HIGH TECH MARSEILLE

28-30 JANVIER 2026

MARSEILLE
PALAIS DU PHARO

Stenter une lésion aorto-ostiale

Arthur Darmon, Franck Digne
Victor Stratiev, Mohamed Abdellaoui, Mohammed Nejjari

Centre Cardiologique du Nord, Saint-Denis

CONFLITS D'INTÉRÊTS

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B.Braun

La lésion aorto-ostiale : de multiples challenges

Diagnostic souvent difficile :

- **Intubation profonde du cathéter :** risque de masquer la sténose ostiale
  - **Injection sélective** → opacification incomplète
- **Injection non sélective :** opacification parfois insuffisante

Complexité anatomique :

- **Ostium à géométrie complexe** (imagerie 2D insuffisante) → plan aorto-ostial ?
- **Caractéristiques histologiques :** fibres de collagène, élastine, adventice épaisse, calcifications…

Mouvements cardiaques / respiratoires :

- **Instabilité** du cathéter guide
- Nécessité de **désengager** le cathéter guide pour le déploiement du stent

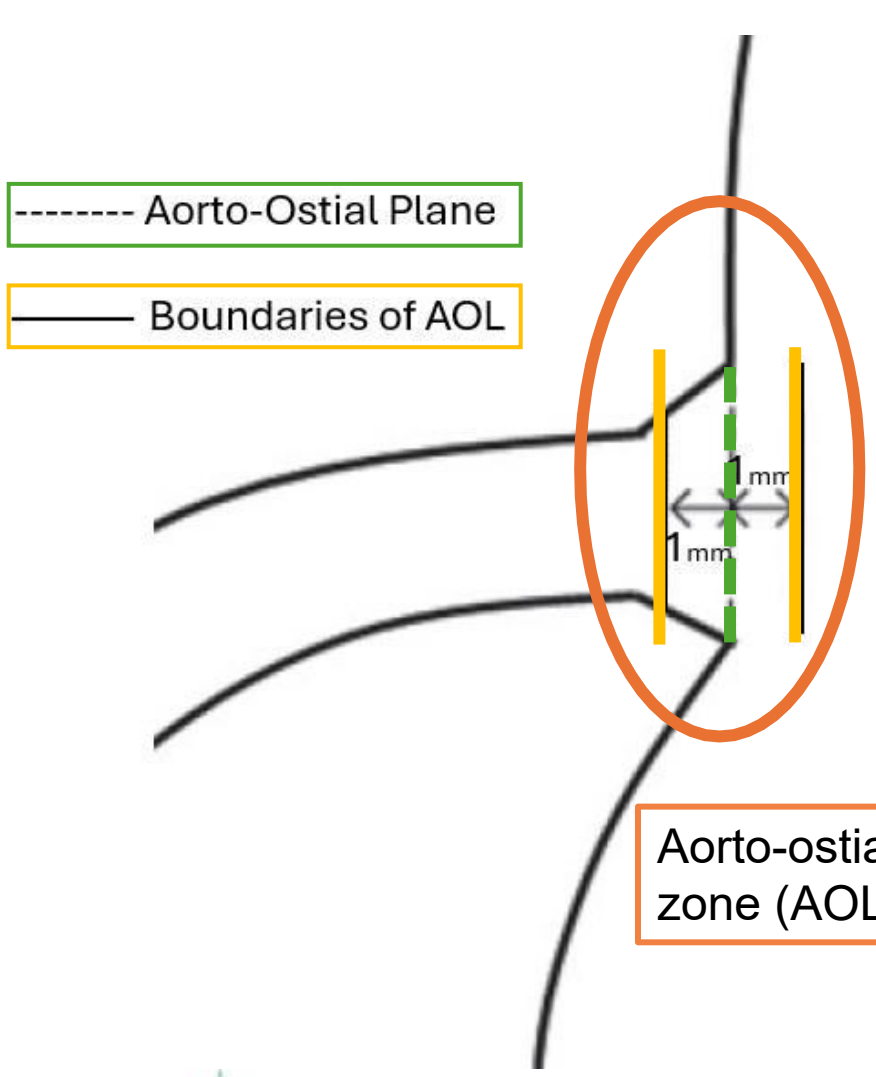
Cathéter guide et chute de pression :

