

CASO HÍBRIDO DCB-DES

Neus Salvatella

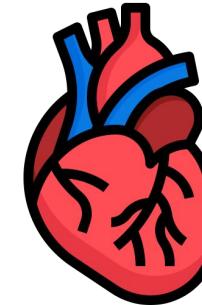




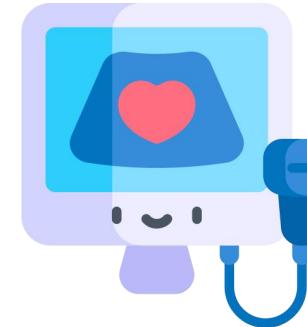
70 años



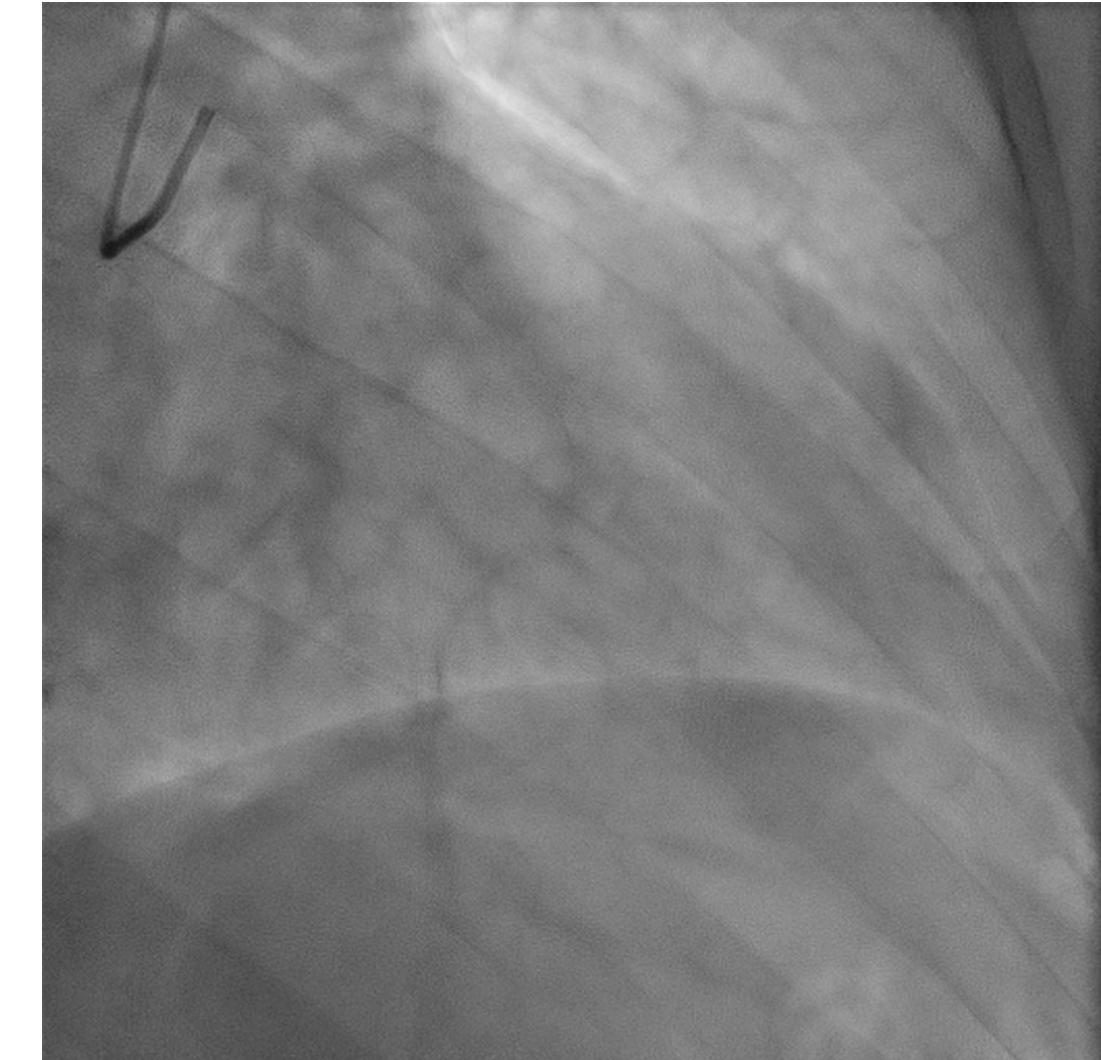
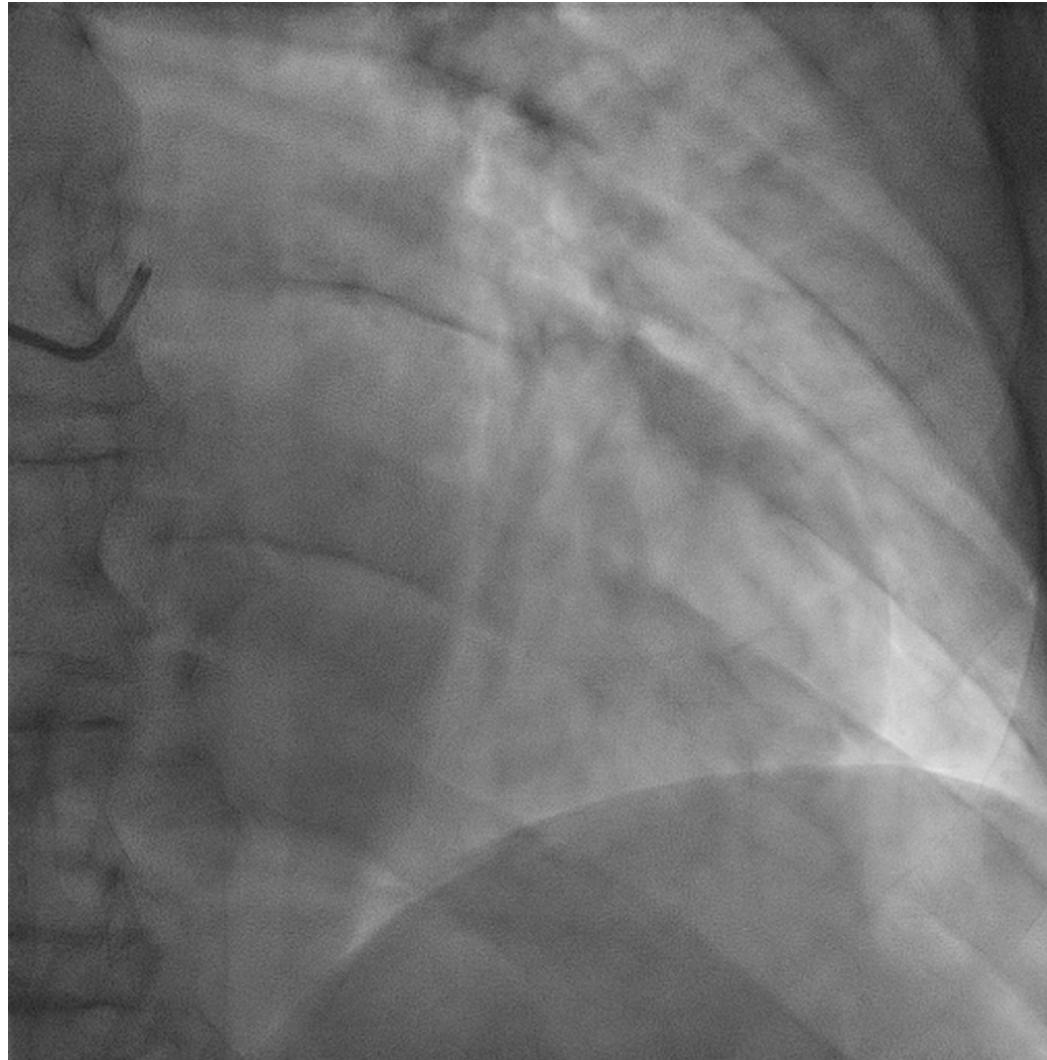
HTA
DM2
Dislipemia
Exfumador

