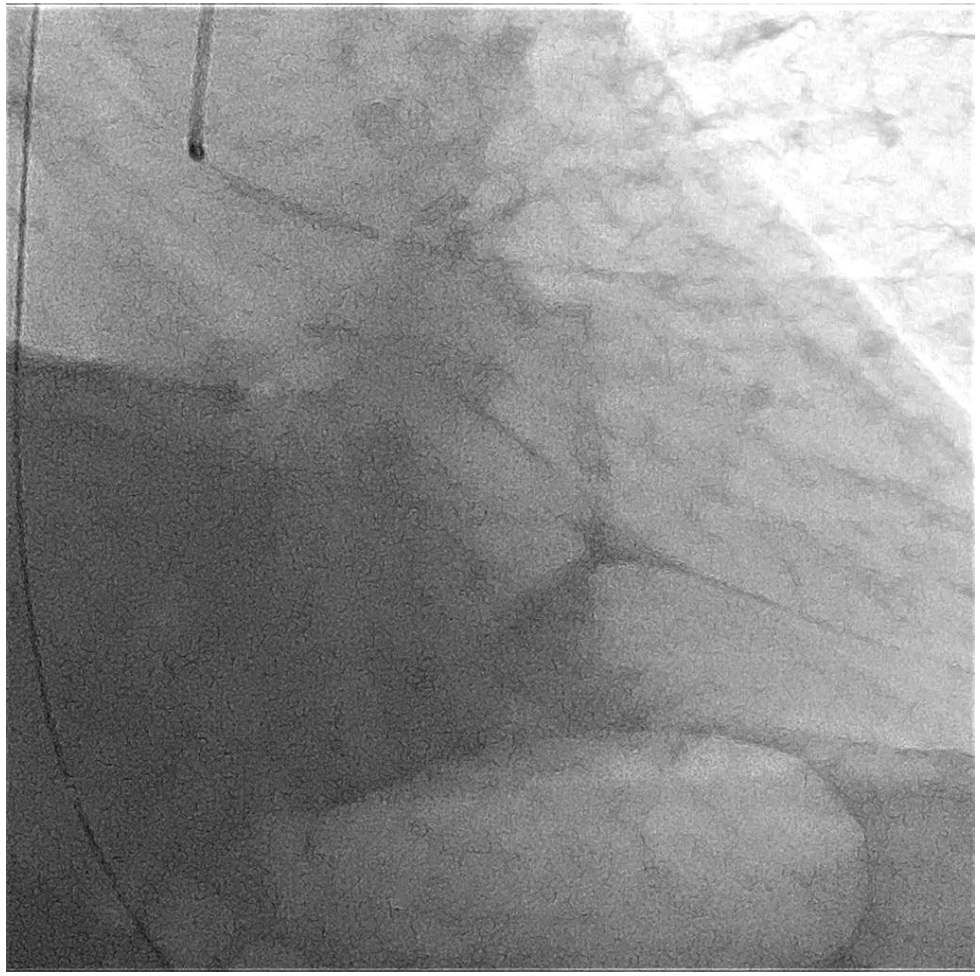
Fezzi S et al., J Am Coll Cardiol. 2025;86(15):1170-1202

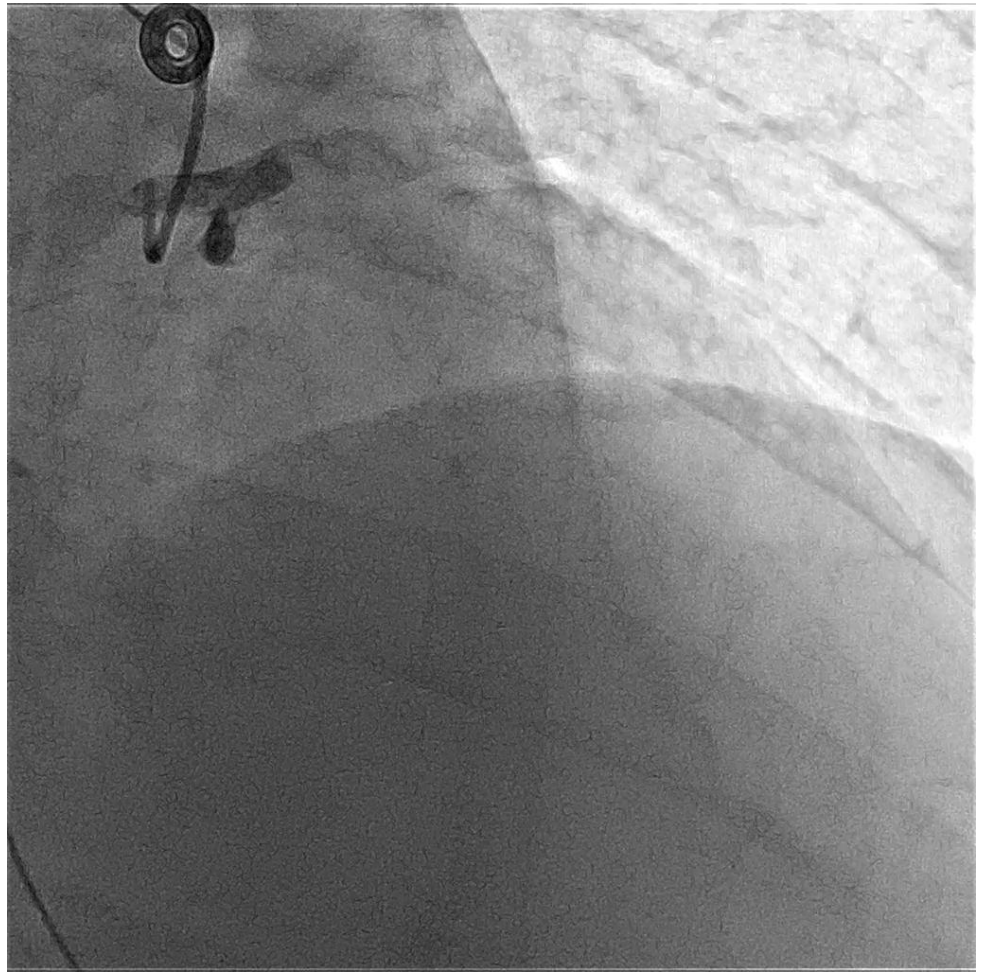


DCB in Bifurcation Lesions | Hybrid Strategy

Baseline coronary angiogram

39 yo gentleman, RF: active smoker, primary PCI for **anterior STEMI**

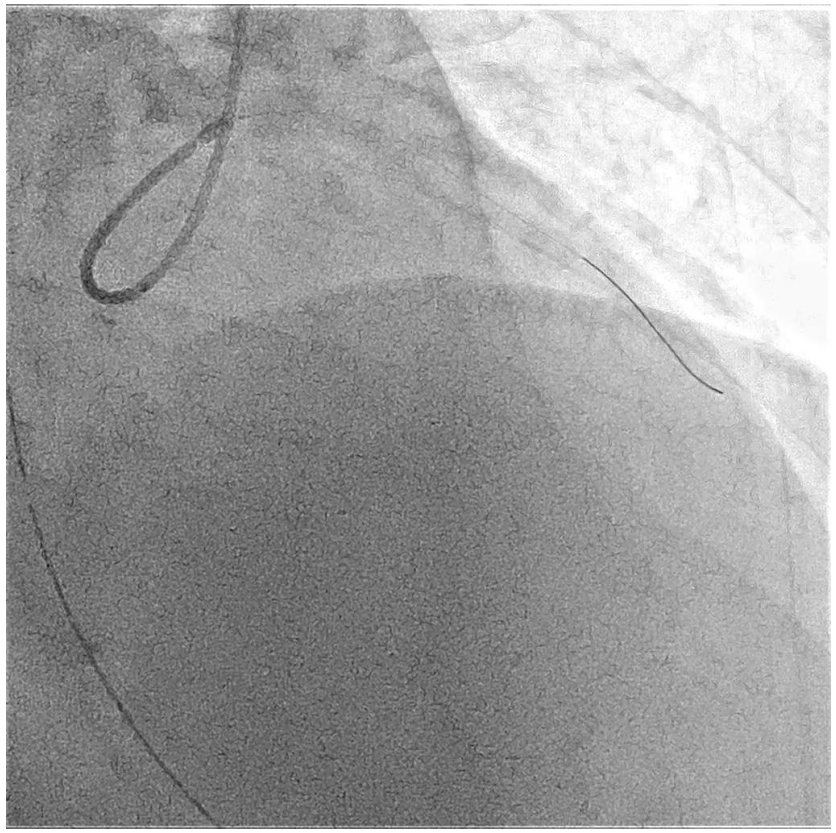




DCB in Bifurcation Lesions | Hybrid Strategy

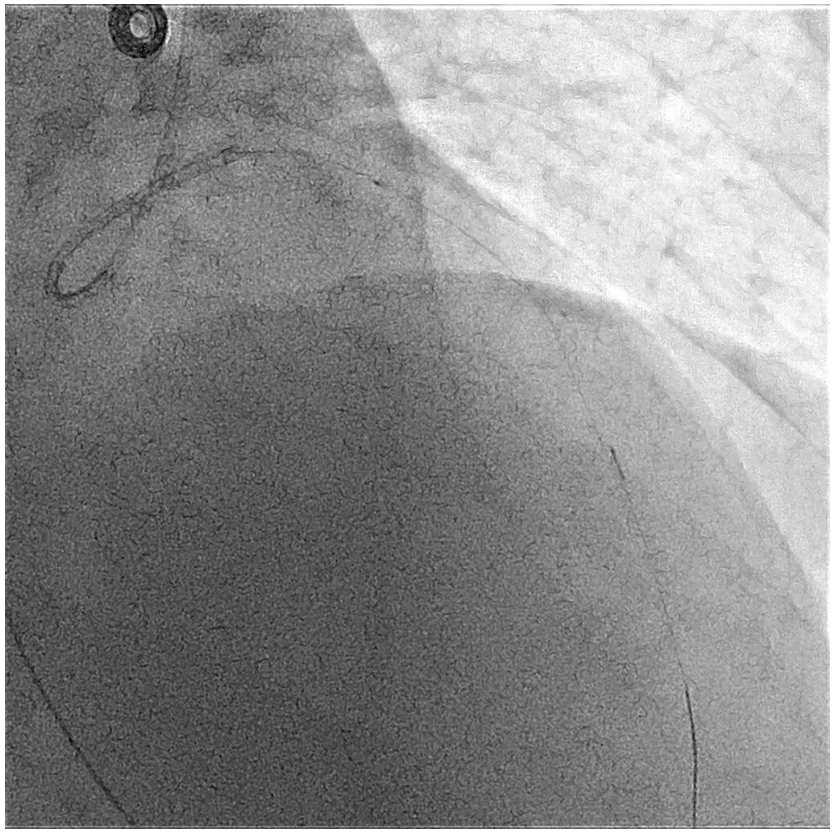
Mechanical Thrombus Aspiration

CAT™ RX (Penumbra Inc, USA)
(passage 1)