- Risque de dissection hydraulique

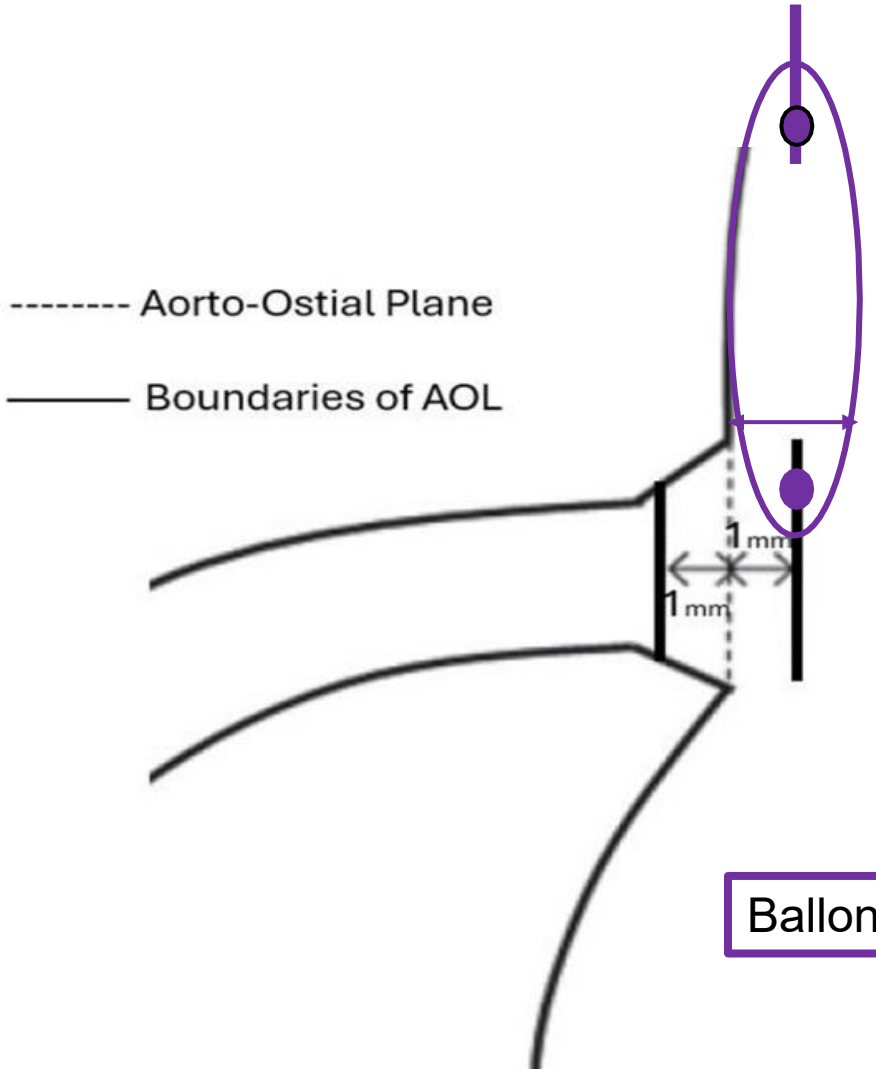
Risque de mauvais positionnement du stent :

- **Stent trop proximal :** protrusion aortique → difficultés de re-cathétérisation ; obstruction possible du sinus de Valsalva (risque accru après TAVI)
- **Stent trop distal :** couverture ostiale incomplète → resténose

Rationnel de la technique du « floating-balloon »



Aorto-ostial landing zone (AOLZ)