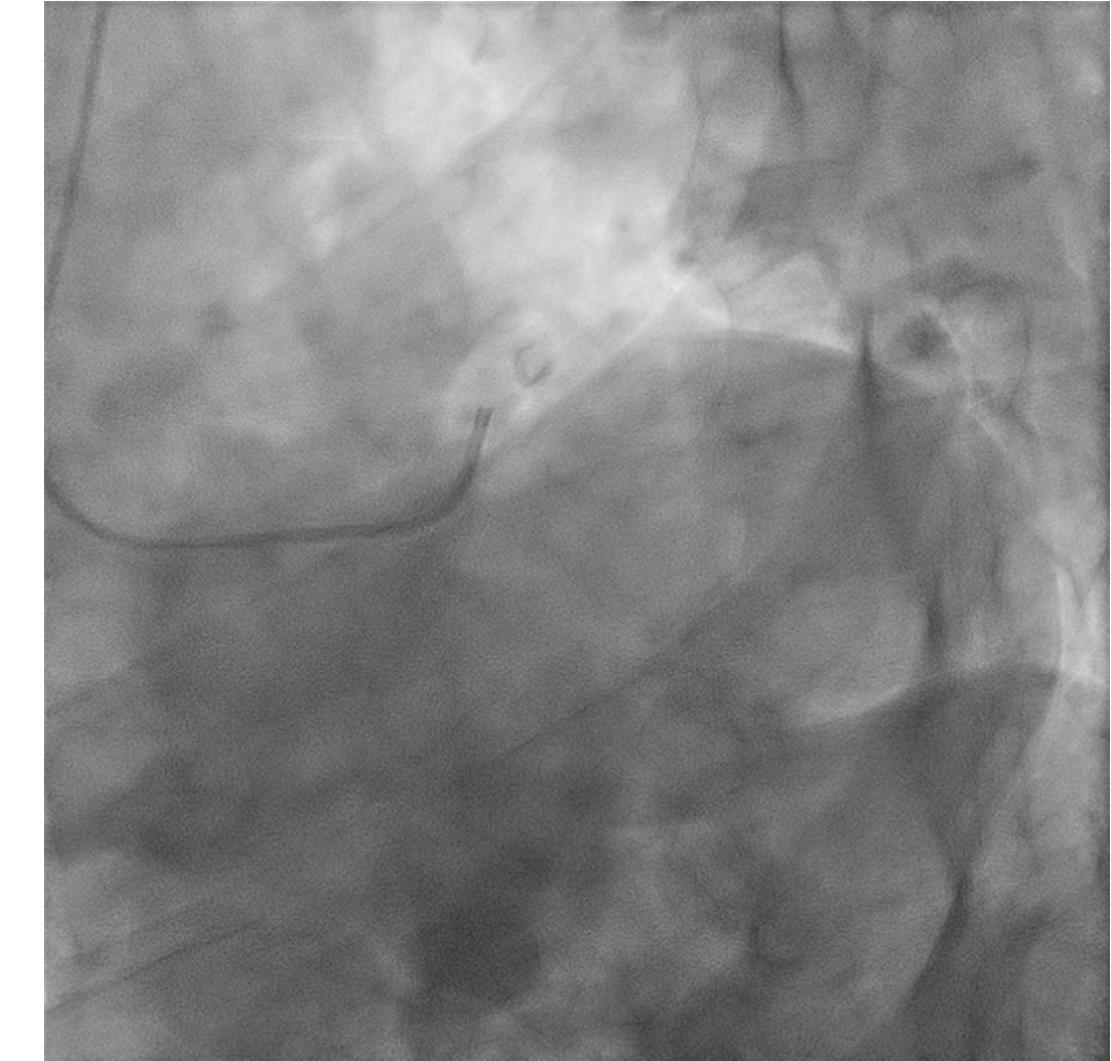
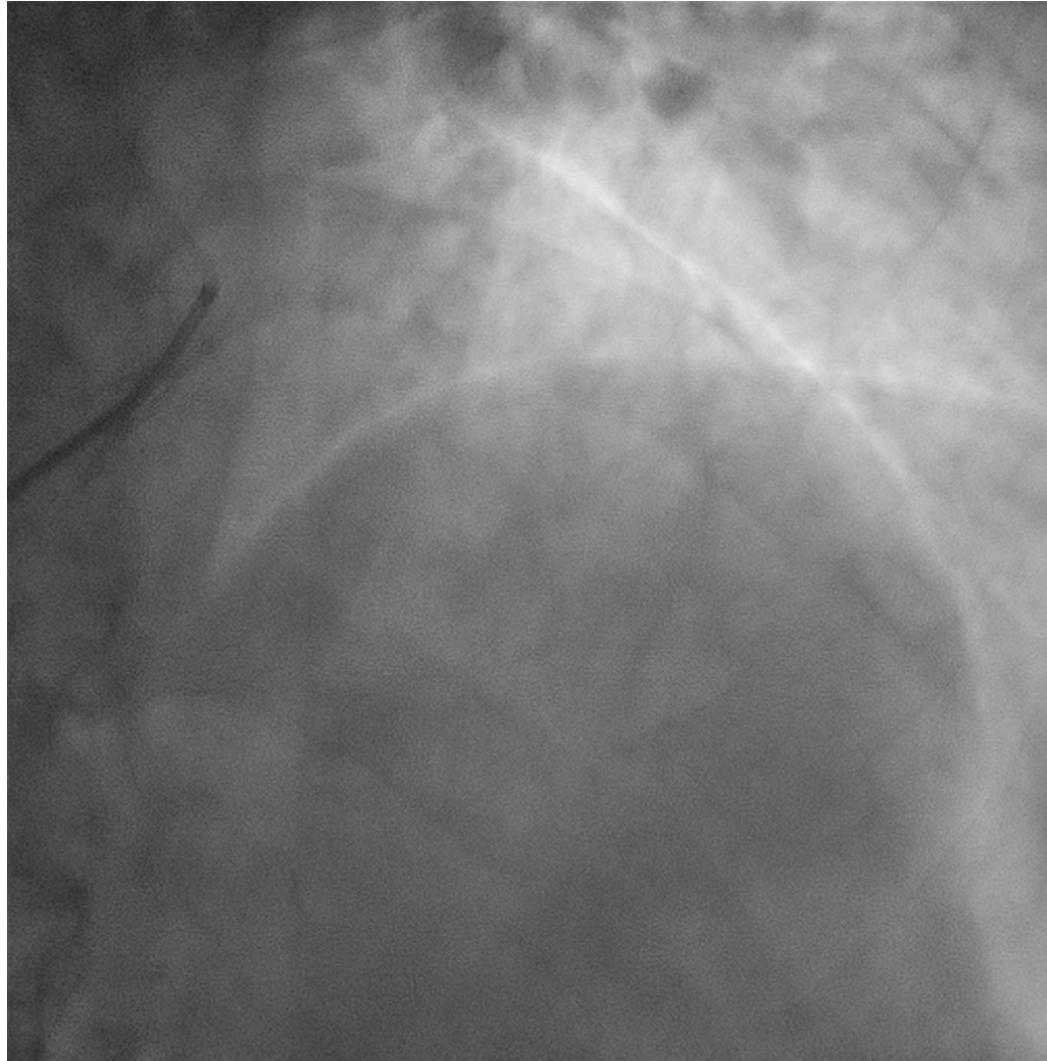


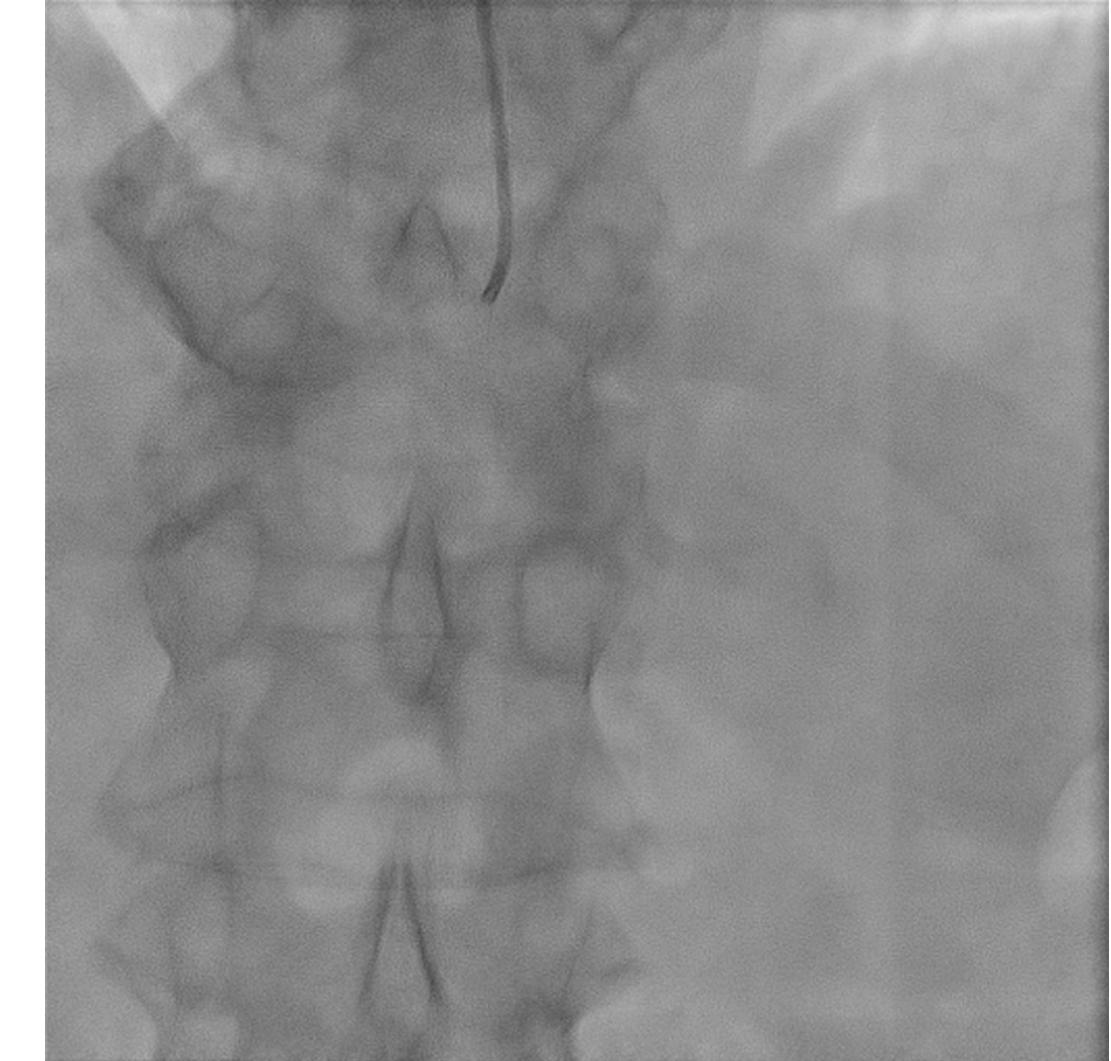
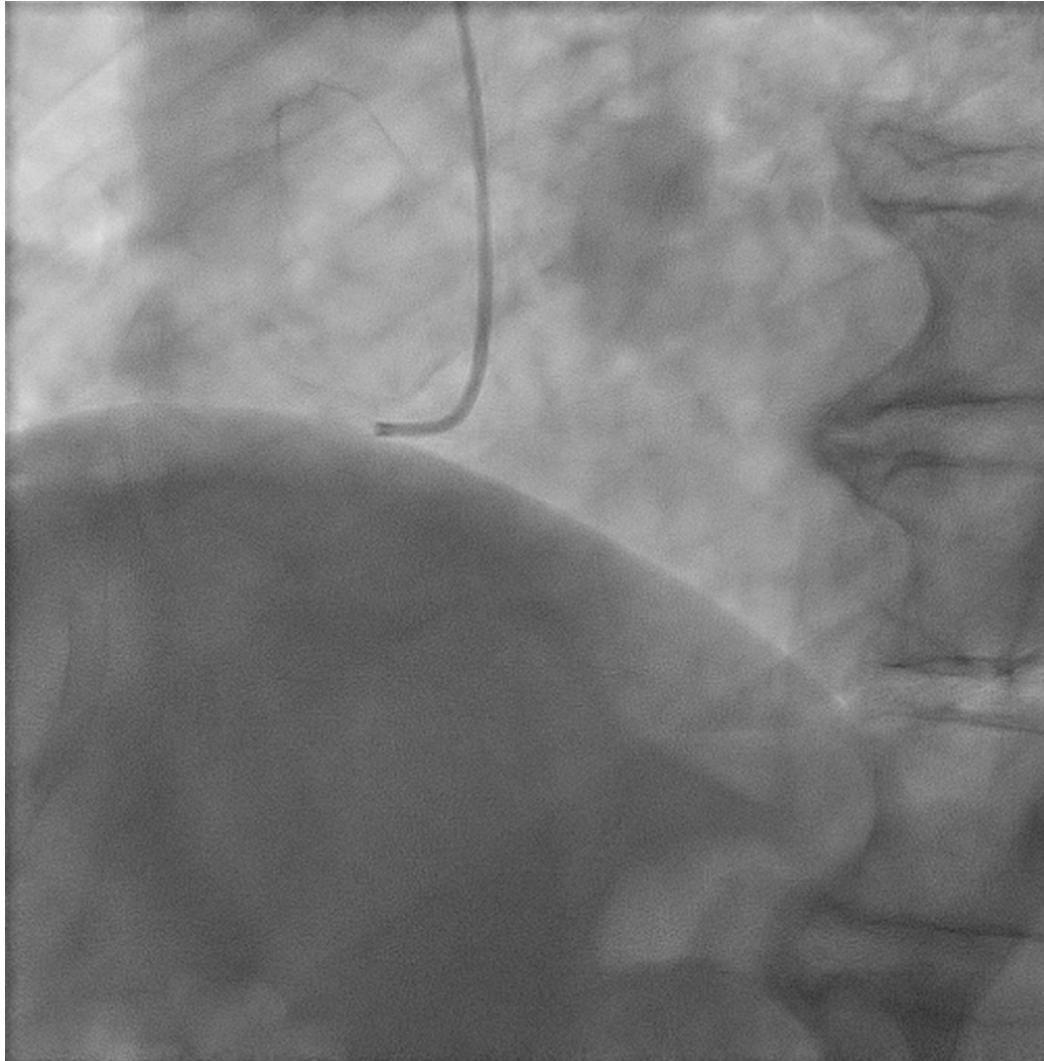
Angina CCS3