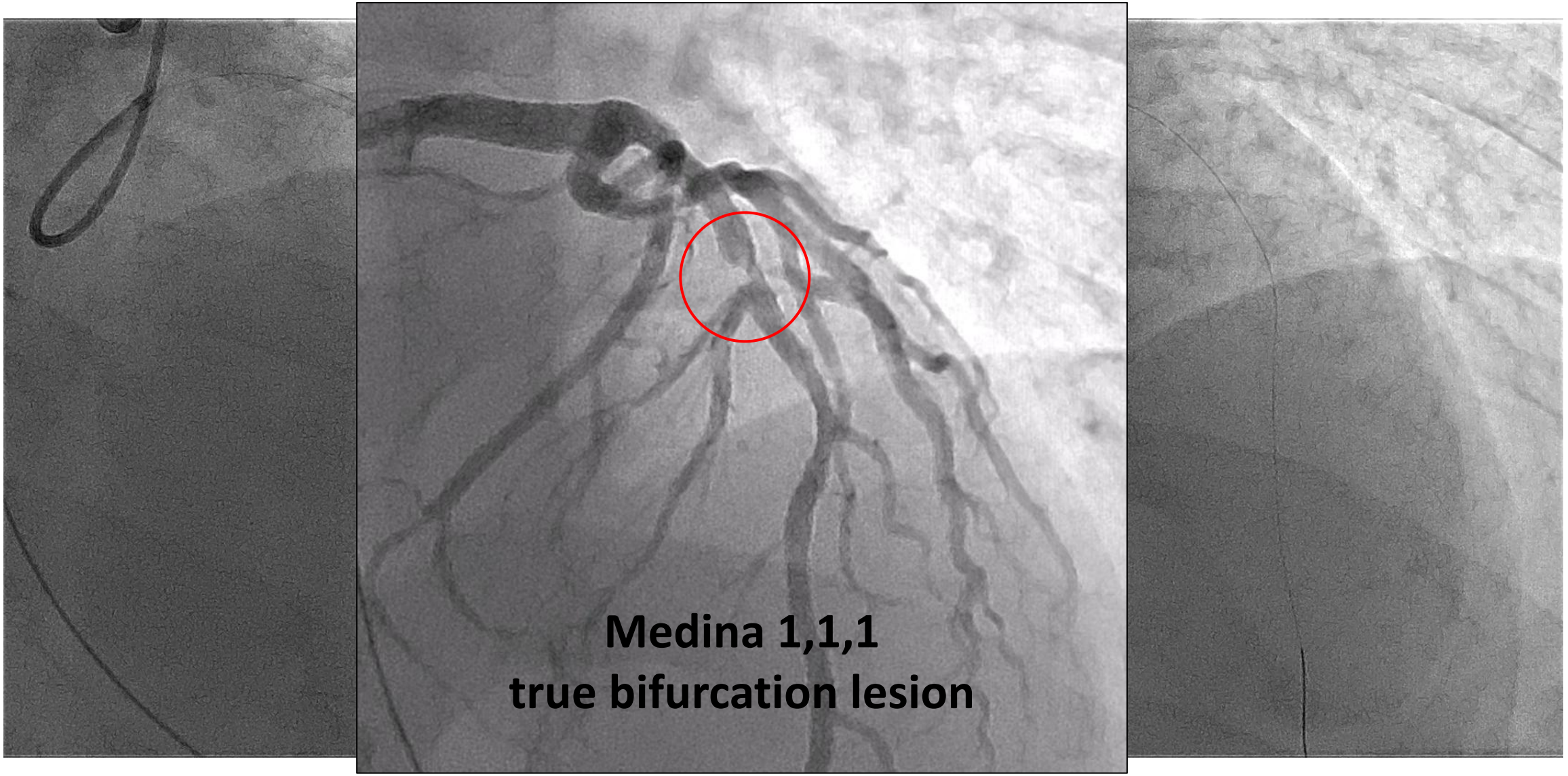
CAT™ RX (Penumbra Inc, USA)
(passage 2)

EnVAST (Vesalio, USA)
6.0 x 35 mm



DCB in Bifurcation Lesions | Hybrid Strategy

Intermediate Angiographic result

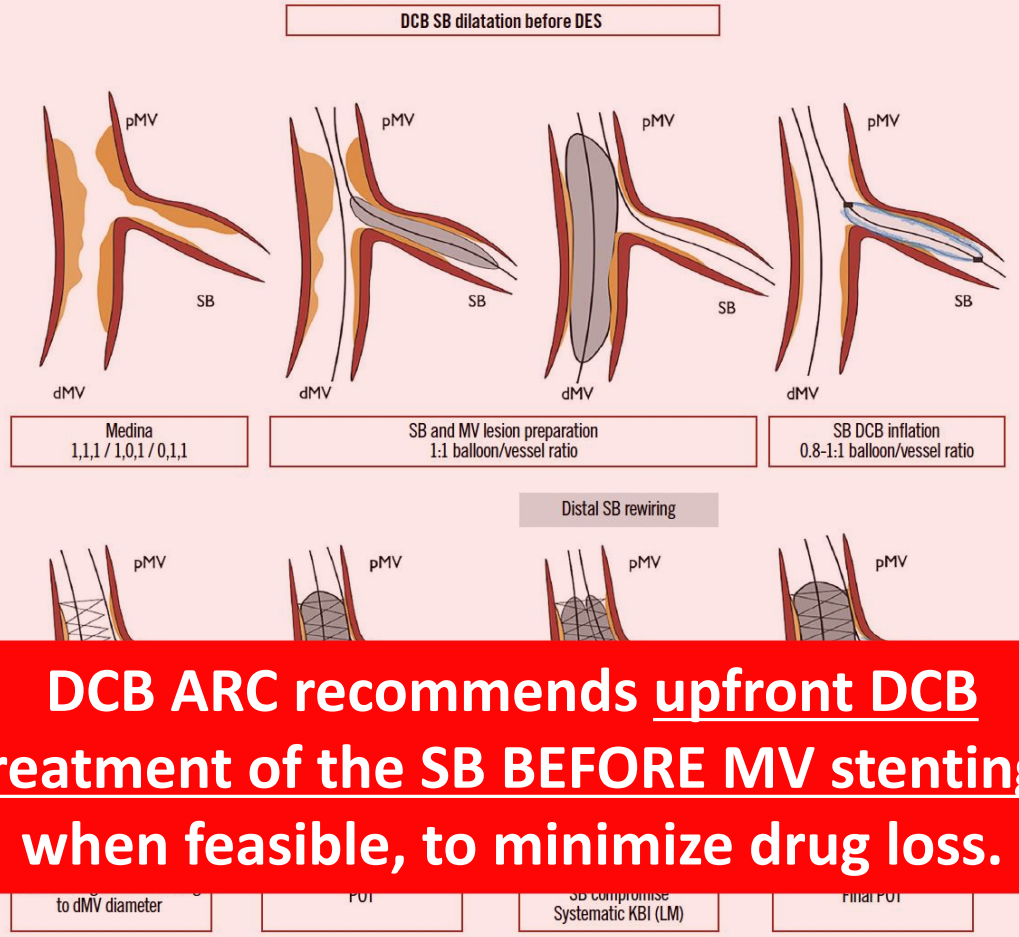


DCB in Bifurcation Lesions | Hybrid PCI

Sequence of DCB Use

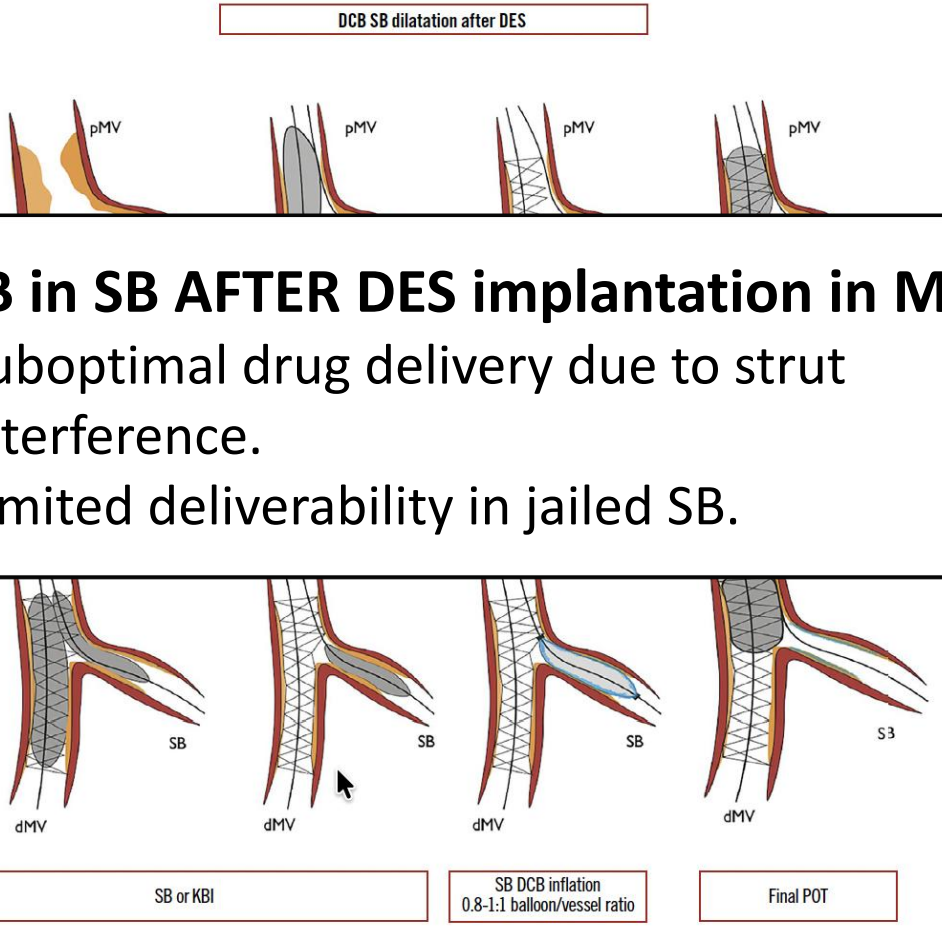
Fezzi S et al., EuroIntervention 2025;21:e1177-e1197

DCB *BEFORE* provisional DES implantation



DCB ARC recommends upfront DCB treatment of the SB BEFORE MV stenting, when feasible, to minimize drug loss.

DCB *AFTER* provisional DES implantation



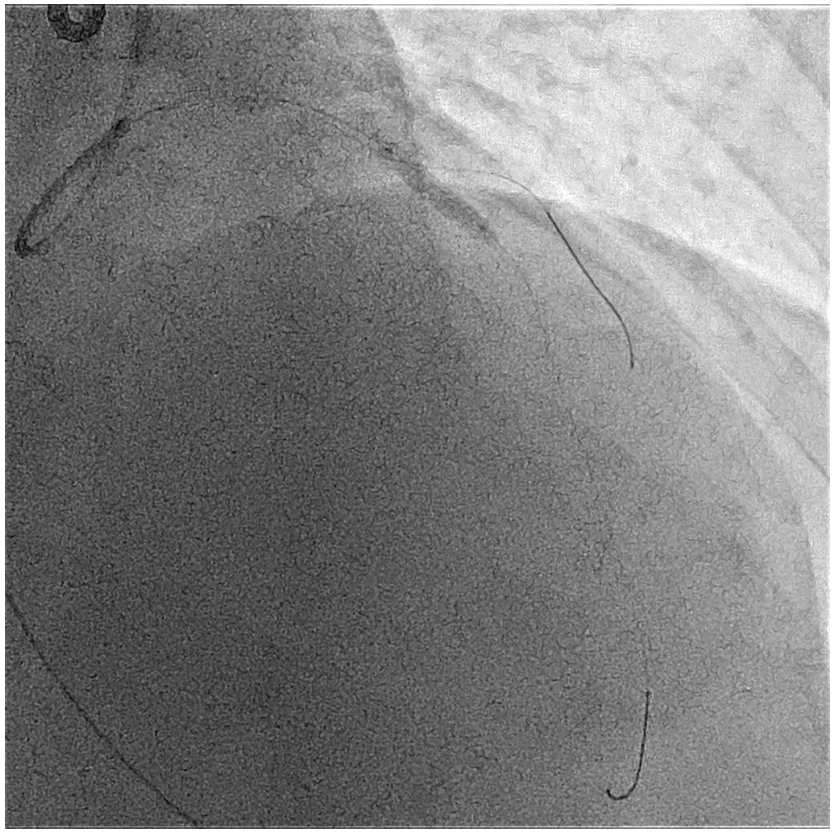
DCB in SB AFTER DES implantation in MV:

- Suboptimal drug delivery due to strut interference.
- Limited deliverability in jailed SB.