Ballon de 2 mm

Franck Digne, Arthur Darmon, Mohammed Nejjari JACC Cardiovasc Interv. 2024

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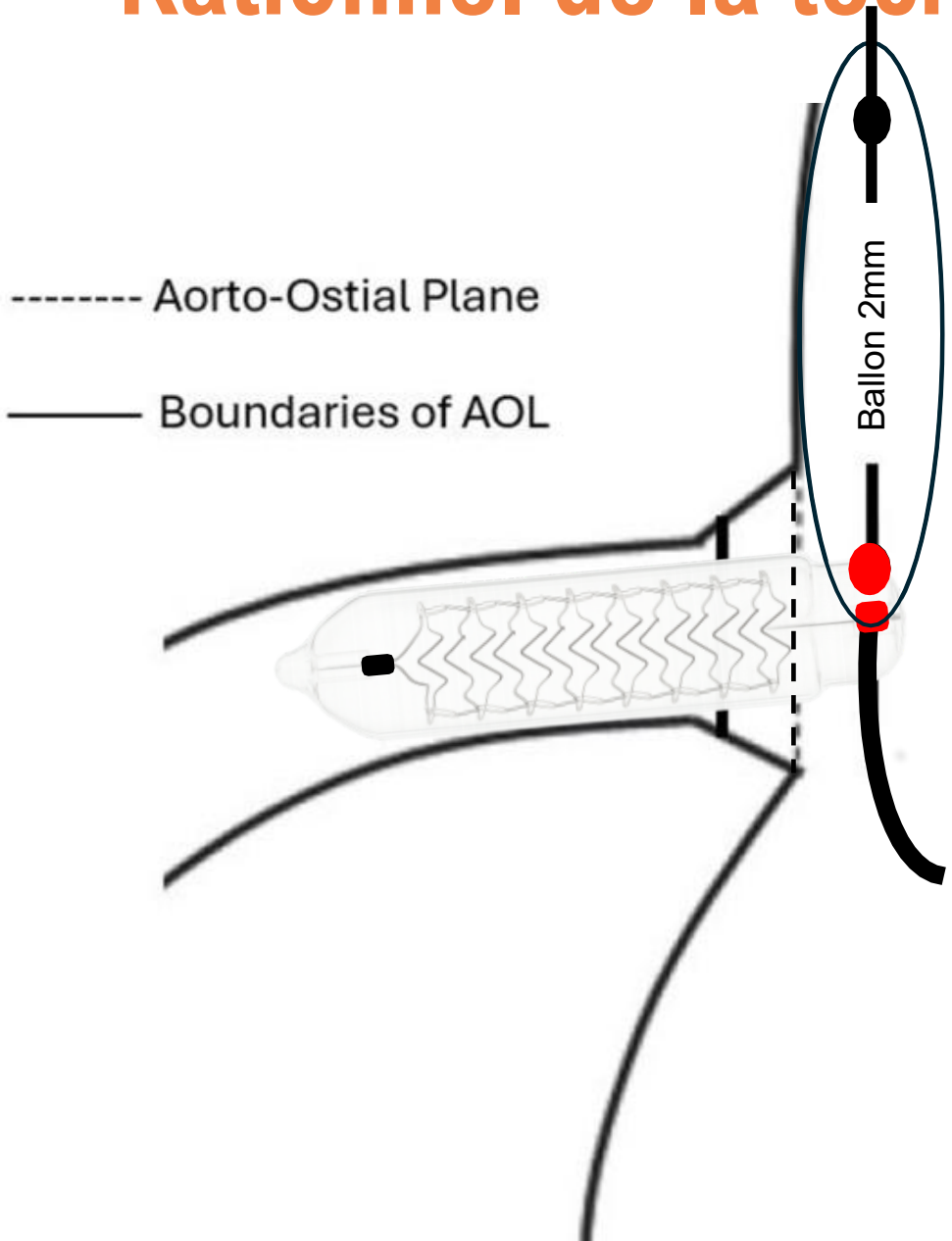
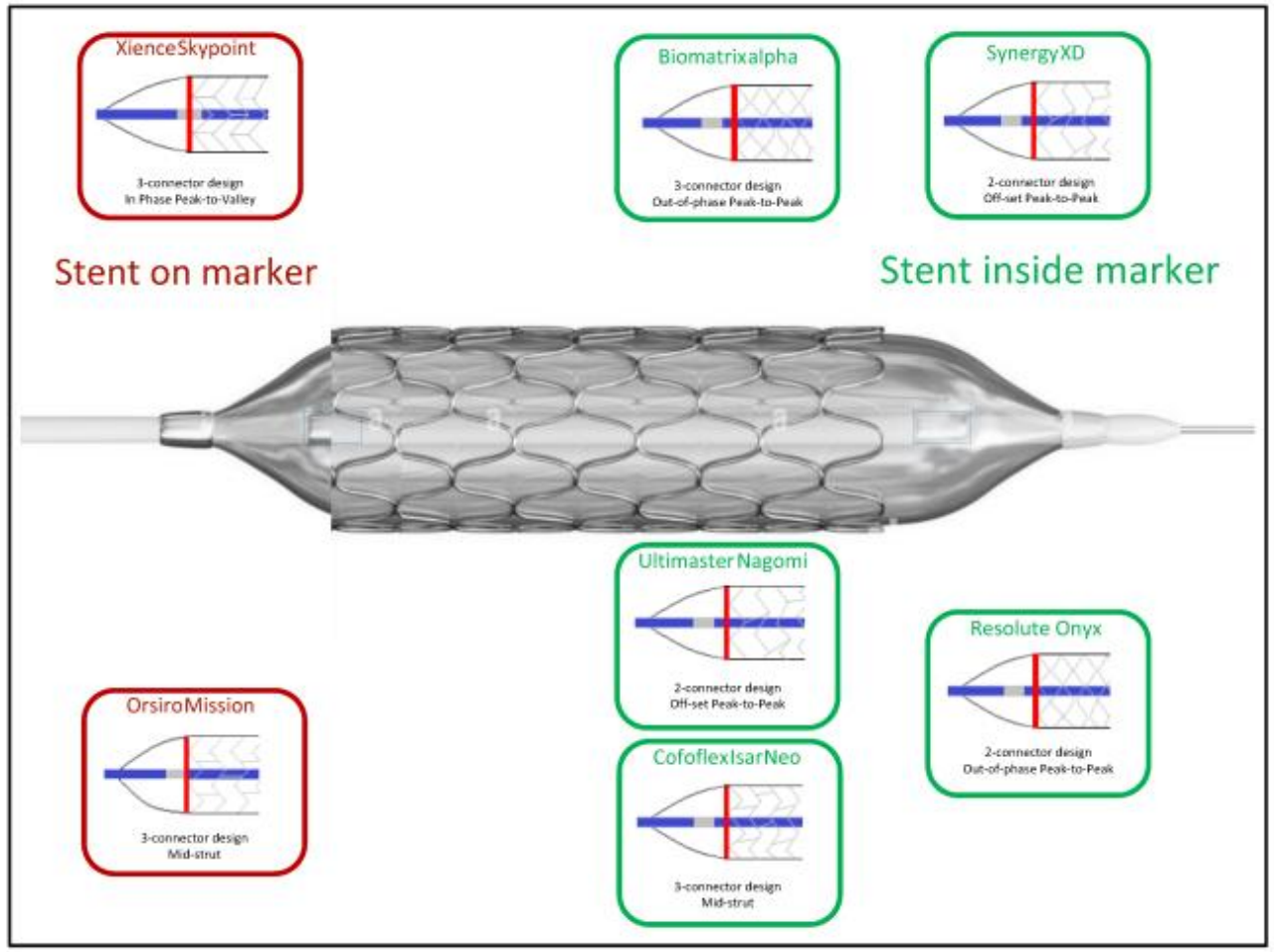
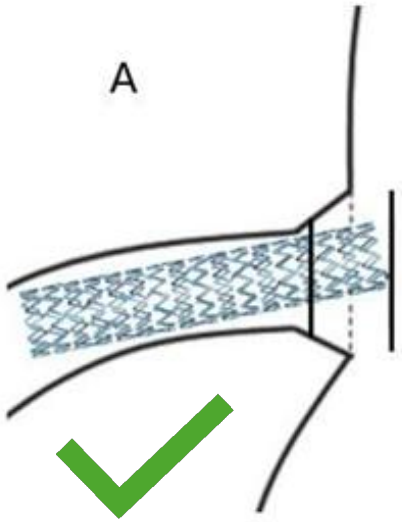
Rationnel de la technique du « floating-balloon »