FEVI preservada
válvulas
normofuncionantes

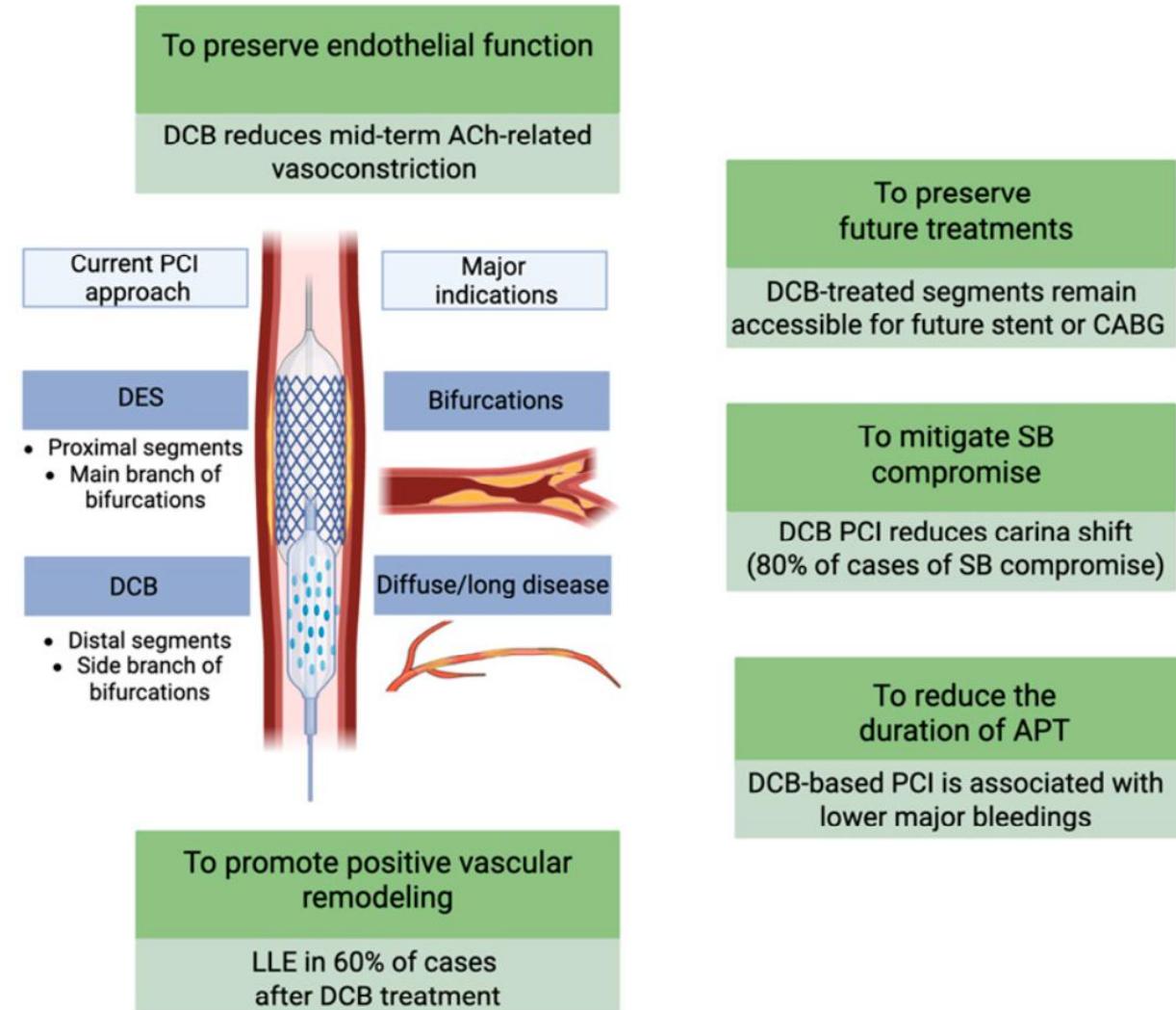
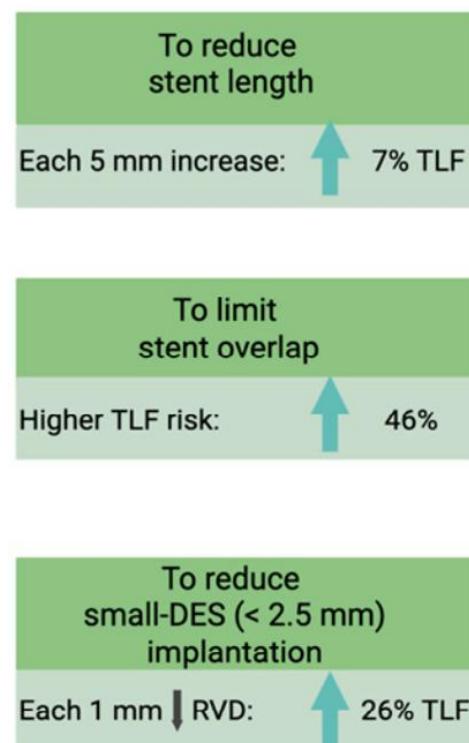






Estrategia híbrida DCB-DES

Benefits of hybrid DCB-DES PCI



Estrategia híbrida DCB-DES

First Author, Date, Reference,	Study Design	Study Population	DCB-Based Group	DCB Used	Main Results
Costopoulos, 2013 [52]	Observational, matched-based study	186 coronary lesions > 25 mm	56%: DCB-only PCI 36.6%: hybrid PCI 7.4%: DCB with bailout DES	87.1%: IN.PACT Falcon (Medtronic Inc., California) 12.9%: Pantera Lux (Biotronik, Germany)	The incidence of MACE was comparable between DCB-based PCI and DES-only PCI (20.8% vs. 22.7%; $p = 0.74$), as were TLR rates (9.6% vs. 9.3%; $p = 0.84$)
Xu, 2023 [54]	Observational case series study	109 pts (114 lesions) > 25 mm, RVD 2-2.75 mm	80.7%: DES-proximal, DCB-distal 19.3%: DCB-Proximal, DES-distal	58.3% SeQuent Please PCB (B. Braun, Germany) 40% Bingo PCB (Yinyi, China) 1.7% Restore PCB (Cardionovum, Germany)	At 19 months, MACE occurred in 6.4% of patients (TLR 2.8%; spontaneous MI 2.8%)
Leone, 2023 [55]	Retrospective observational study	109 lesions (mean length 36 mm), 94.5% complex	79%: DCB-only PCI 14%: hybrid PCI 6%: DES-only PCI	SCB: 87% PCB: 13%	At 1-year follow-up, the rates of TLF and TLR were 13.2% and 8.7%, respectively
Leone, 2023 [56]	Retrospective observational study	100 de novo large lesions (RVD > 3 mm), 92.5% long lesions	70%: DCB-only PCI 30%: hybrid PCI	SCB: 77% PCB: 23%	At 12 months, TLF was 5.1%, numerically lower in the DCB-only group (1.5%) than in the hybrid group (10.7%; $p = 0.073$)
Gitto, 2023 [57]	Retrospective, observational, matched-based study	139 matched pairs, with long de novo LAD lesions (>23 mm)	70.8%: hybrid PCI 29.2%: DCB-only PCI	SCB: 84% PCB: 14% Both: 2%	DCB-based PCI was associated with significantly lower 2-year TLF (3.5% vs. 18.2%, $p = 0.003$).
Teo, 2024 [58]	Retrospective, single-center observational study	363 patients with long lesions (81.0%) and bifurcations (19.0%)	100% hybrid PCI	99% PCB 1% SCB	At 1 year, TLF was 1.9%, with 0.6% cardiac death and 1.4% TLR
Shin, 2025 [59]	Retrospective, matched-based study	1246 patients with de novo CAD lesions ≥ 30 mm	73.7% DCB-only PCI 26.3% hybrid PCI	SeQuent Please PCB (B. Braun, Germany)	At 2-year, DCB-based PCI was associated with a lower incidence of MACE compared to DES-only PCI (4.6% vs. 14.6%, $p < 0.001$).

Estrategia híbrida DCB-DES

LONG DE Novo LAD DISEASE

DCB-based PCI (N=147)



DES-only PCI (N=701)

- Short (<23 mm) DES excluded

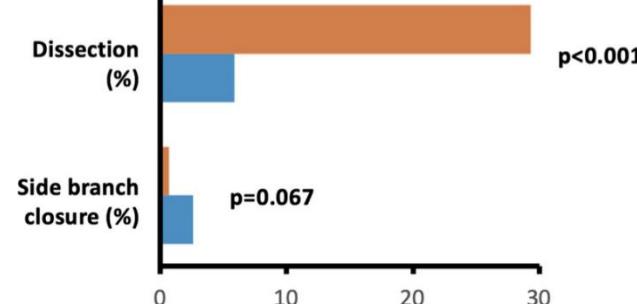
- Hybrid PCI in **70.8%** of pts
- DCB length > DES length in **55.1%** of patients

1:1 Propensity score matching to account for imbalance in baseline clinical and angiographic covariates → 139 matched pairs

More diffuse treatment with **lower DES length** in the DCB group

	DCB	DES	P value
Treated length (mm)	65 (40-82)	56 (46-66)	<0.001
Treated length ≥60 mm (%)	61.2	41.2	<0.001
DES length (mm)	38 (24-62)	56 (46-66)	<0.001
Large vessel (≥3 mm) (%)	76.2	83.5	0.036

More dissections with DCB (non flow-limiting in 69.8%)