DCB in Bifurcation Lesions | Hybrid Strategy

DCB PCI in SB

NC balloon 3.5x15 mm
@ 24 atm (LAD)



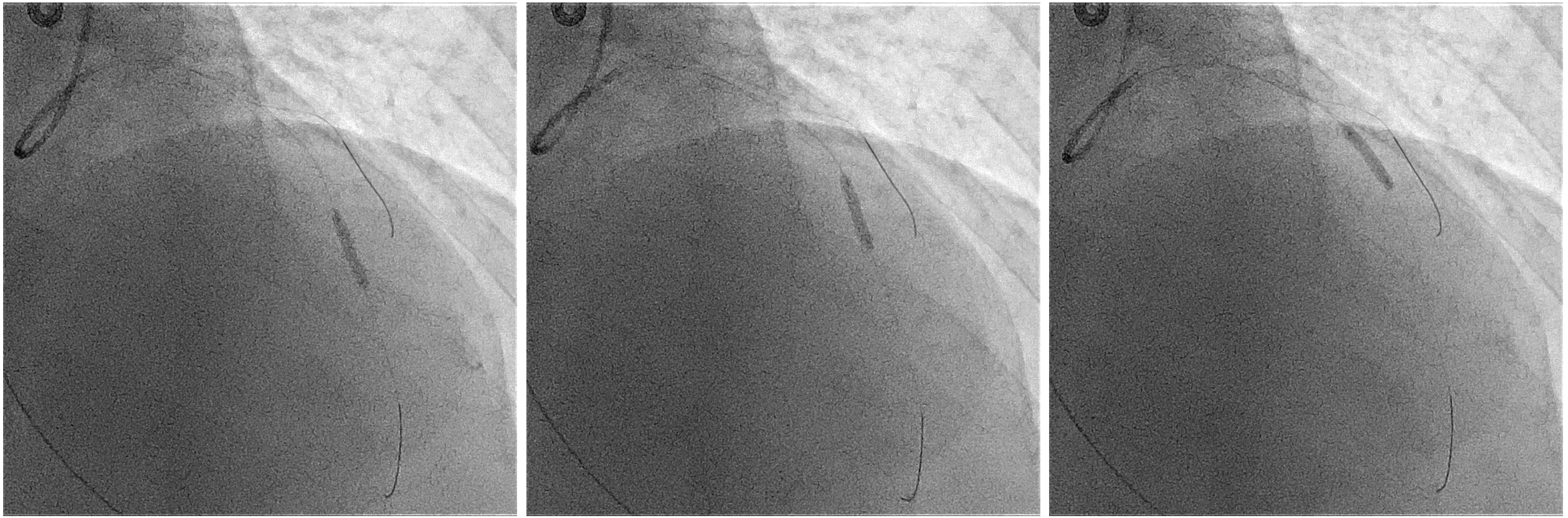
Scoring balloon 2.5x15 mm
@ 20 atm (D1)

SELUTION SLR 2.5x20 mm
@ 6 atm (2 minutes, D1)

DCB in Bifurcation Lesions | Hybrid Strategy

MV Lesion Preparation | (0.5 mm Undersized) Cutting Balloon

Cutting balloon 2.5x15 mm @ 18 atm (mLAD)

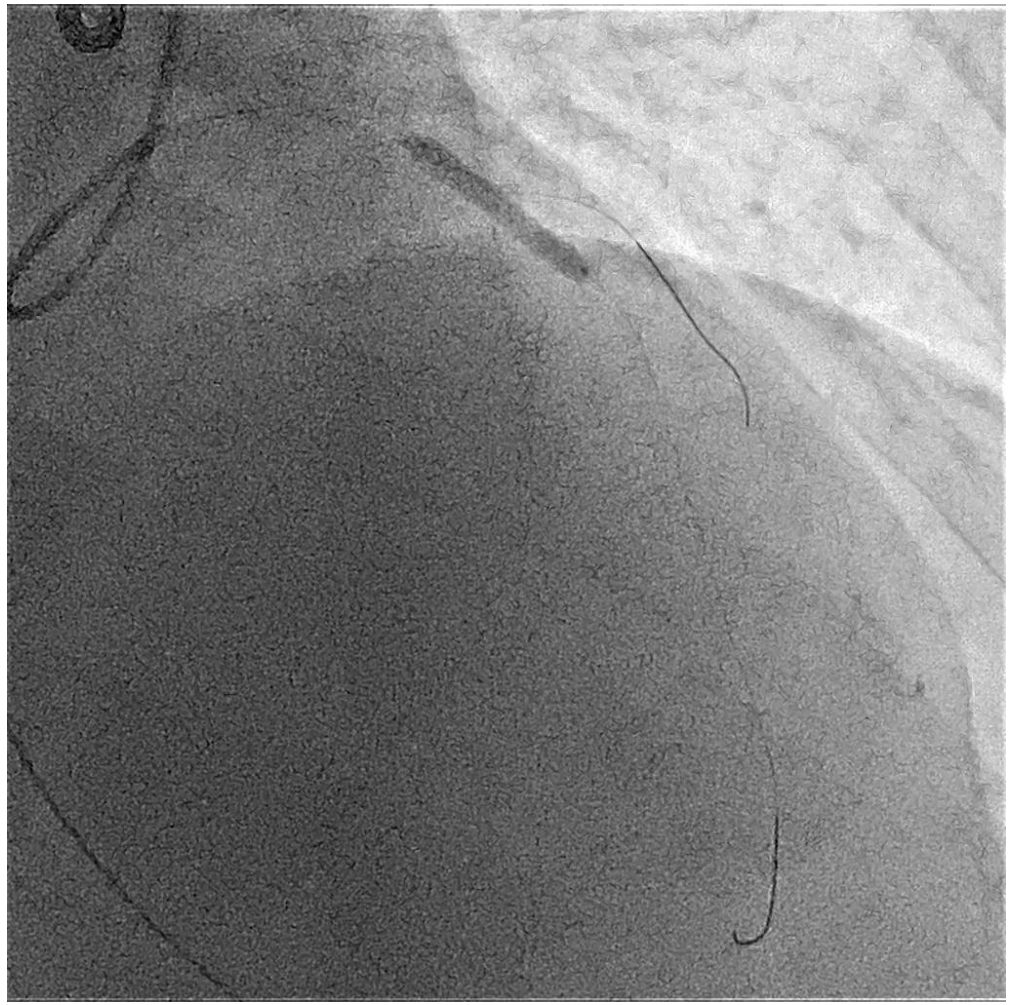


DCB in Bifurcation Lesions | Hybrid Strategy

DES and DCB PCI in MV

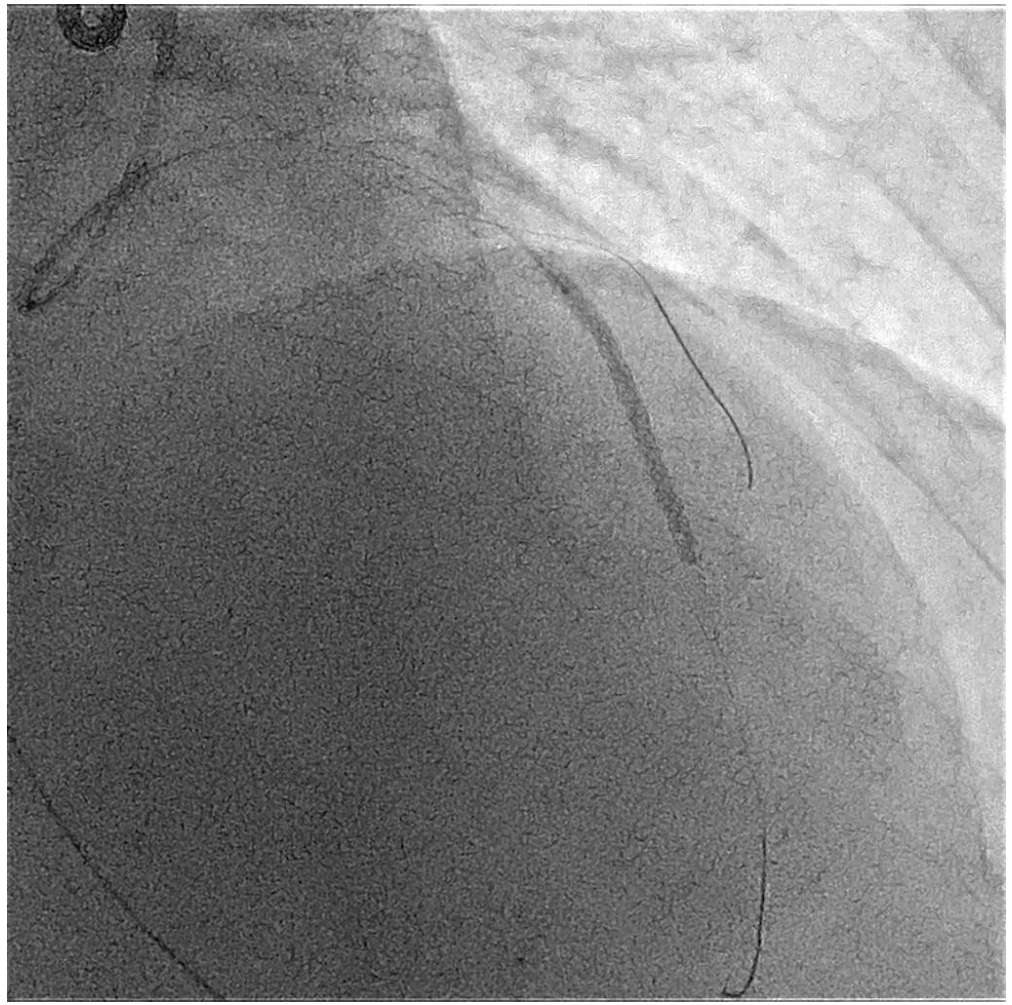
DES 3.5x24 mm @ 12 atm

(pLAD)



SELUTION SLR 3.0x40 mm @ 6 atm

(mLAD)