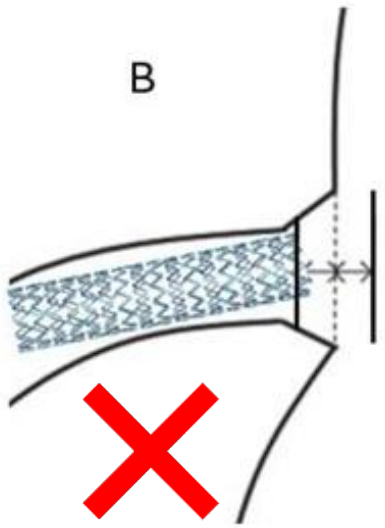


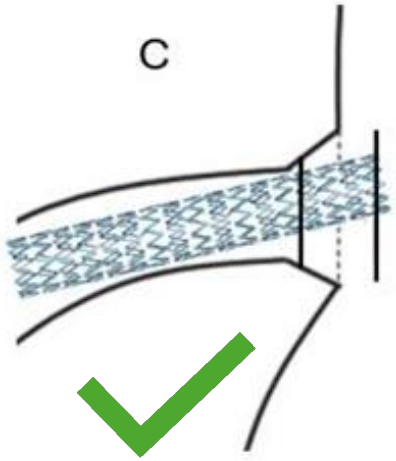


Optimal AOL stent placement