Higher risk of **side branch closure** with DES

Circulation: Cardiovascular Interventions

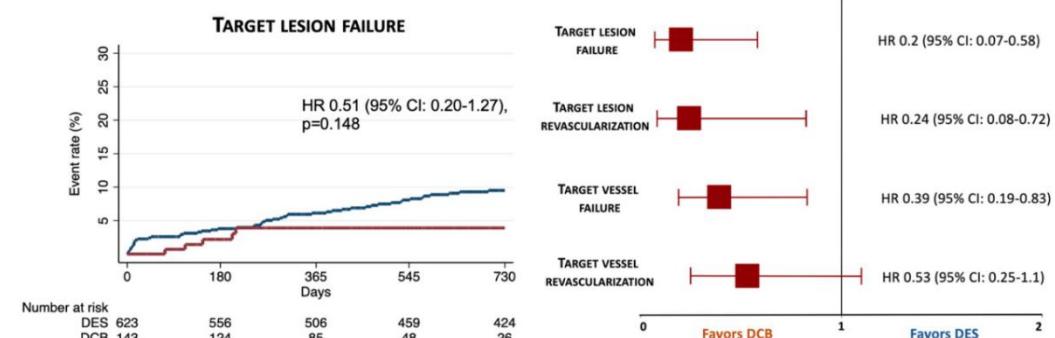
ORIGINAL ARTICLE

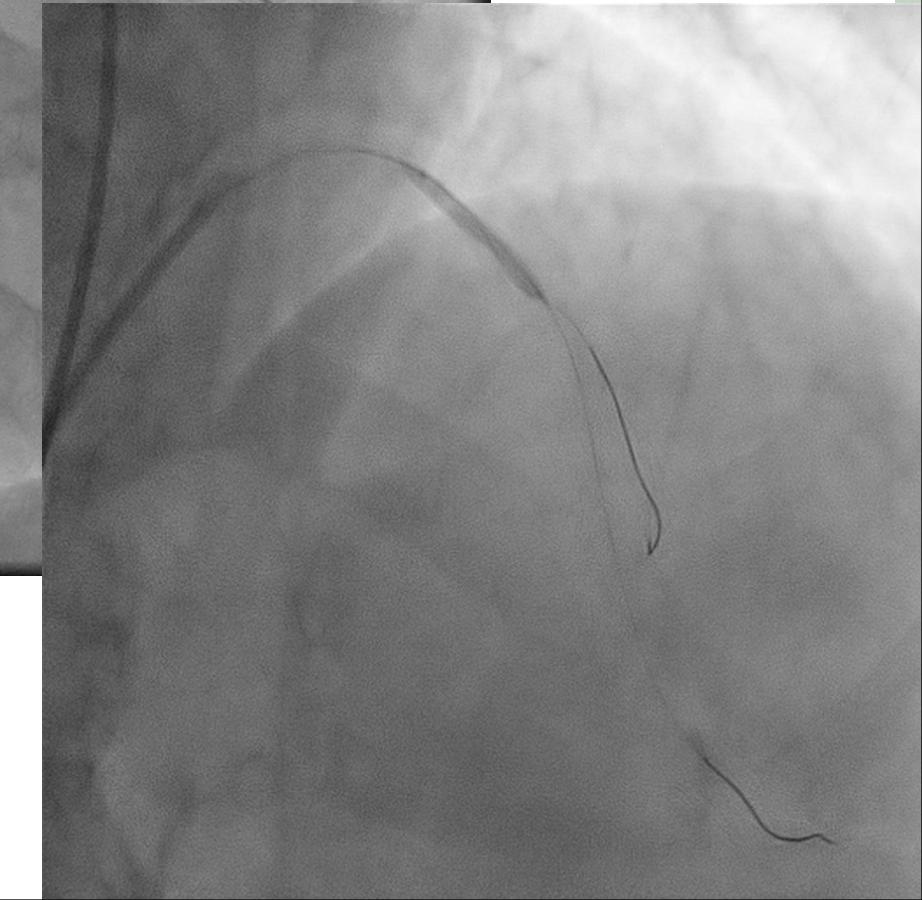
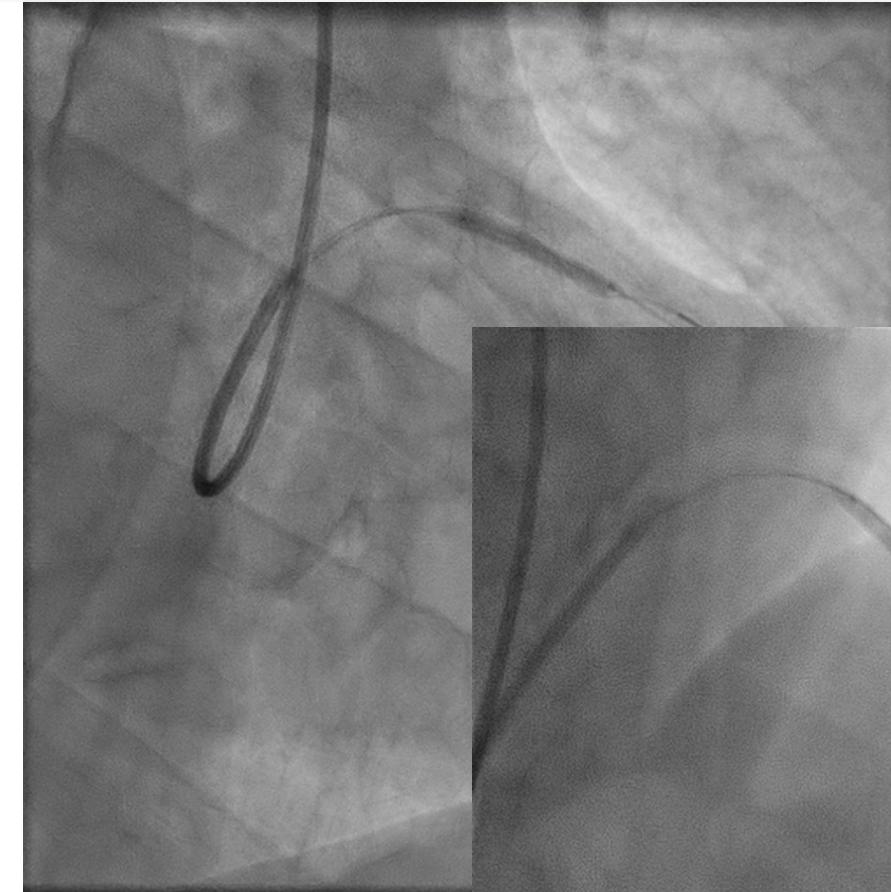
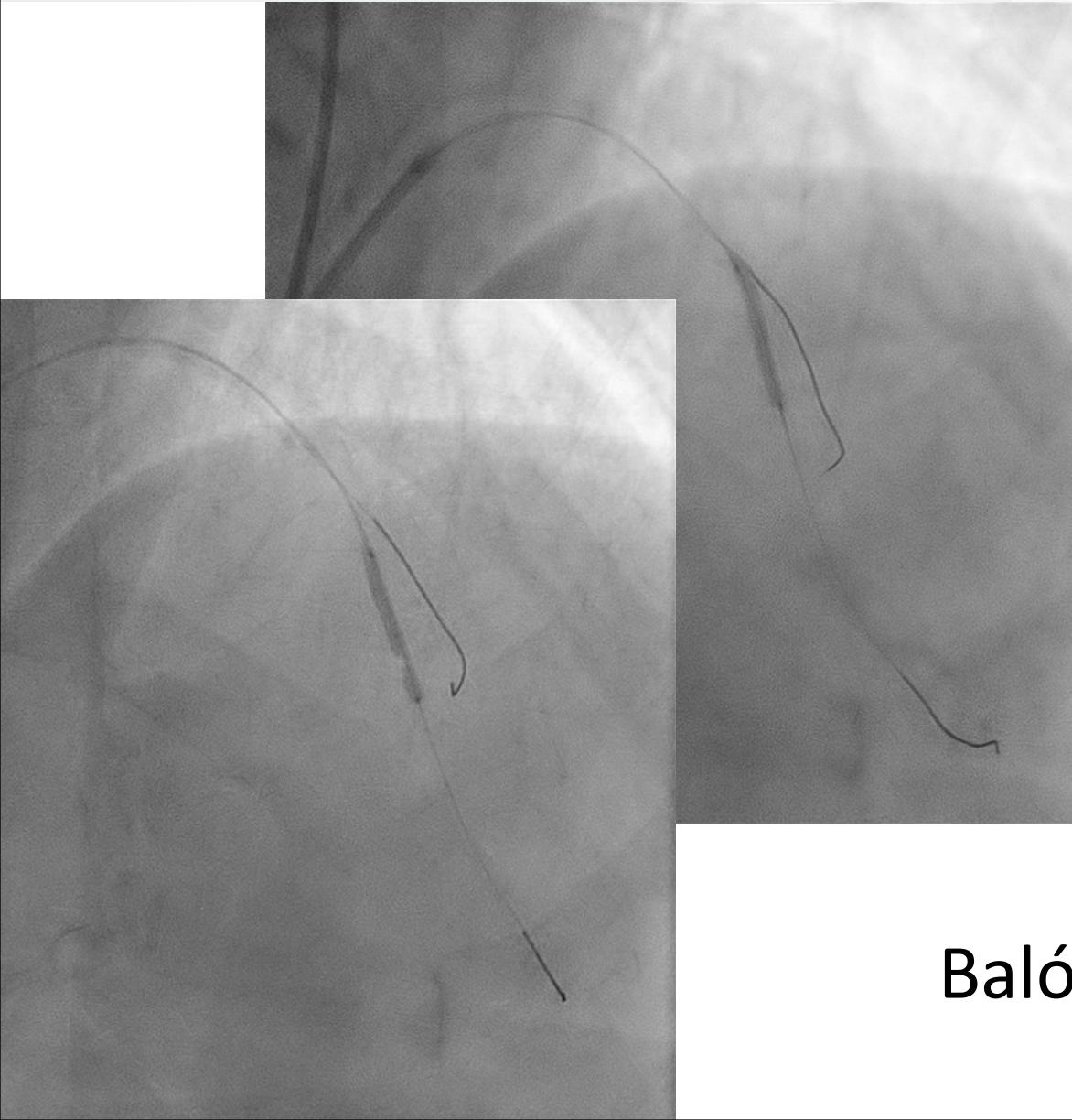
Drug-Coated Balloon Angioplasty for De Novo Lesions on the Left Anterior Descending Artery

Mauro Gitto, MD*; Alessandro Sticchi, MD*; Mauro Chiarito, MD; Laura Novelli, MD; Pier Pasquale Leone, MD, MSc; Gianluca Mincione, MD; Angelo Oliva, MD; Francesco Condello, MD; Marco Luciano Rossi, MD; Damiano Regazzoli, MD; Gabriele Gasparini, MD; Ottavia Cozzi, MD; Giulio G. Stefanini, MD; Gianluigi Condorelli, MD; Bernhard Reimers, MD; Antonio Mangieri, MD; Antonio Colombo, MD