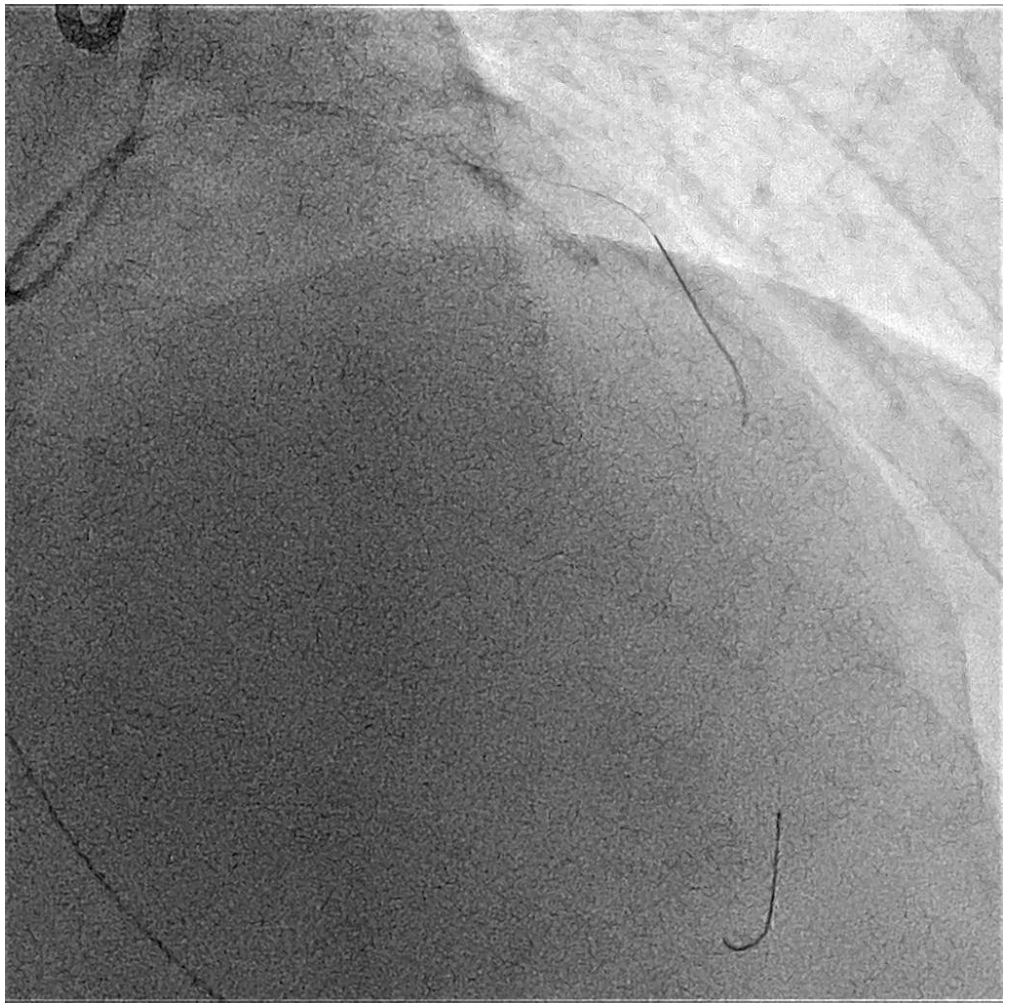


DCB in Bifurcation Lesions | Hybrid Strategy

MV DES optimization

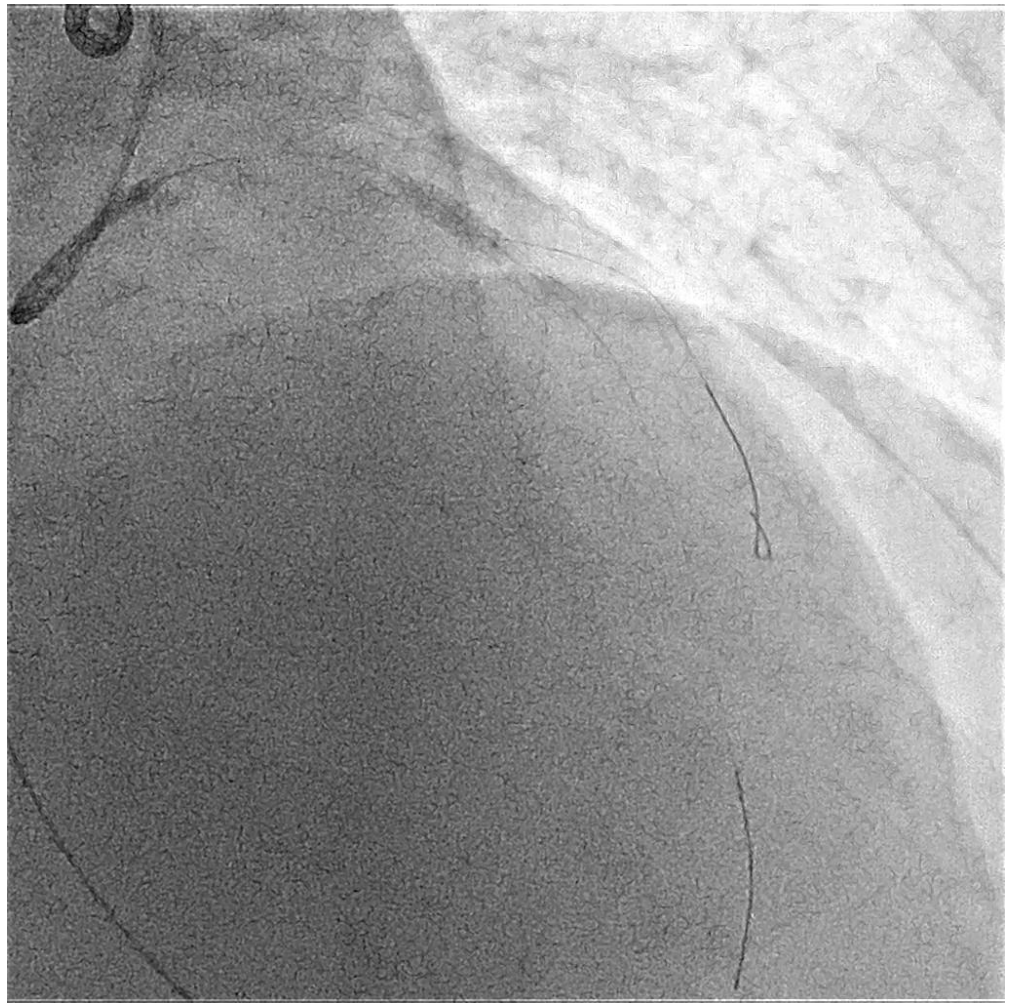
NC balloon 4.0x15 mm @ 18 atm

(mLAD)