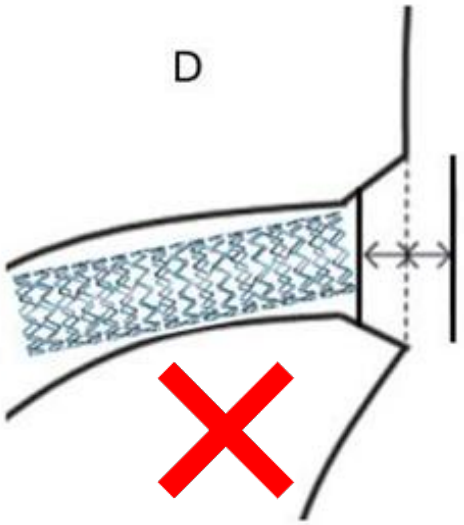


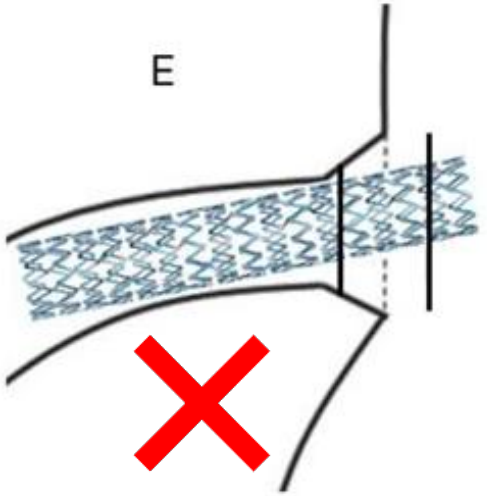
Anatomy-dependent geographic miss



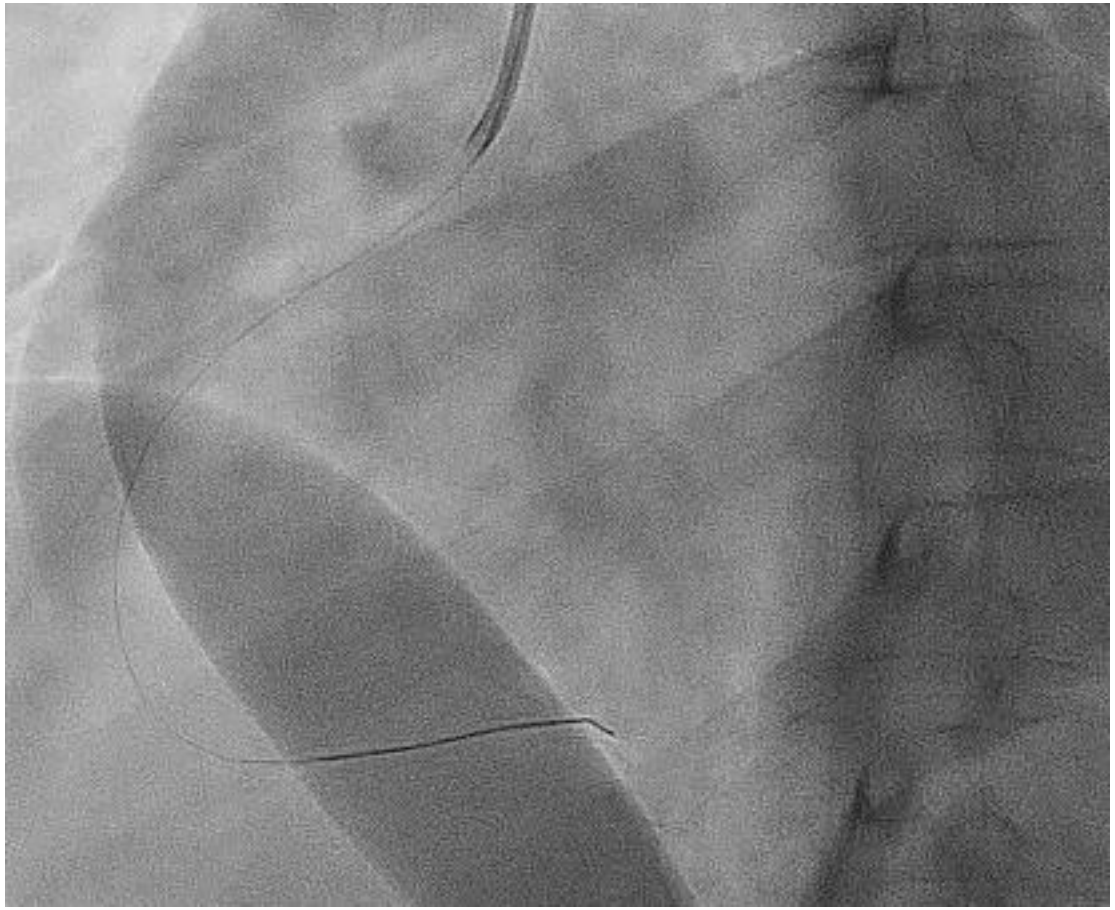