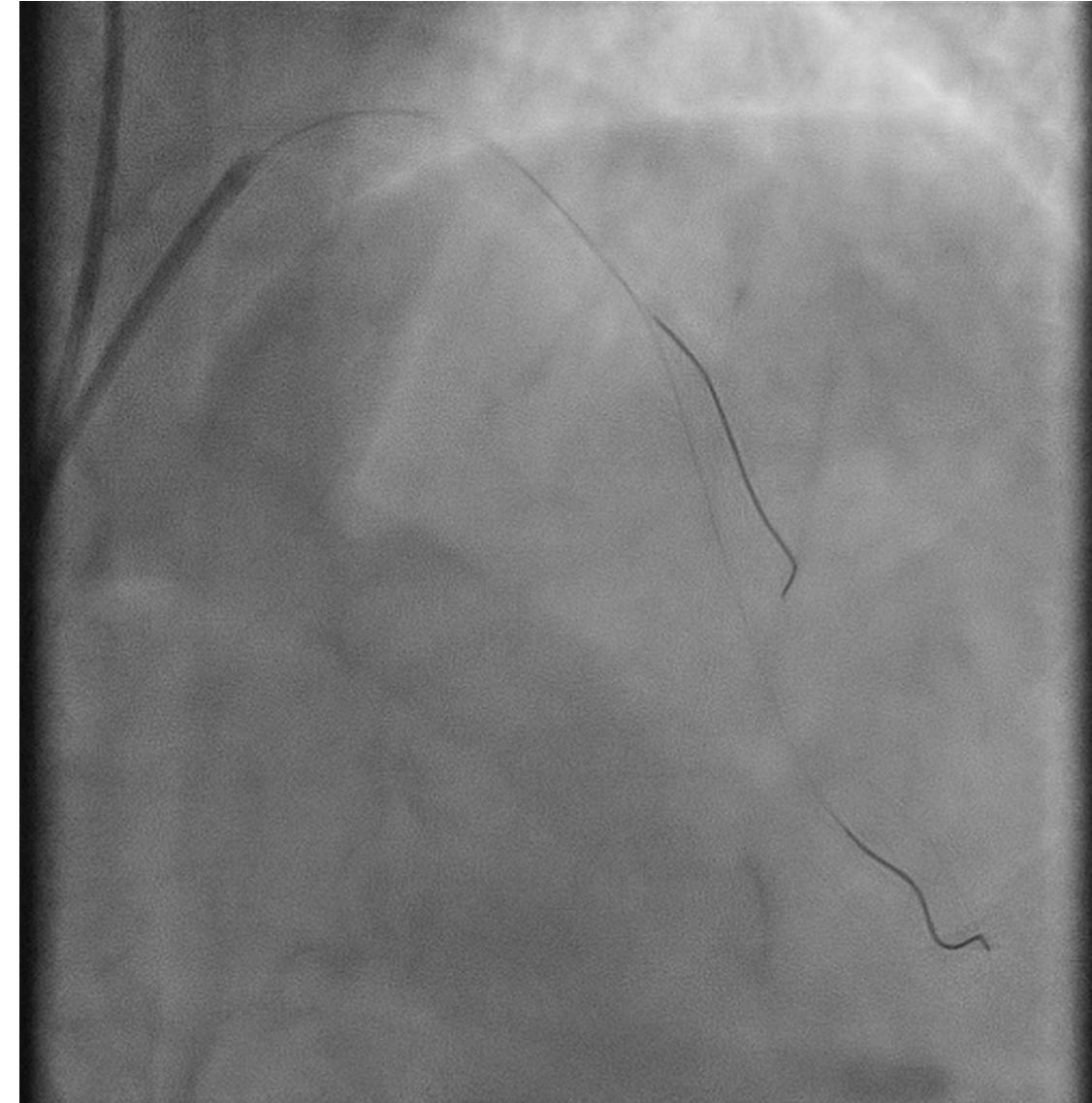
2-YEAR FOLLOW-UP

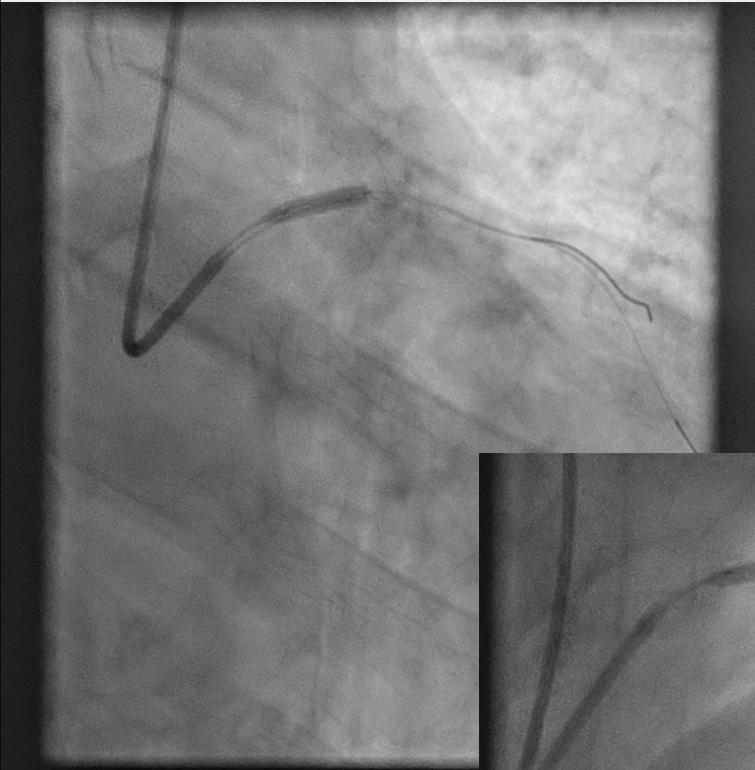
Similar TLF rate in the overall cohort



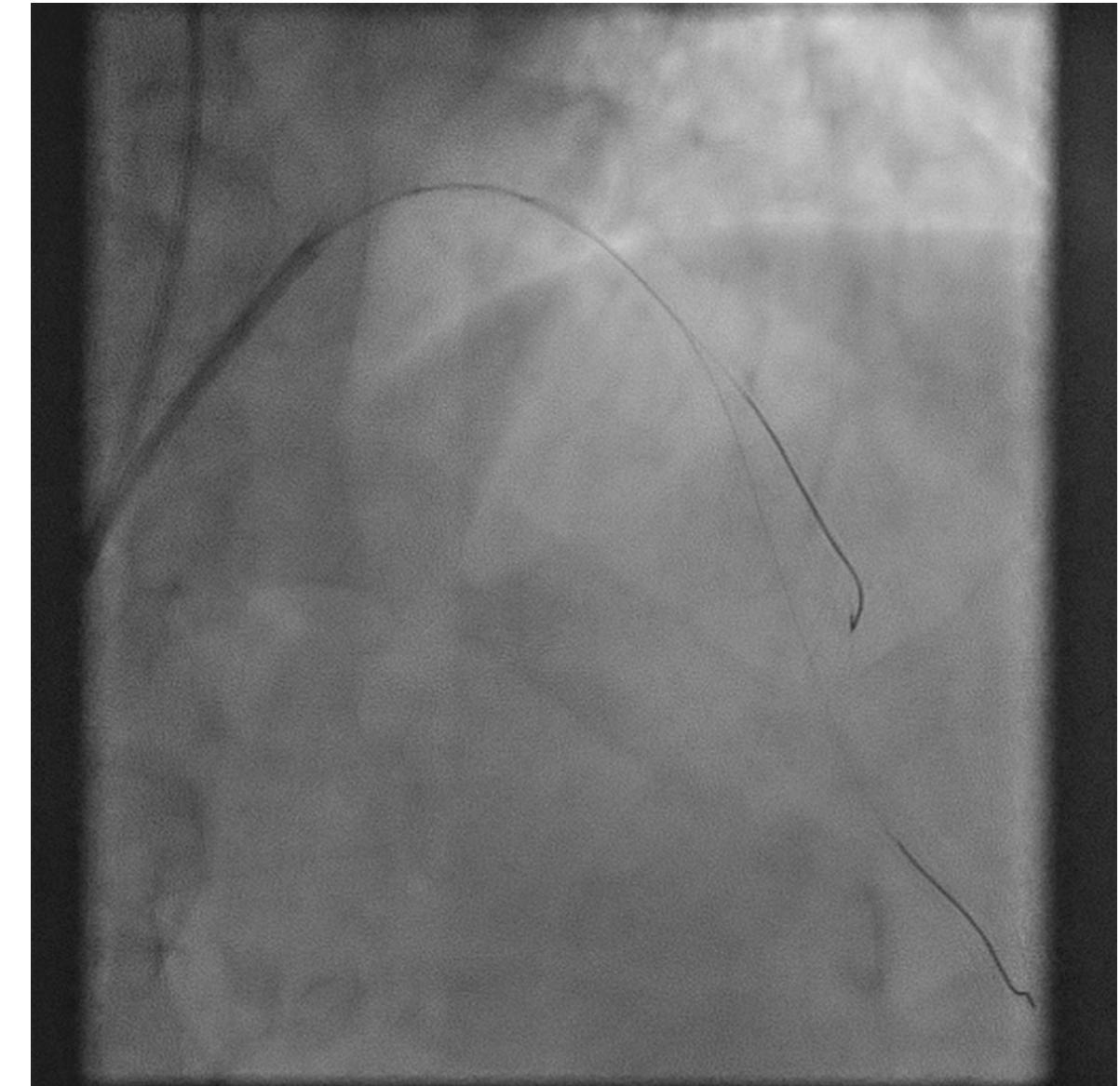
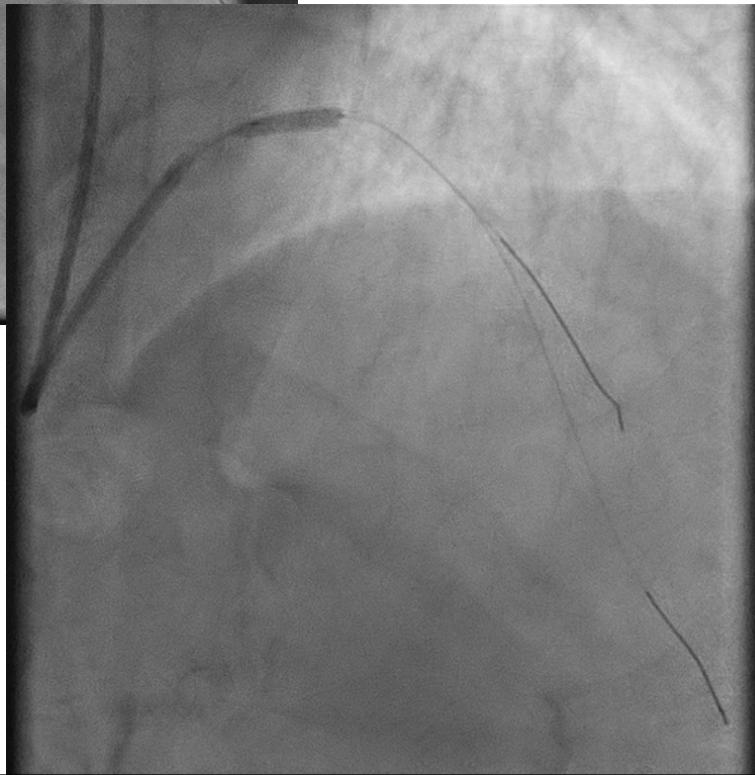