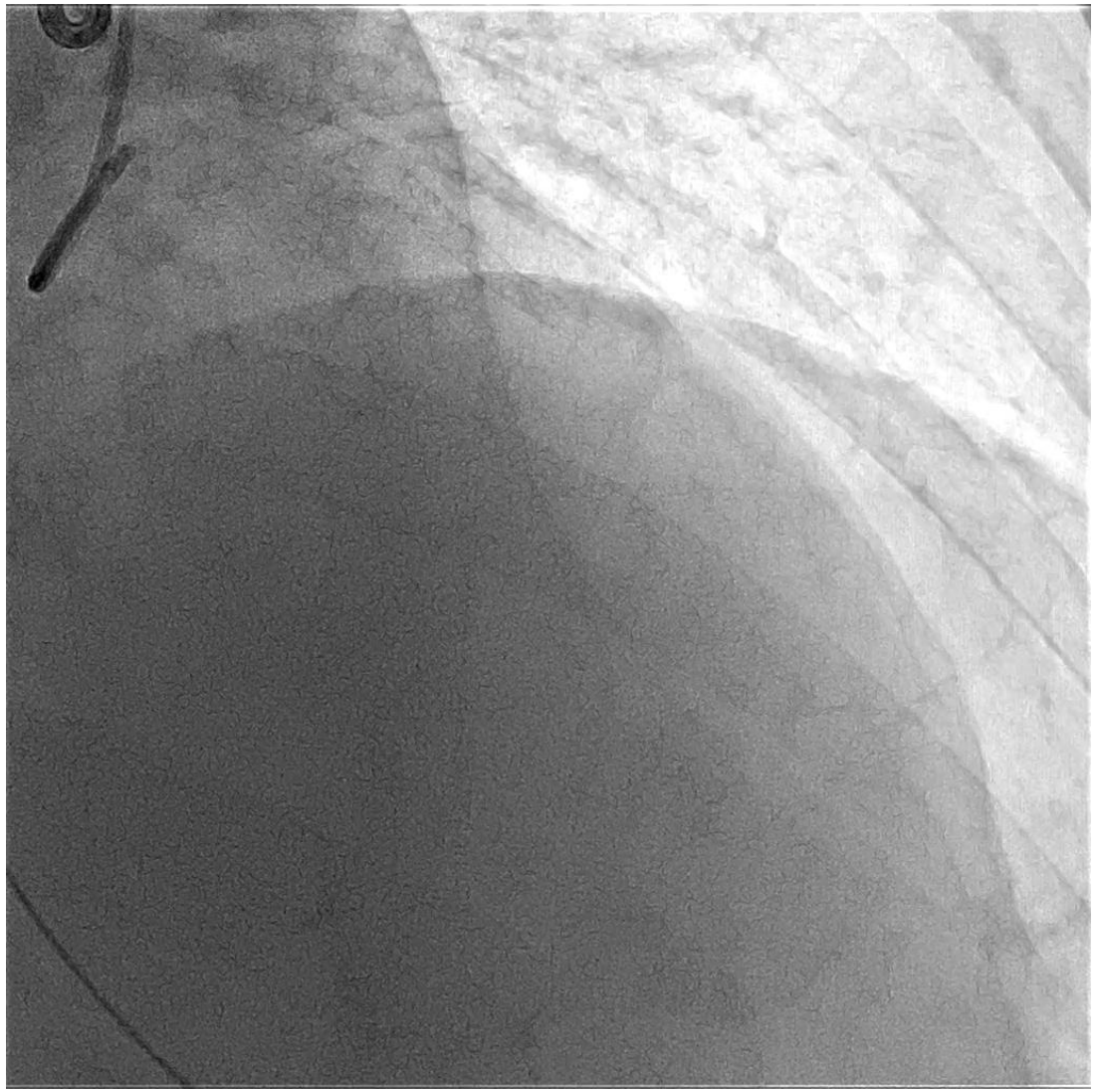
POT with NC balloon 4.5x8 mm @ 20 atm

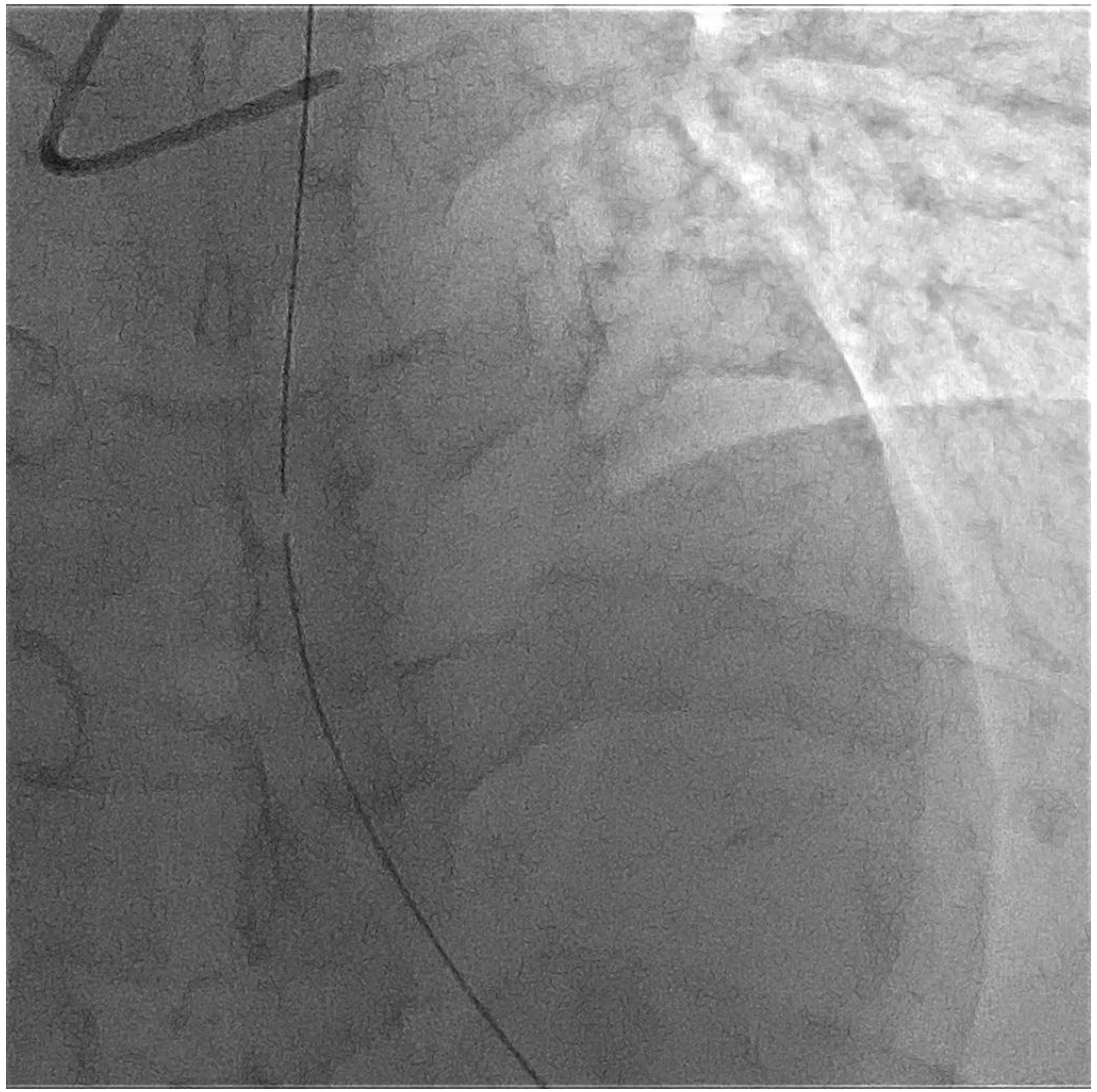
(pLAD)



DCB in Bifurcation Lesions | Hybrid Strategy

Final Angiographic result

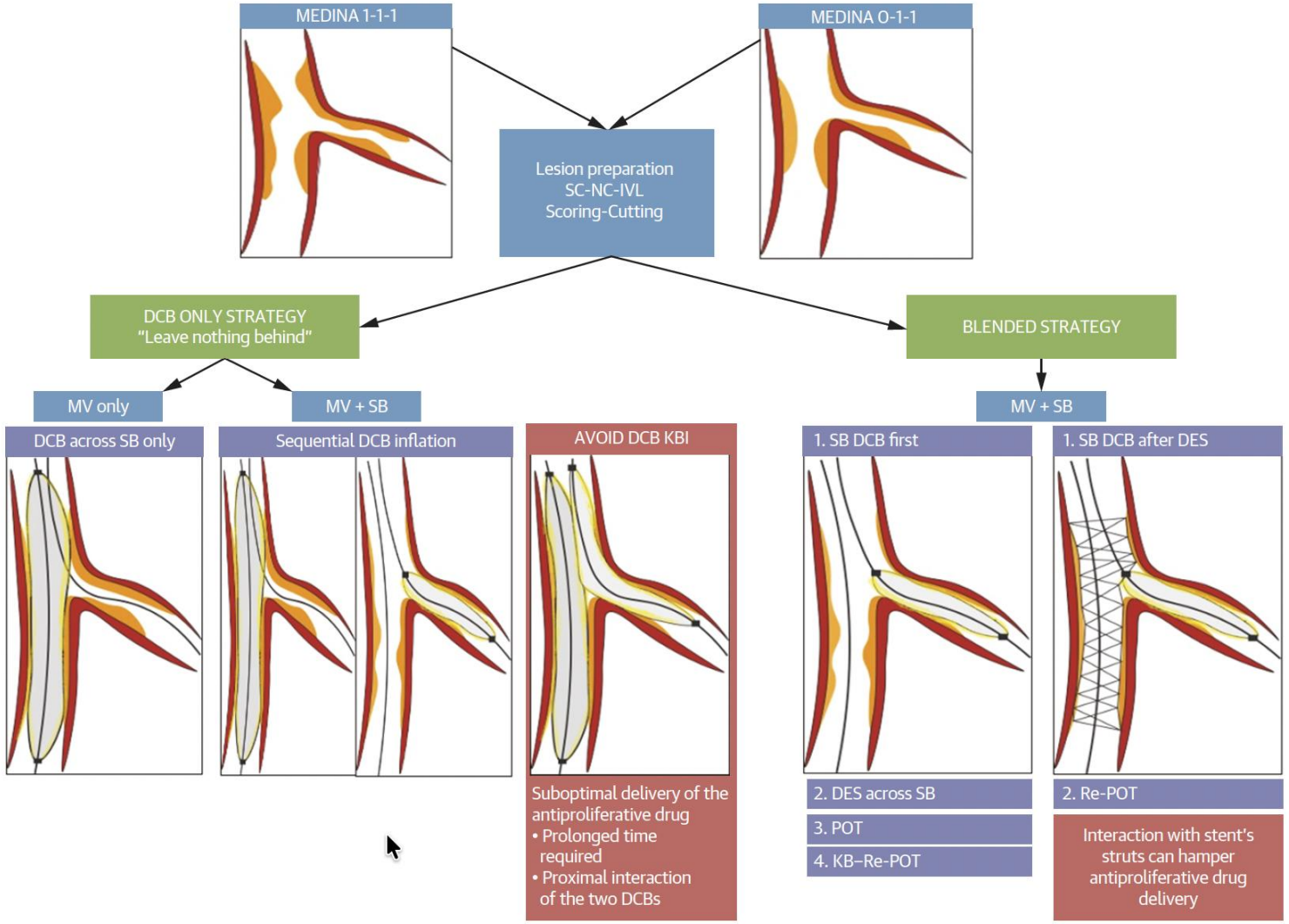




DCB | Coronary Bifurcations Lesions

True Bifurcation Lesions | DCB only and Hybrid strategies

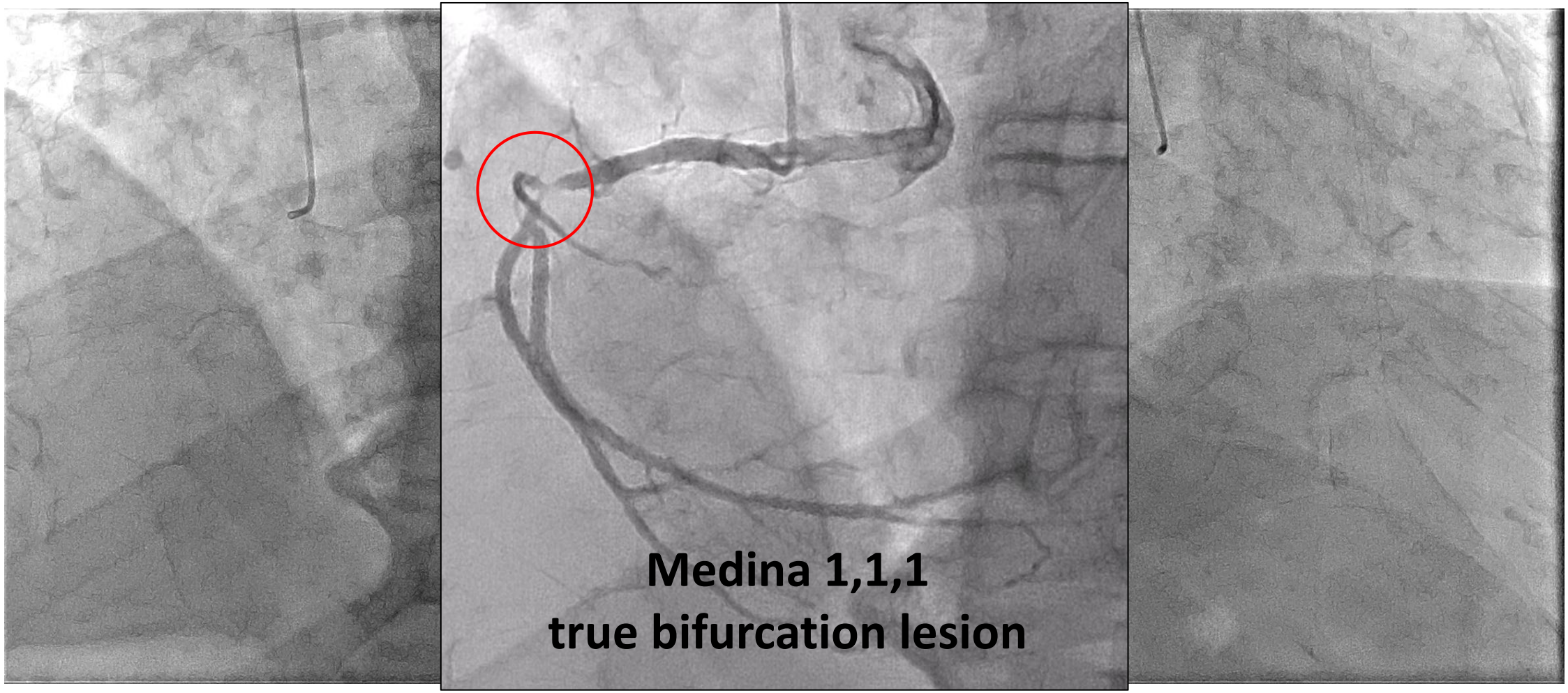
Fezzi S et al., J Am Coll Cardiol. 2025;86(15):1170-1202



DCB in Bifurcation Lesions | DCB-only Strategy

Baseline coronary angiogram

70 yo gentleman / RF: HTN, dyslipidemia / **6-month Hx of typical extertional chest pain**