Balón SC 2.5 mm

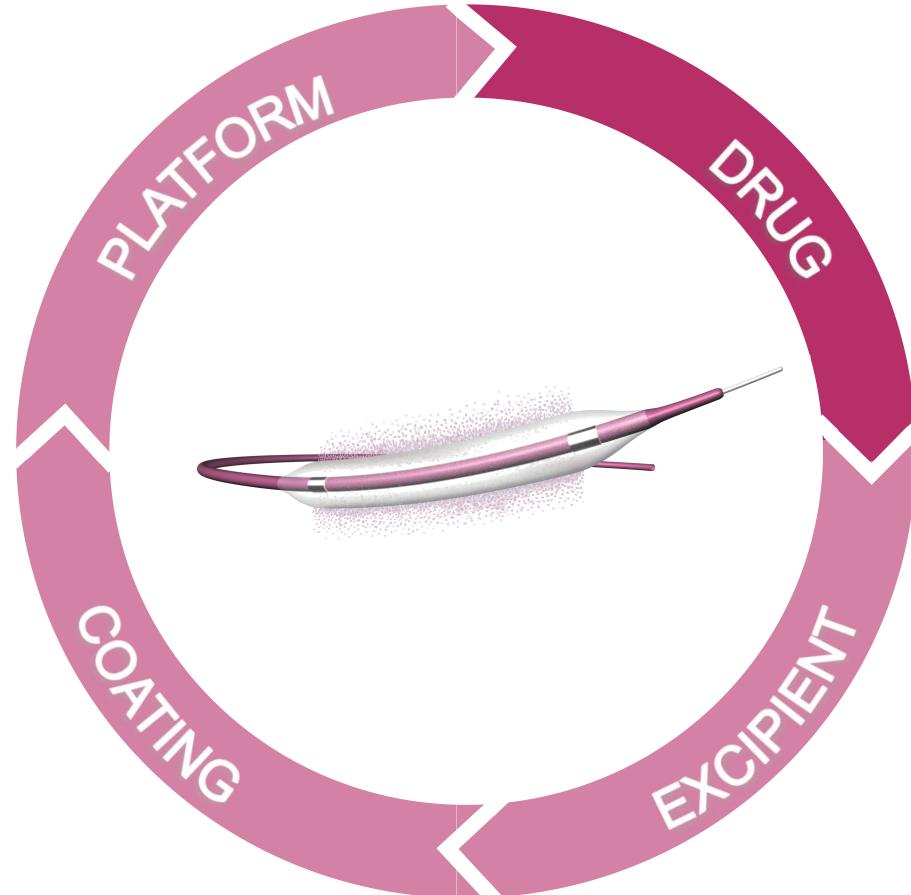




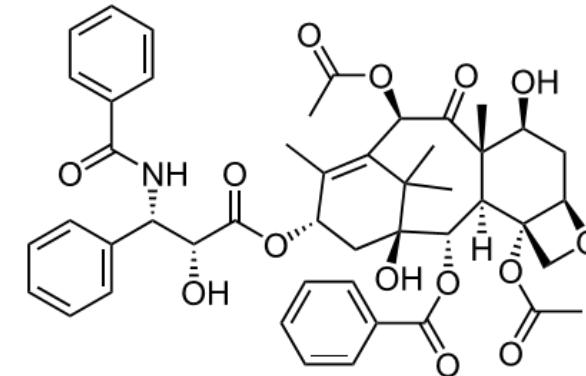
Balón NC
3.0 mm



Restore PCB

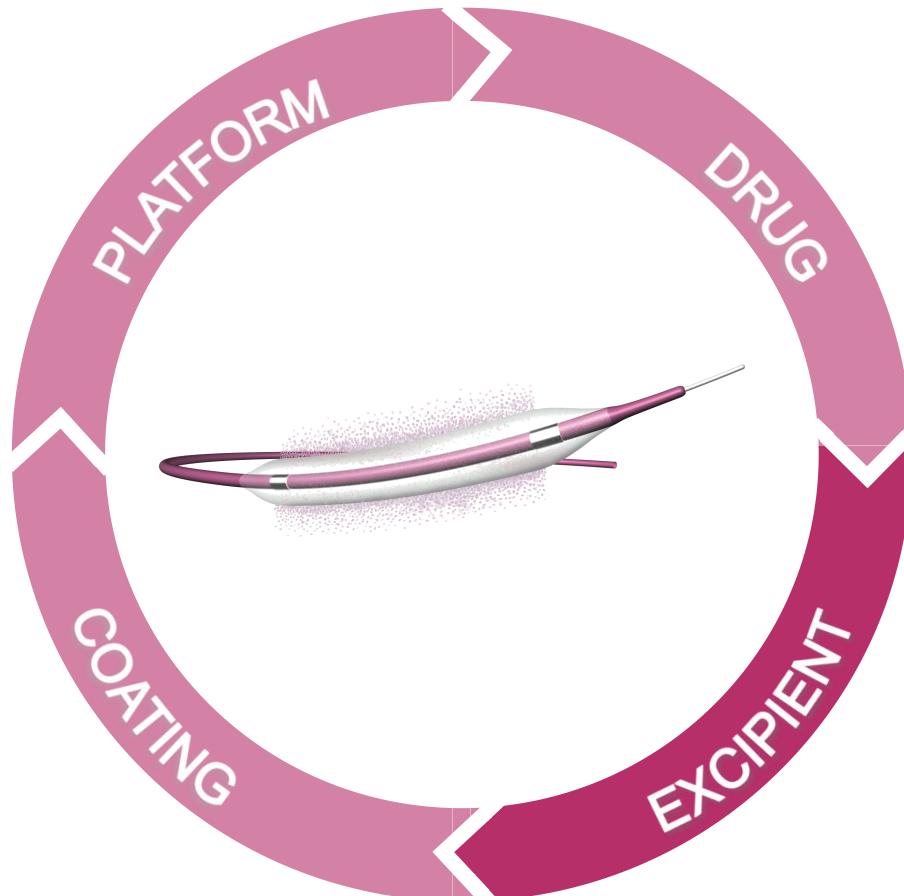


Paclitaxel

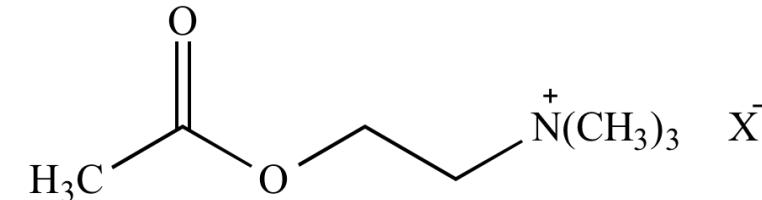


- **Trade Name:** PACLITAXEL (PTX), chemotherapeutic agent of Taxan
 - **Dosage:** 3 $\mu\text{g}/\text{mm}^2$

Restore PCB



The excipient



Formulation matrix based of **Ammonium Shelloic Salt** which prevents the paclitaxel crystallization on the balloon surface.

Benefits for the DCB:

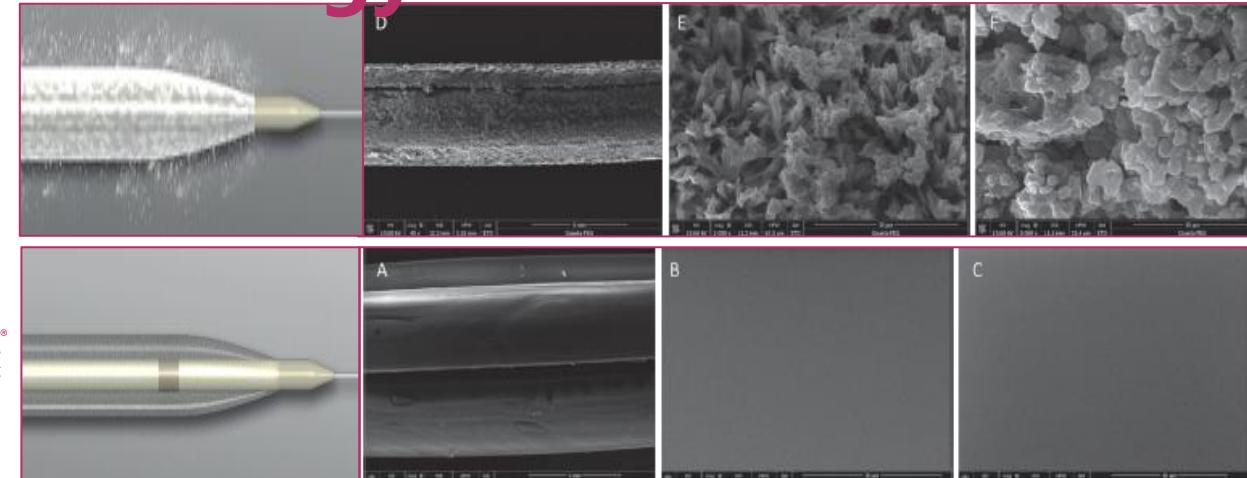
- Balanced lipophilicity for a **minimal wash off rate**
- **Improved drug delivery** to the vessel wall
- **Elastic and smooth surface.**

Restore PCB



SAFEPAK® coating technology

Crystalline coating



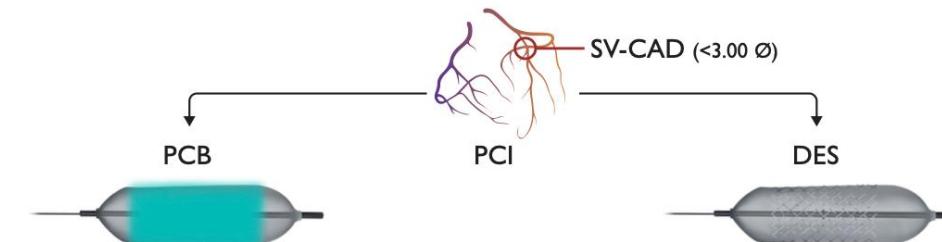
 **CARDIONOVUM®**
Life deserves the best

- **Reduced risk of slow coronary flow or risk of distal embolization**
- **Low drug wash-off rates or flaking effect** thanks to the stable coating
- Smooth, homogenous and elastic balloon surface

Restore PCB

ANDROMEDA

Individual patient-level metaanalysis of RCTs comparing PCB vs DES for SV-CAD



MACE

IPD

BELLO N = 90 vs 92

BASKET SMALL 2 N = 382 vs 376

PICCOLETO II N = 118 vs 114

N = 1154
36-month
clinical
follow-up

TLF

IPD

BELLO N = 90 vs 92

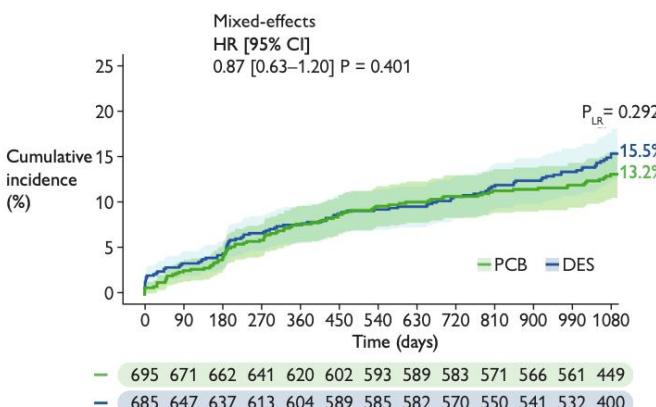
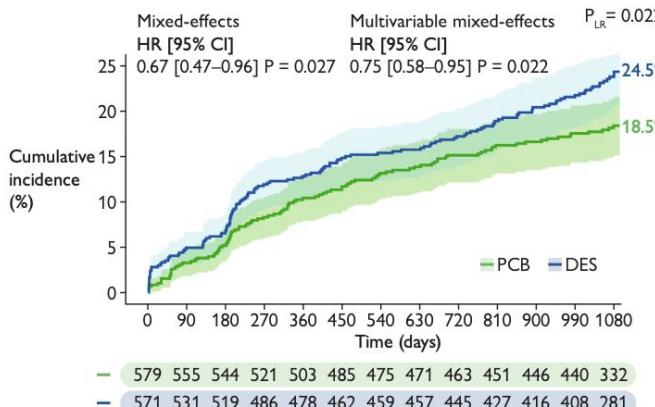
BASKET SMALL 2 N = 382 vs 376

PICCOLETO II N = 118 vs 114

N = 1475
36-month
clinical
follow-up

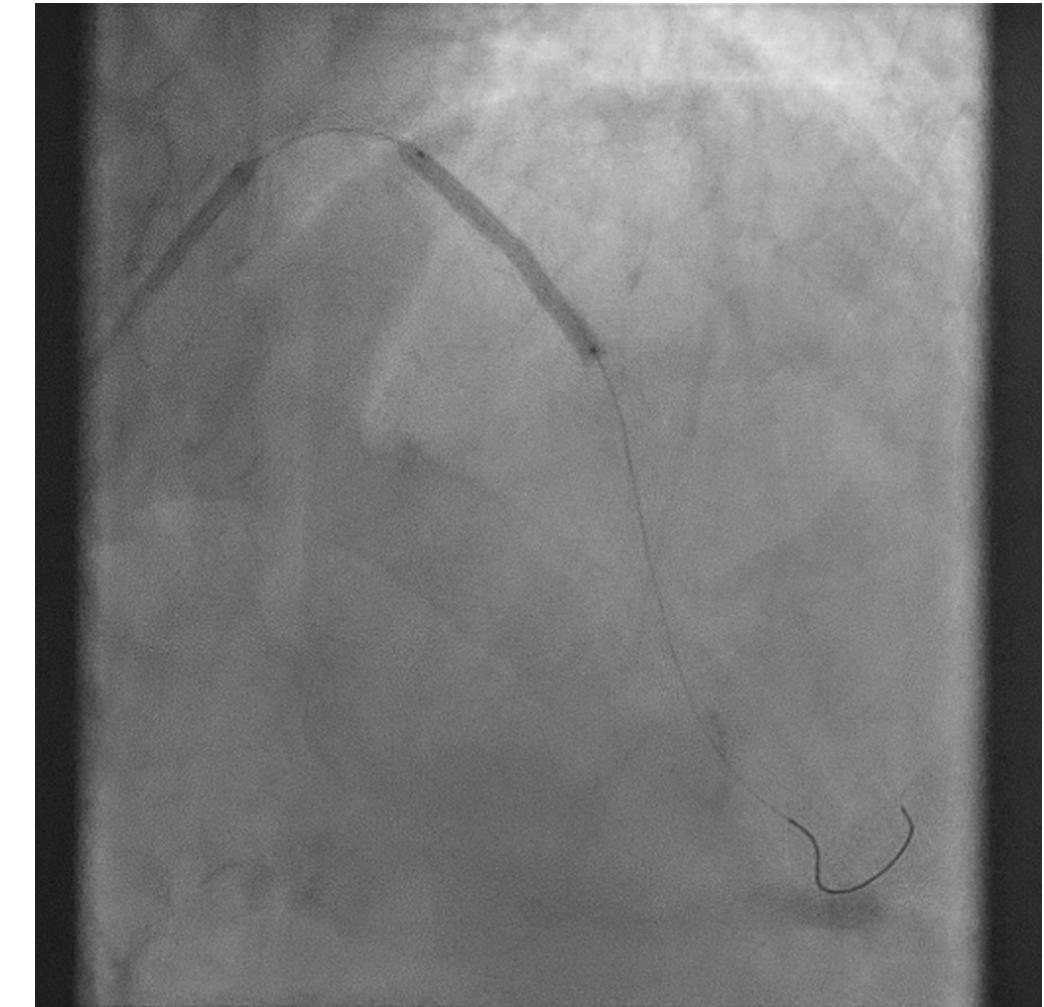
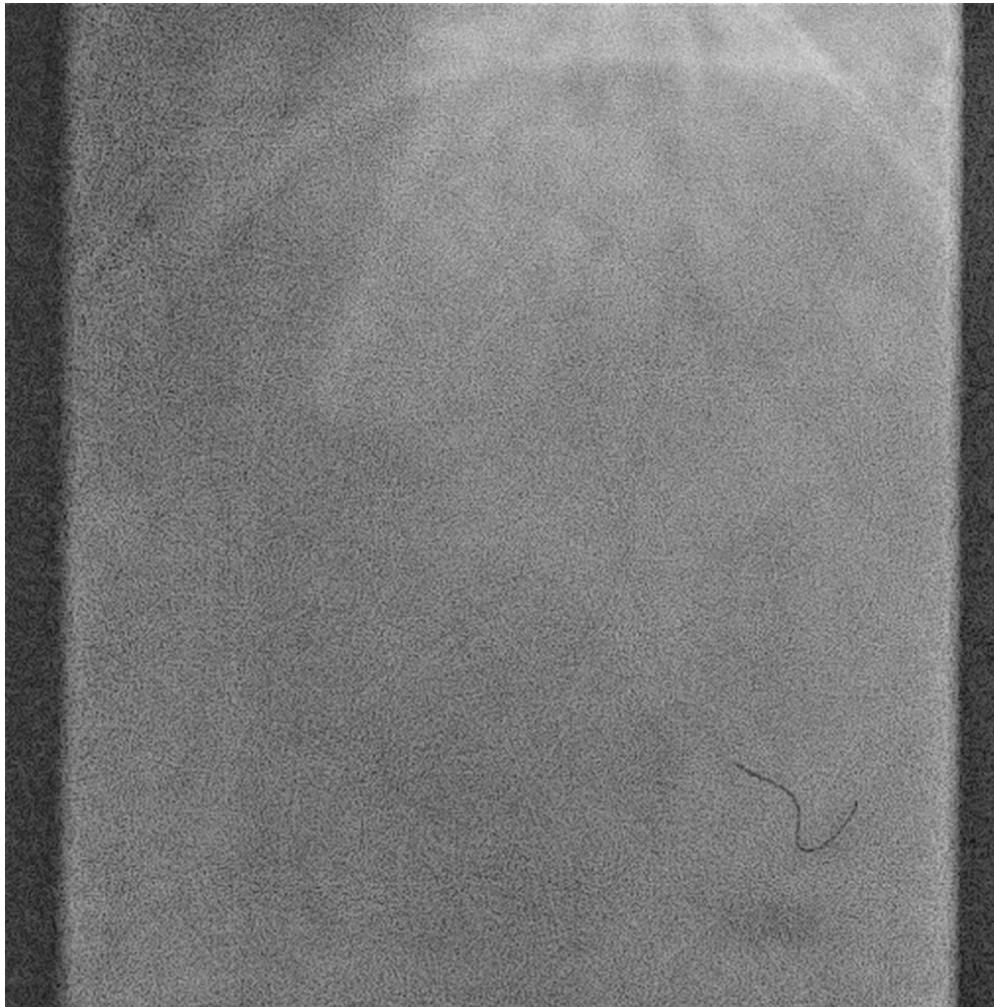
rIPD

RESTORE SVD China N = 116 vs 114

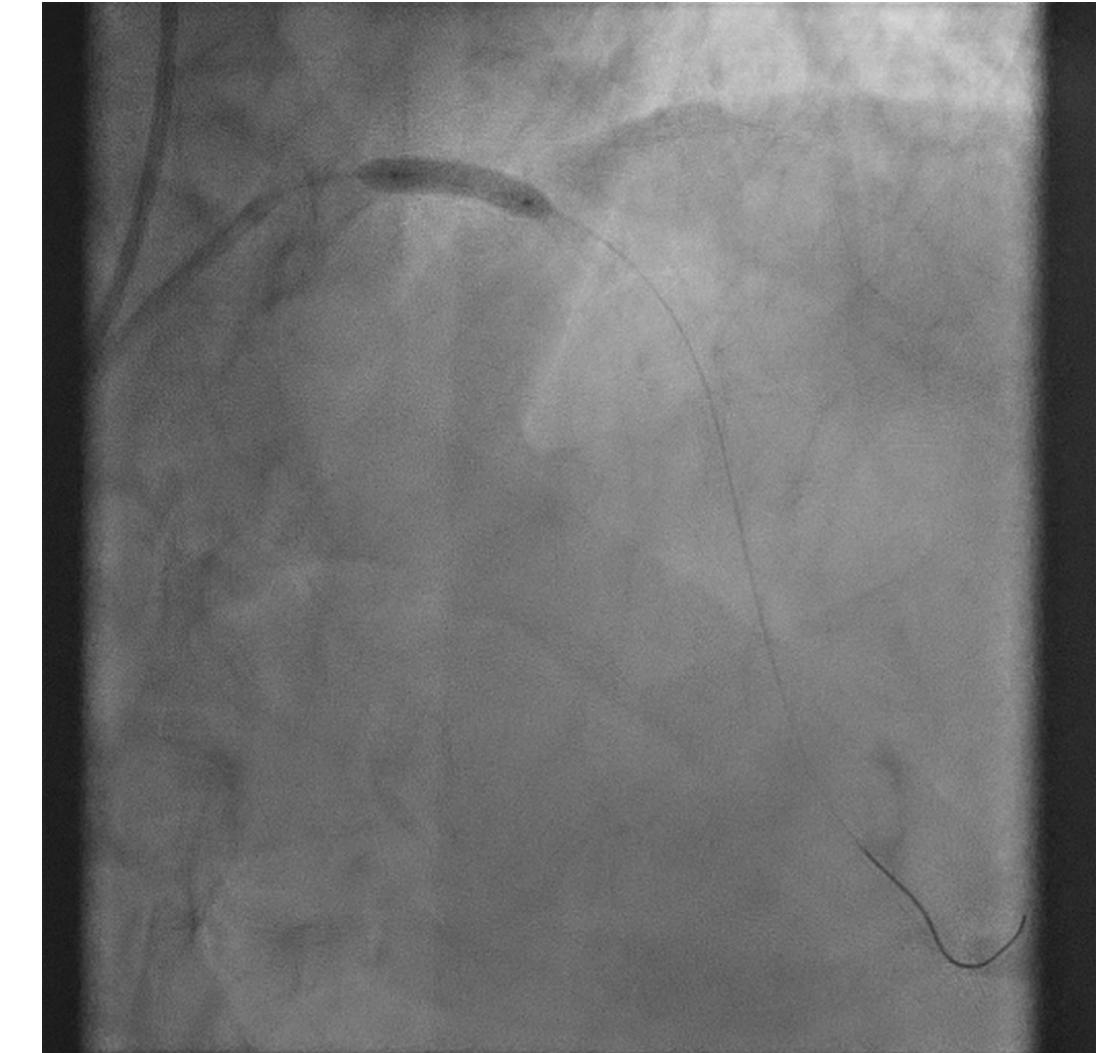
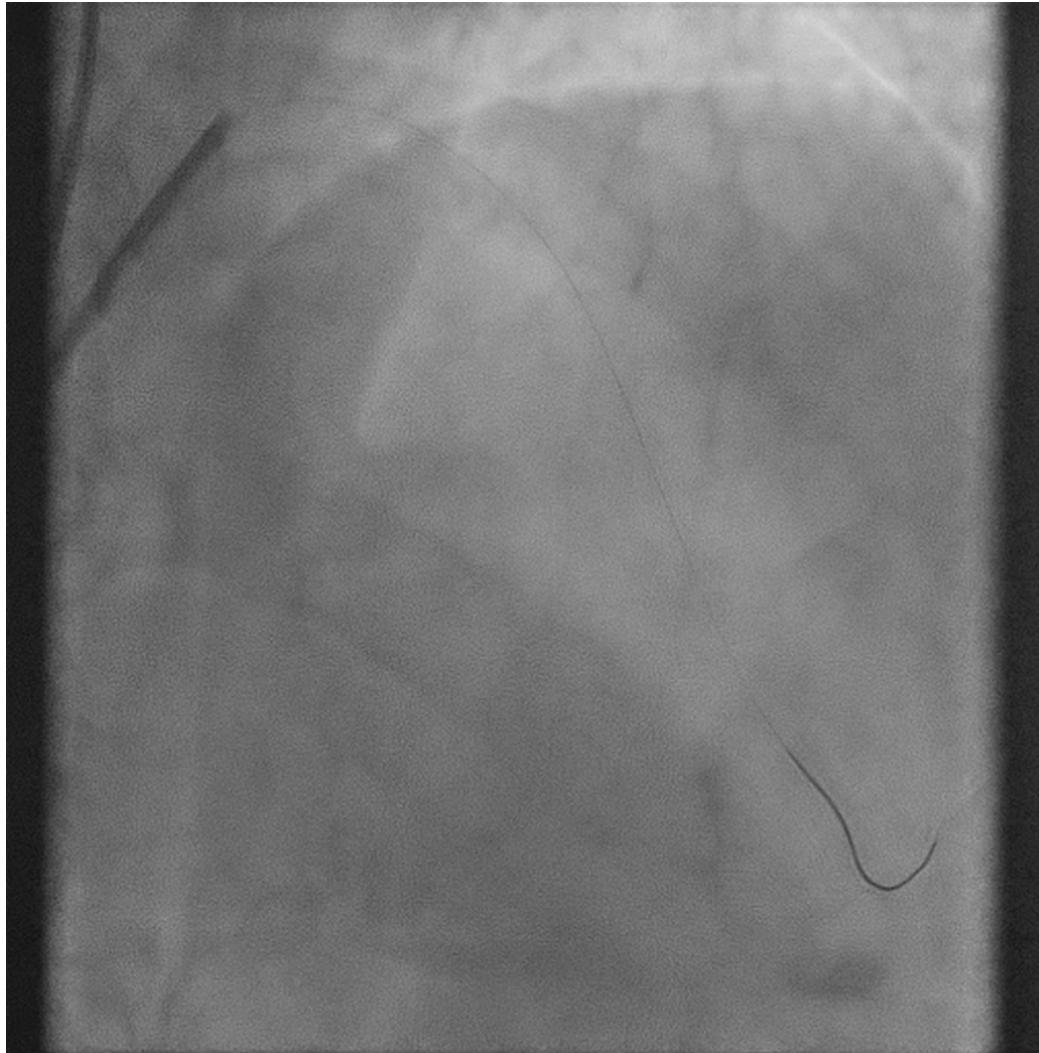