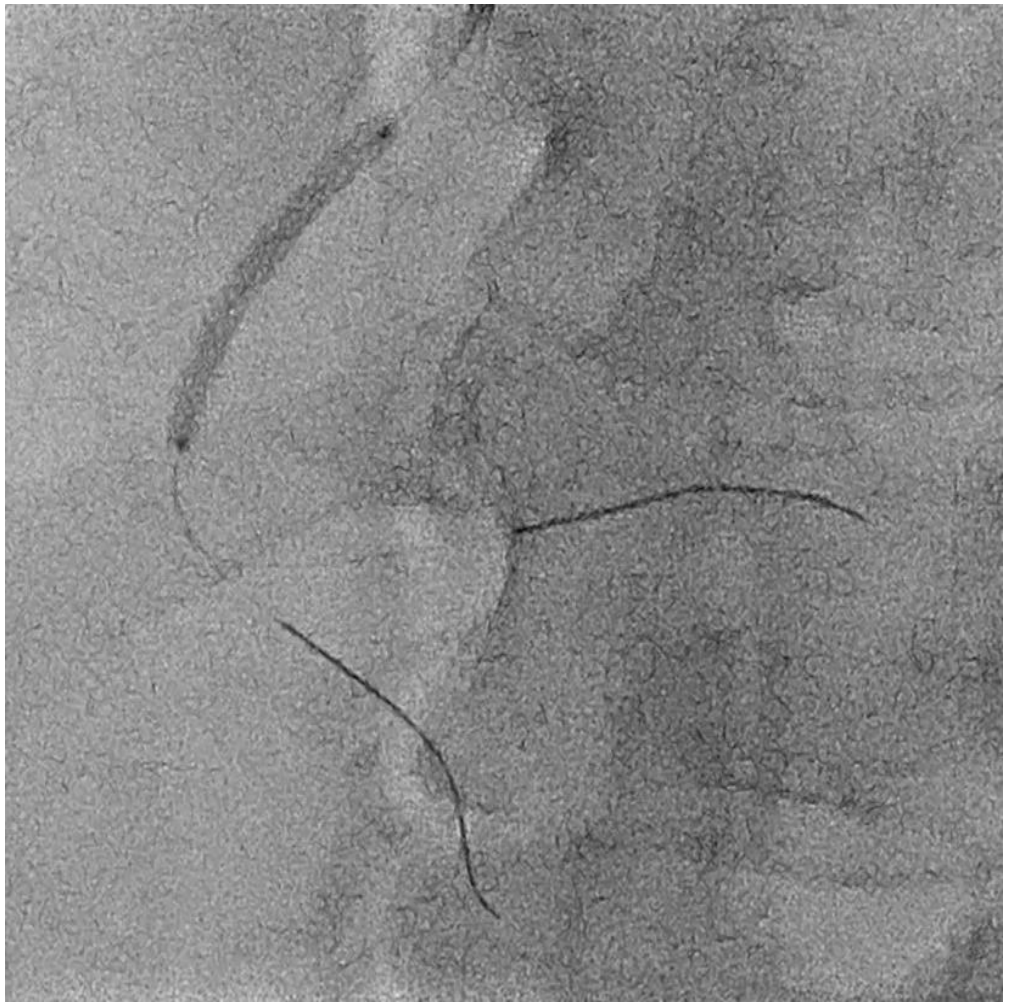


DCB in Bifurcation Lesions | DCB-only Strategy

Lesion Preparation | (0.5 mm Undersized) Non-Compliant Balloon

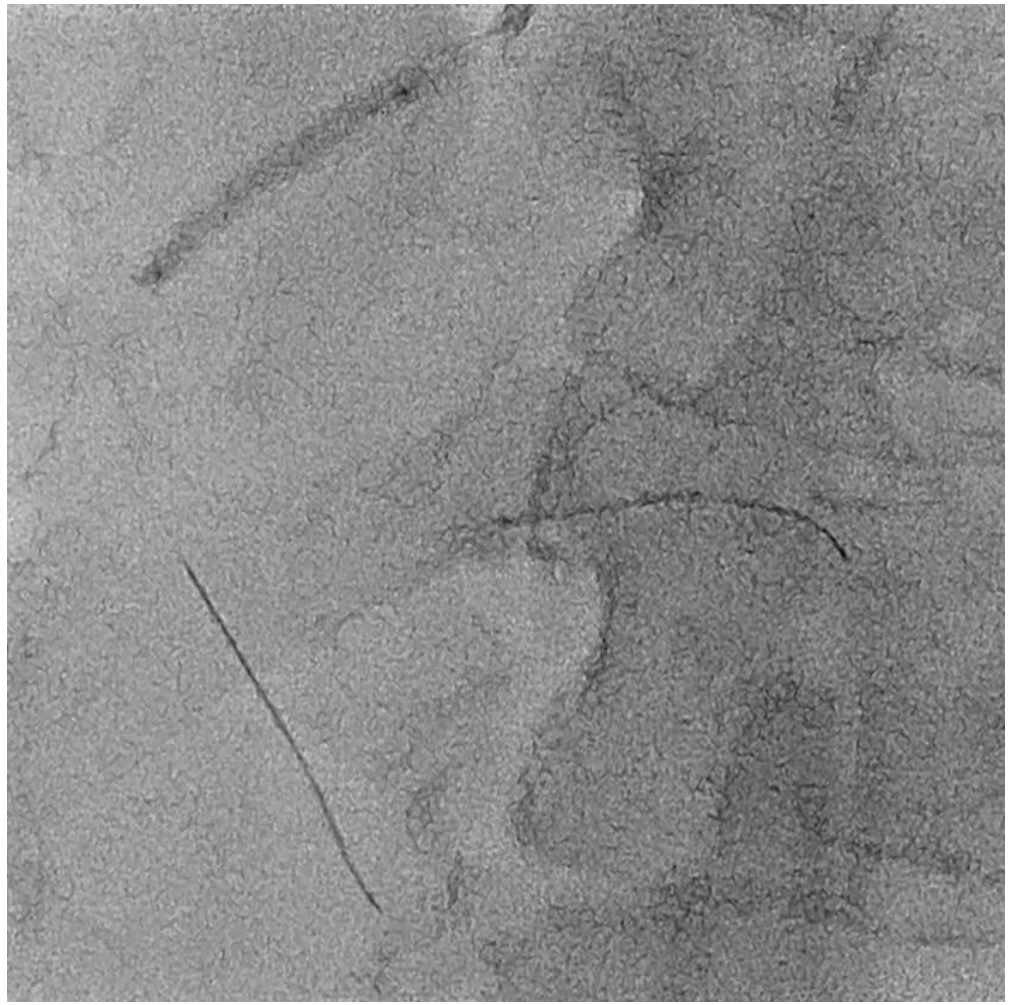
NC balloon 2.5x30 mm @ 20 atm

(pRCA to PLV)



NC balloon 2.0x30 mm @ 20 atm

(pRCA to PDA)

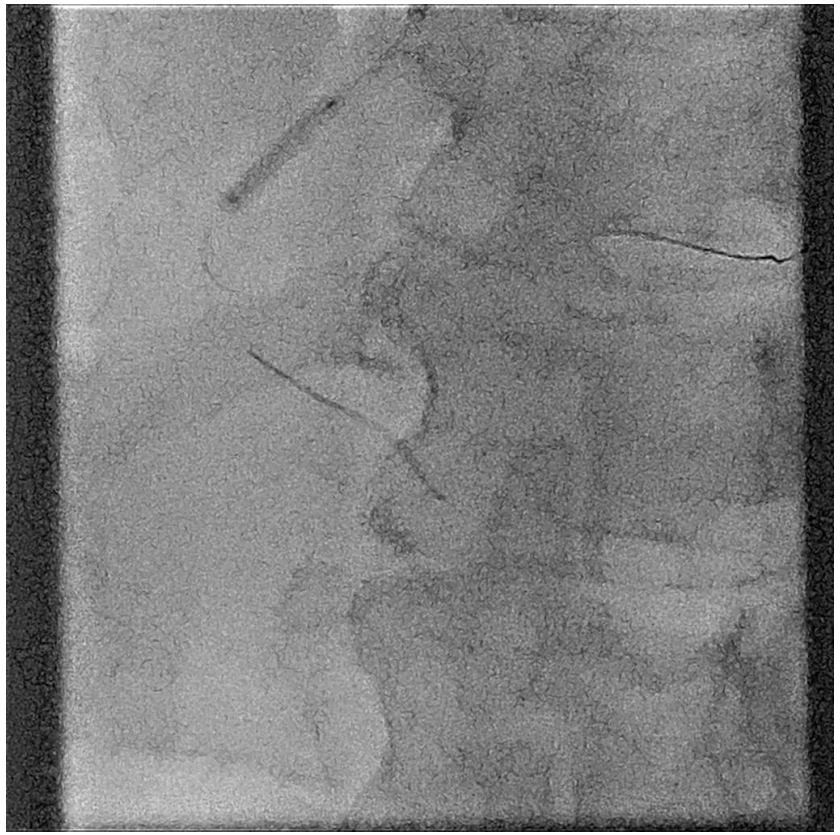


DCB in Bifurcation Lesions | DCB-only Strategy

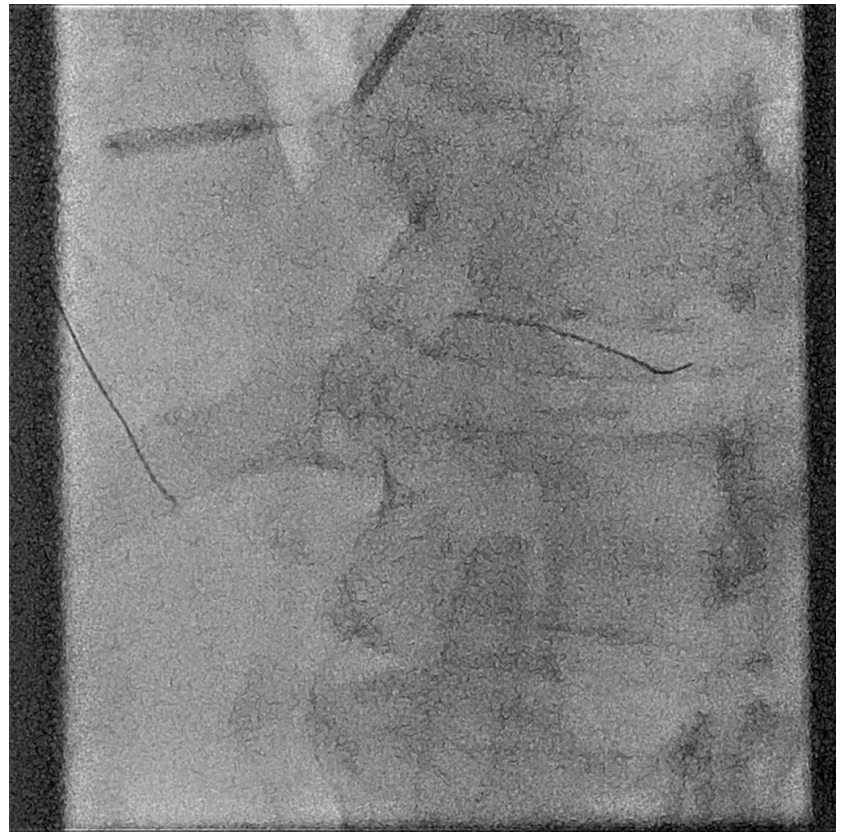
Lesion Preparation | (0.5 mm Undersized) Cutting Balloon

Cutting balloon 2.5x15 mm @ 18 atm (pRCA to PLV)

Cutting balloon 2.5x15 mm @ 18 atm (pRCA to PDA)



Cutting balloon 3.0x15 mm @ 18 atm (pRCA)



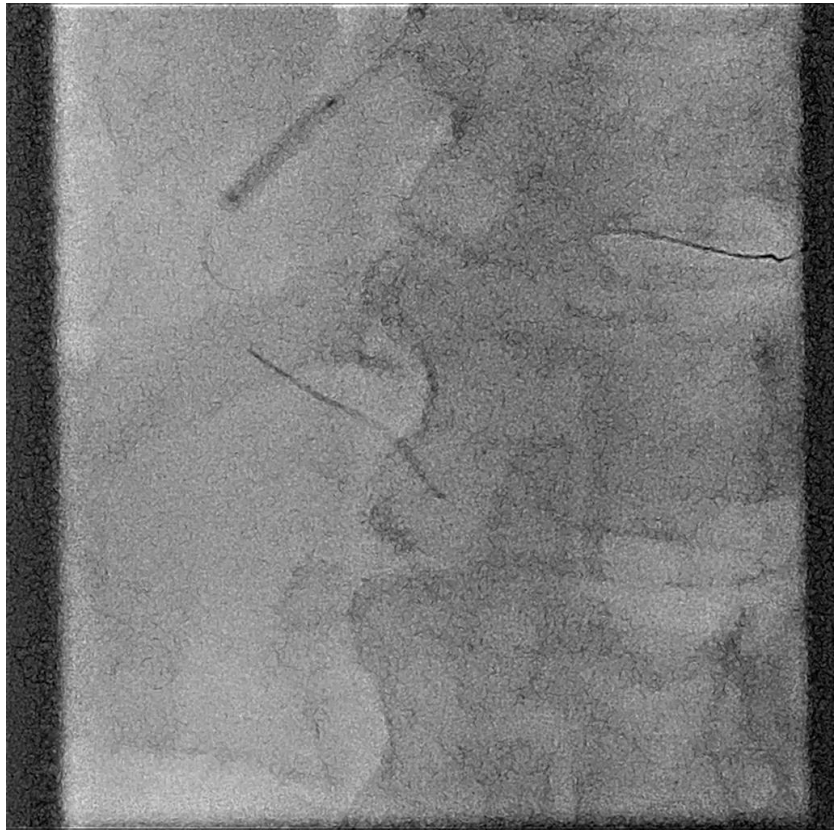
DCB in Bifurcation Lesions | DCB-only Strategy

Lesion Preparation | (1:1) Non-Compliant Balloon

NCB 2.5x20 mm @ 10 atm
(pRCA to PDA)

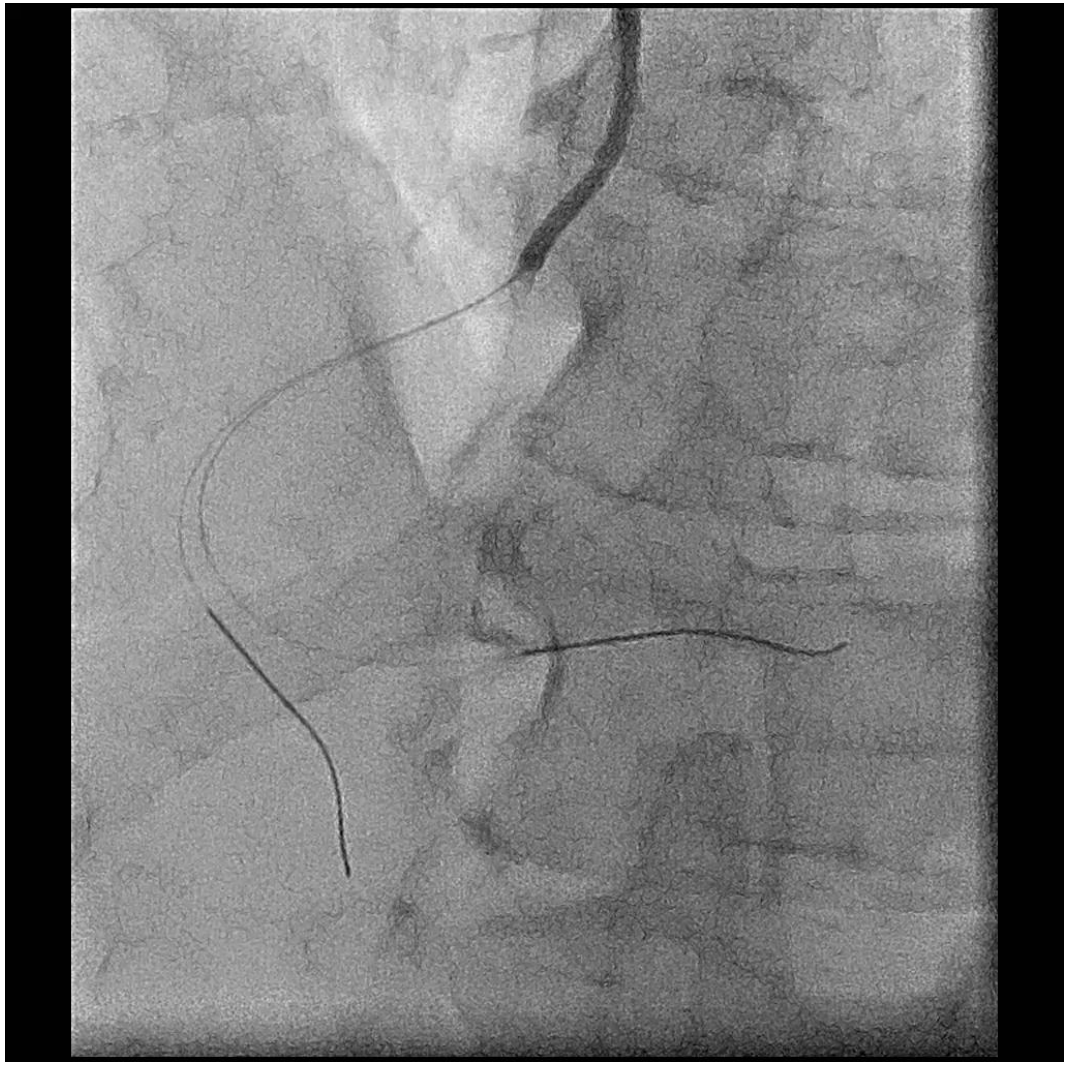
NCB 3.0x30 mm @ 10 atm
(pRCA to PLV)

NCB 3.5x20 mm @ 12 atm
(pRCA)



DCB in Bifurcation Lesions | DCB-only Strategy

Intermediate Angiographic result



DCB in Bifurcation Lesions | DCB-only PCI

Sequence of DCB Use

Fezzi S et al., J Am Coll Cardiol. 2025;86(15):1170-1202

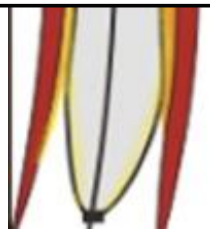
Sequential DCB Inflation

DCB ARC recommends sequential DCB inflations in true bifurcations rather than simultaneous 'kissing' DCB inflation.

Kissing balloon DCB inflation

DCBs during kissing-balloon inflation:

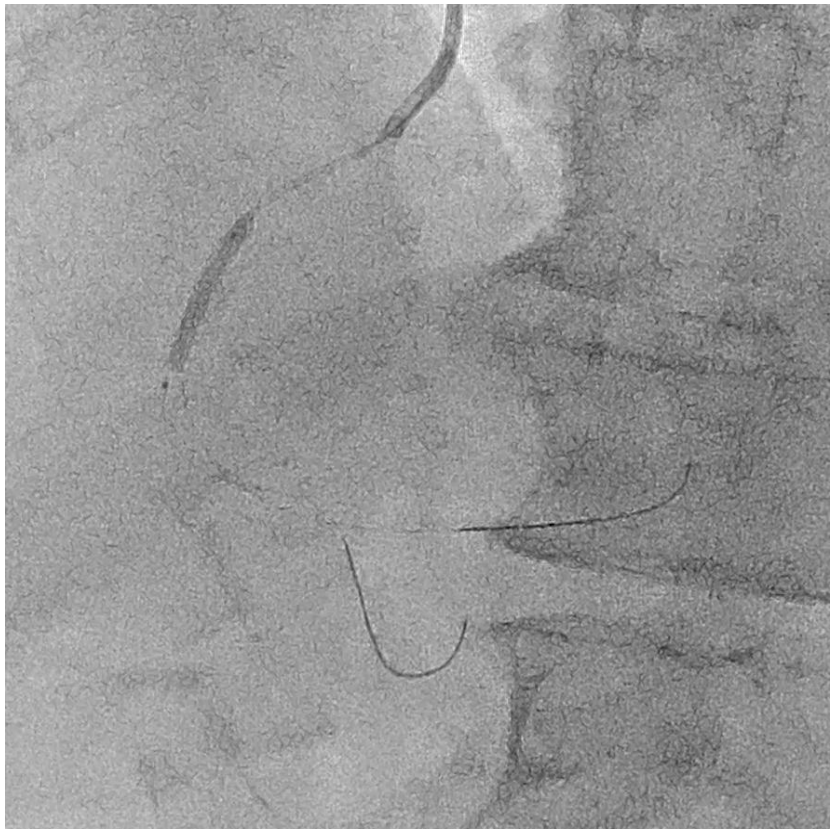
- Suboptimal delivery of the drug
- Proximal interaction of the two balloons
- Higher risk of dissection



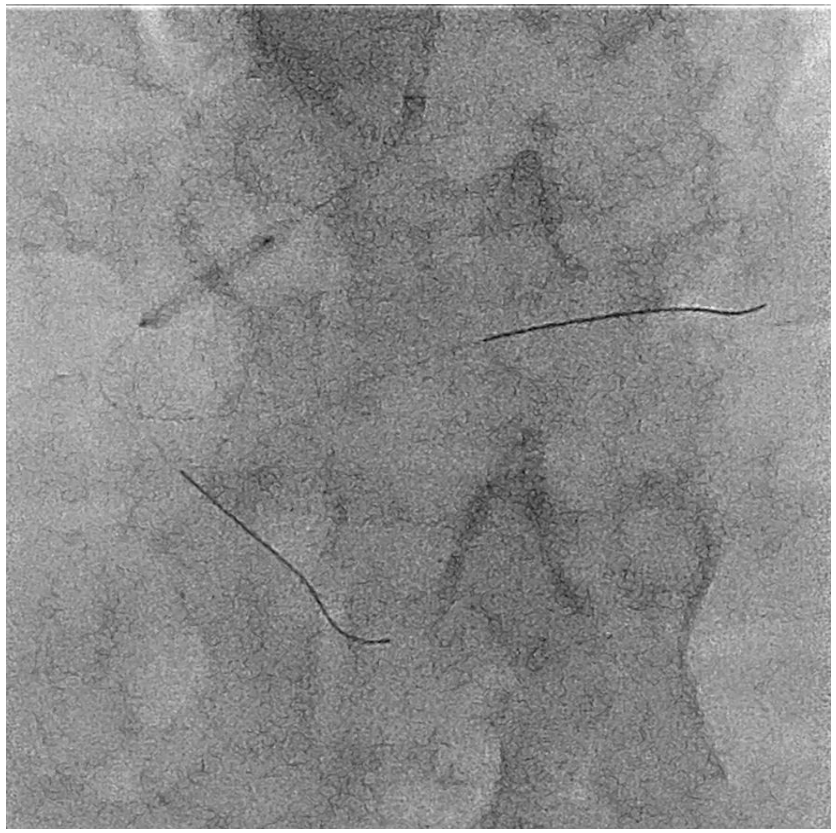
DCB in Bifurcation Lesions | DCB-only Strategy