Restore PCB 2.5 x 30 mm



Restore PCB 3.0 x 30 mm



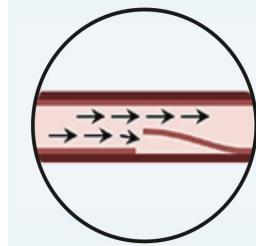
DES 3.5 x 12 mm

Mi check-list DCB

- ✓ Presencia de flujo TIMI III es más relevante que la disección
- ✓ Esperar 5 minutos para comprobar si hay recoil
- ✓ Cines largos para comprobar si hay retención de contraste
- ✓ 2 proyecciones ortogonales para:
 - ✓ evaluar correctamente la estenosis residual
 - ✓ valorar bien las disecciones
- ✓ Angiografía final sin guía

CRITERIOS ANGIOGRÁFICOS :

- ✓ No retención de contraste
- ✓ Flujo TIMI III
- ✓ No retroceso elástico



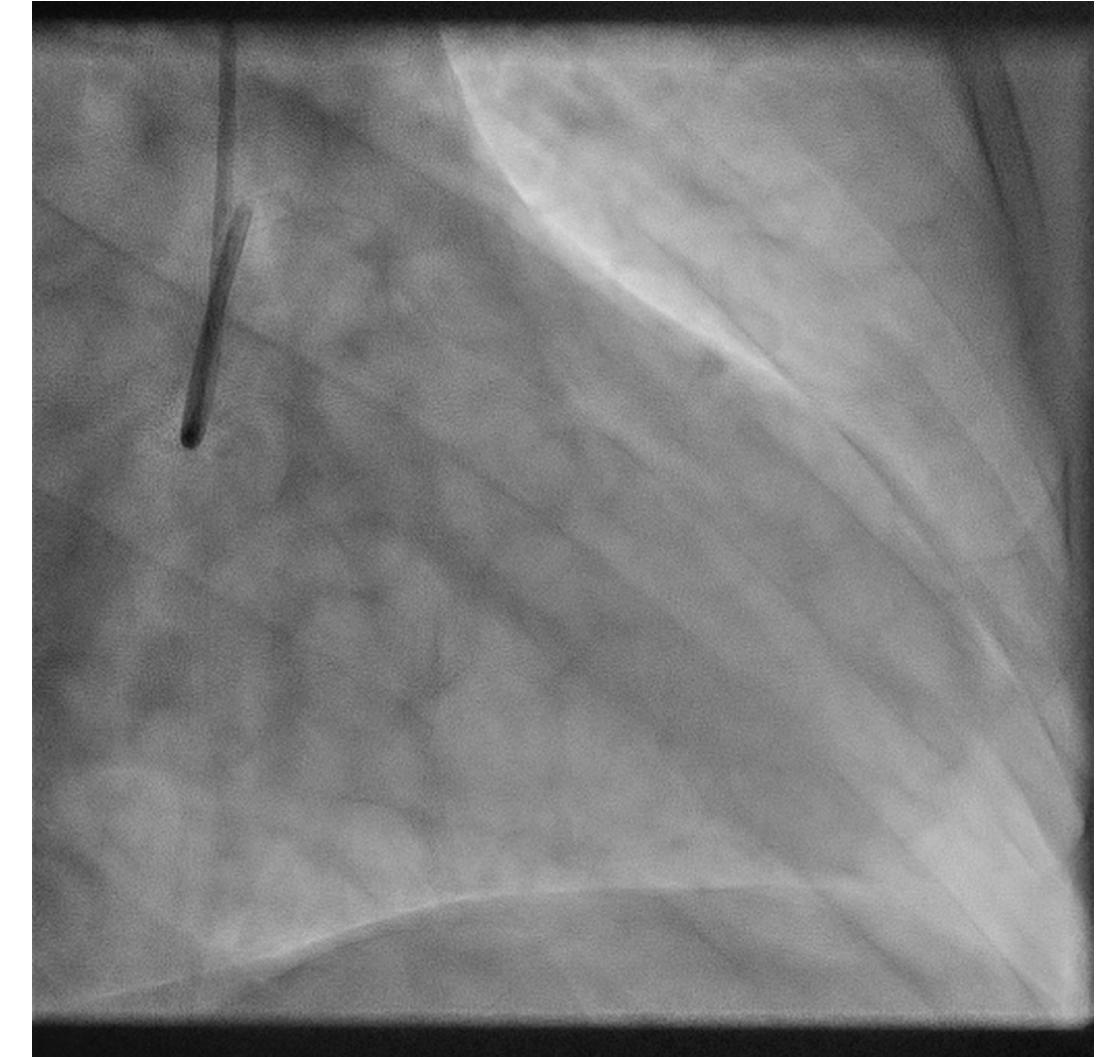
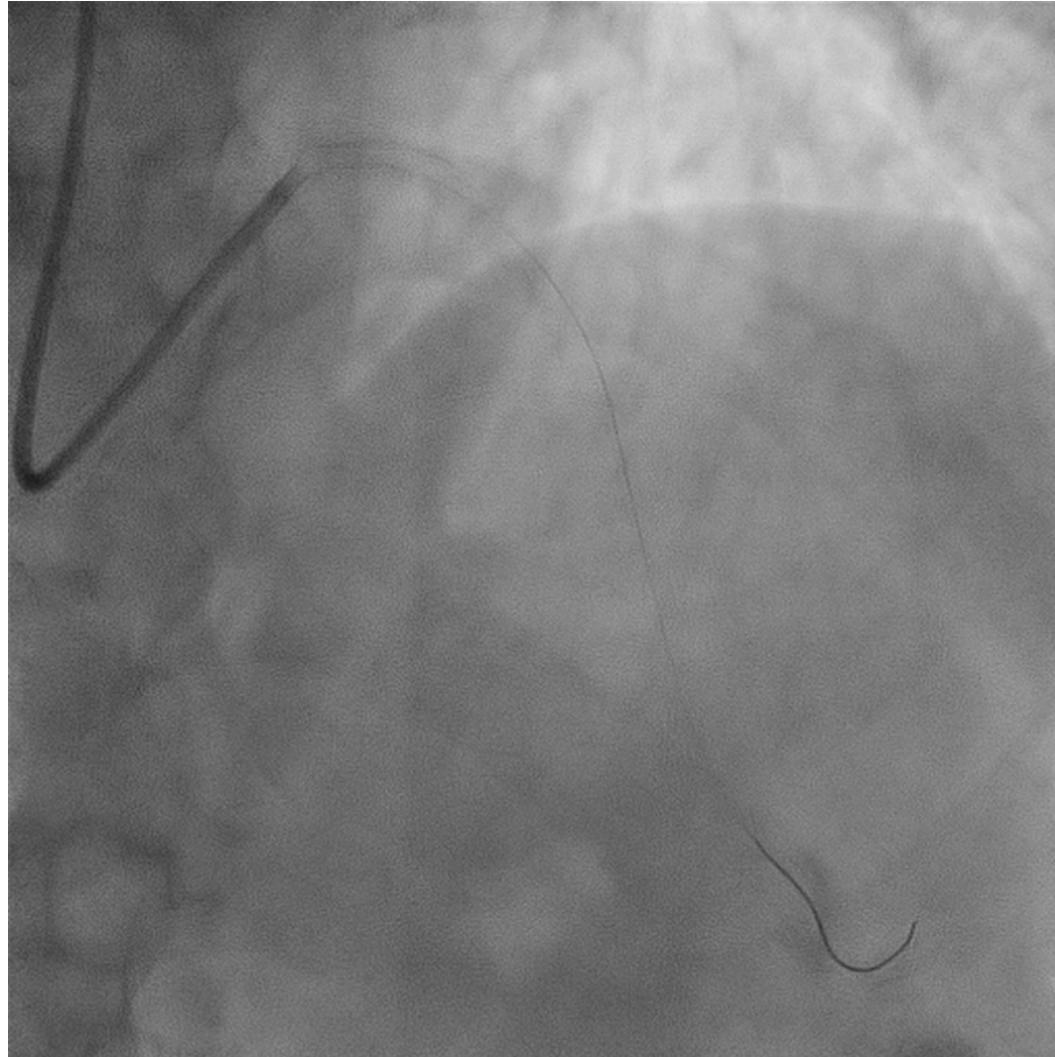
CRITERIOS CLÍNICOS :

- ✓ No dolor torácico
- ✓ No cambios ECG



La estrategia consiste en reducir el metal implantado, no evitar stentar a cualquier precio

Resultado final



Seguimiento 15 meses

Asintomático

Monta en bici, va al huerto

Clopidogrel retirado a los 12 meses

Sin eventos cardiovasculares ni de sangrado

Consideraciones finales

- El abordaje híbrido tiene como objetivo minimizar el metal implantado
- Se puede plantear como estrategia inicial o bien como “rescate”
- Estrategia prometedora en lesiones largas, vasos pequeños, enfermedad difusa
- A la espera de más evidencia en enfermedad de novo, es una buena alternativa en escenarios en los que el resultado con DES es subóptimo

Muchas gracias