Sequential DCB Inflation

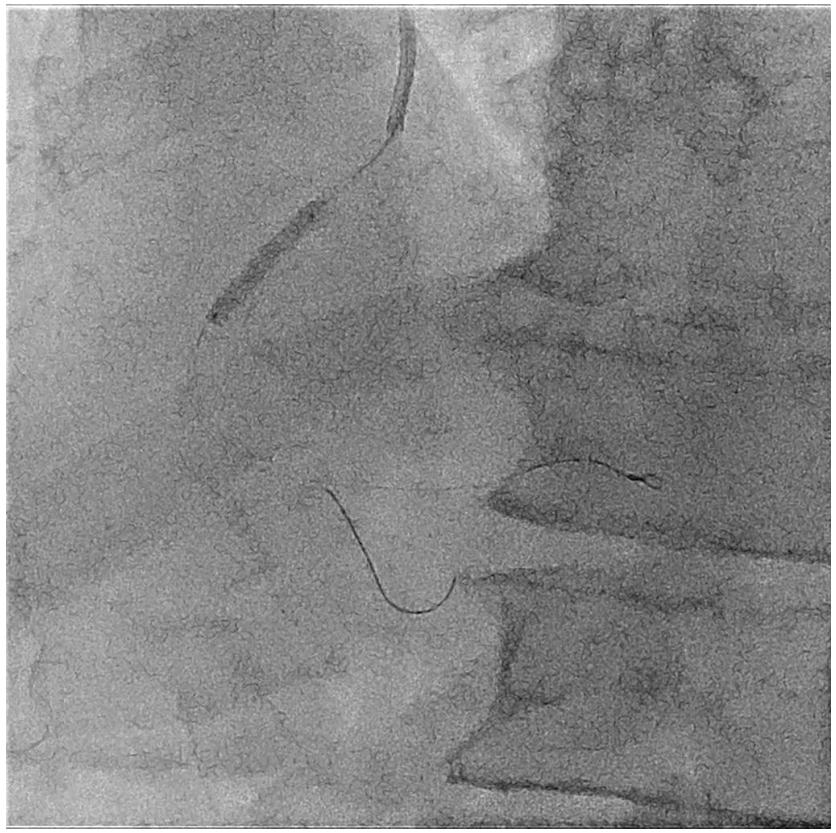
SELUTION SLR 2.5x20 mm @ 6 atm
(2 minutes / mRCA to PDA)



SELUTION SLR 3.0x20 mm @ 6 atm
(2 minutes / mRCA to PLV)



SELUTION SLR 3.5x20 mm @ 6 atm
(2 minutes / pRCA)

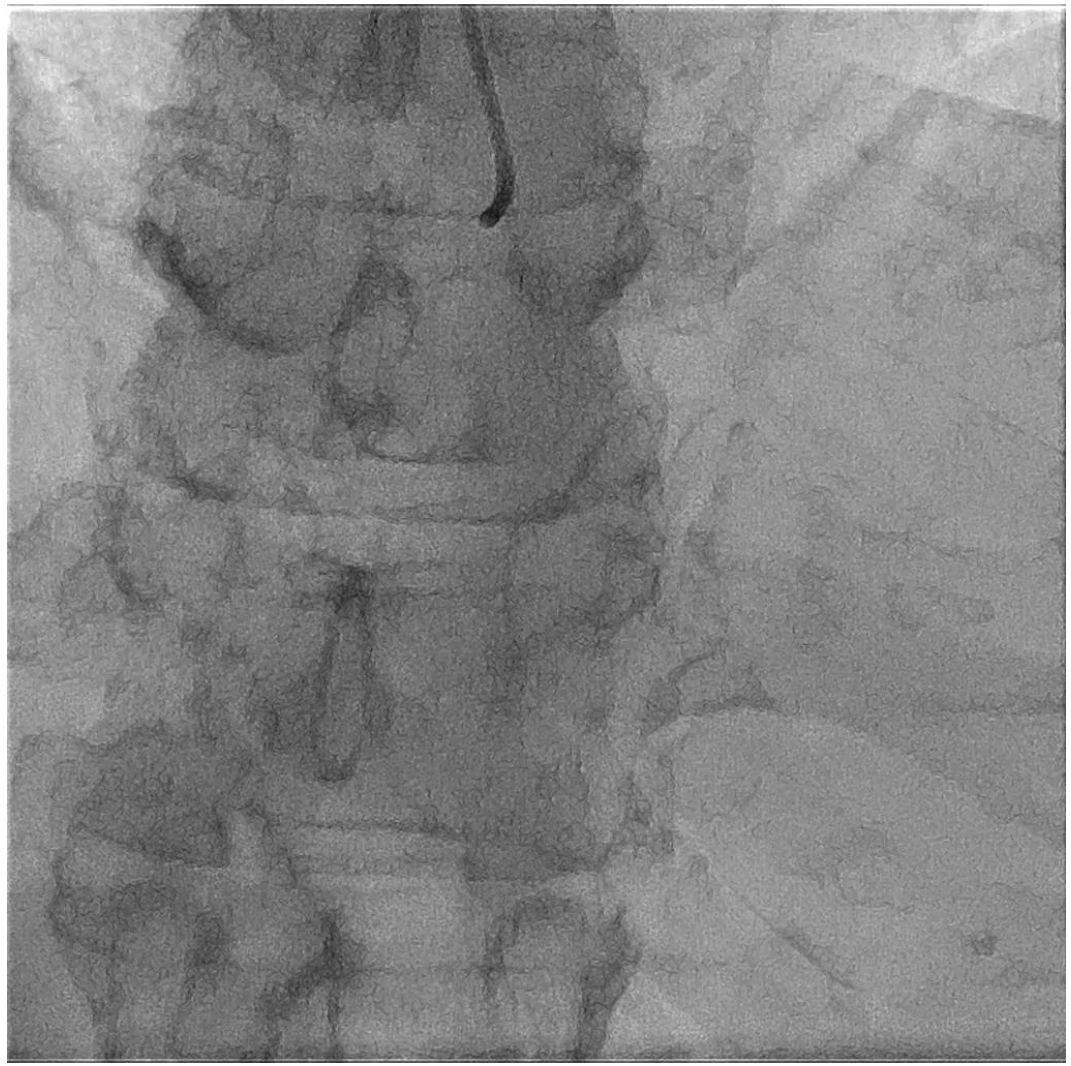


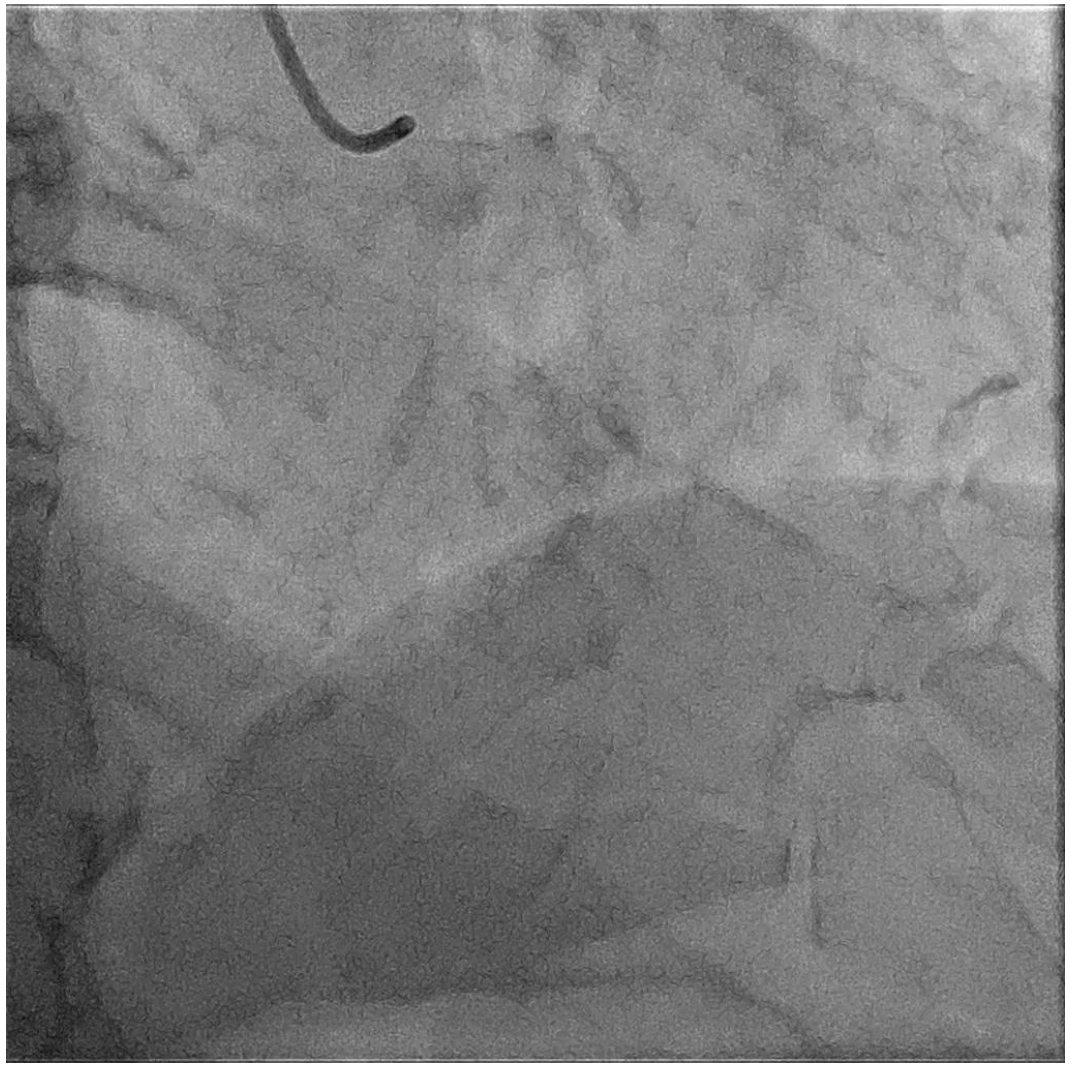
DCB in Bifurcation Lesions | DCB-only Strategy

Final Angiographic result

DCB in Bifurcation Lesions | DCB-only Strategy

Coronary angiogram @ 6 months





DCB in Bifurcation Lesions

Take-Home Messages

- **DCB** alone (***DCB-only PCI***) or combined with **newer-generation DES** (***hybrid PCI***) represent an attractive alternative to a **DES-based approach** for patients with **bifurcation lesions** to **reduce total metallic stent burden** and potentially **improve long-term clinical outcomes**, while to **preserving** a **provisional strategy** to coronary bifurcation PCI.

- The use of **DCBs** for **bifurcation PCI *simplifies*** the procedure.

- **Randomized evidence** on the use of a **DCB-only PCI strategy** for **true bifurcation lesions** remains **limited**.
  - *EBC DCB (NCT06822322) and PICCOLETO V (NCT06551662) randomized trials are expected to provide pivotal evidence for DCB-based bifurcation PCI strategies.*

DCB EN LESIÓN DE NOVO

BIFURCACIÓN

Juan F. Iglesias

Hospitales Universitarios de Ginebra

Suiza

HUG Hôpitaux Universitaires Genève

UNIVERSITÉ DE GENÈVE

GRACIAS POR SU ATENCIÓN

Juan F. Iglesias

juanfernando.Iglesias@hug.ch

HUG Hôpitaux Universitaires Genève

UNIVERSITÉ DE GENÈVE