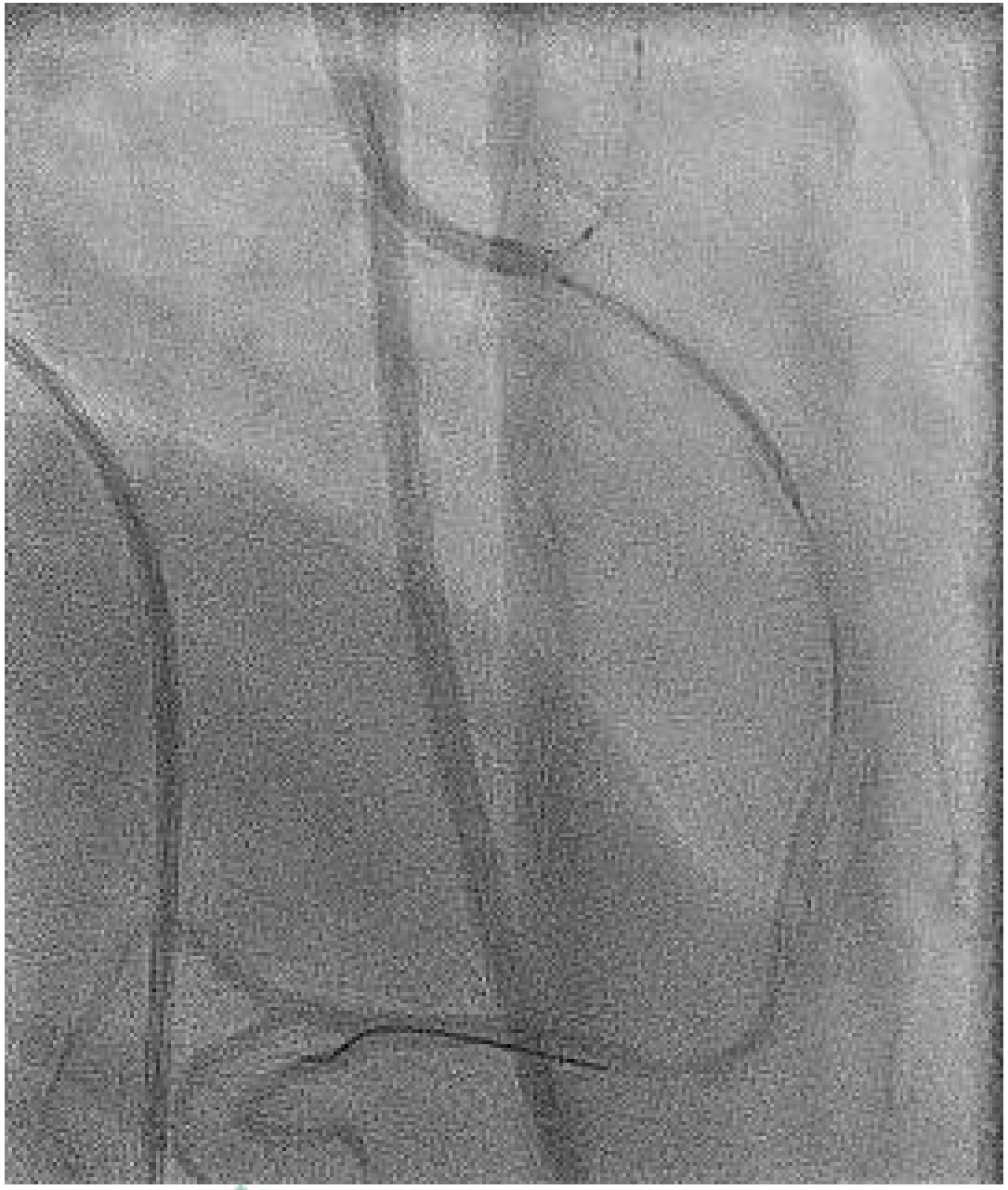
Procedure-dependent geographic miss

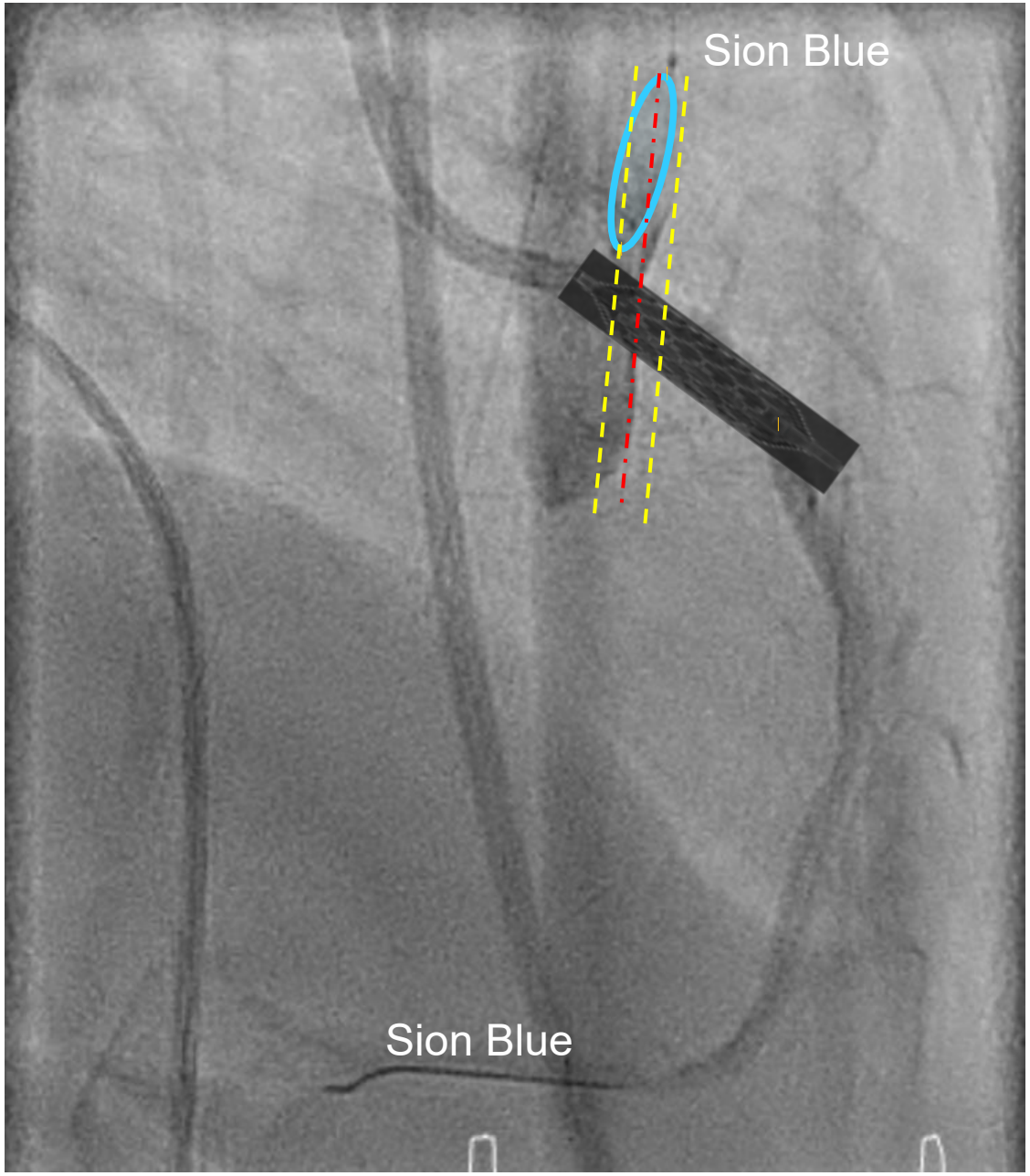




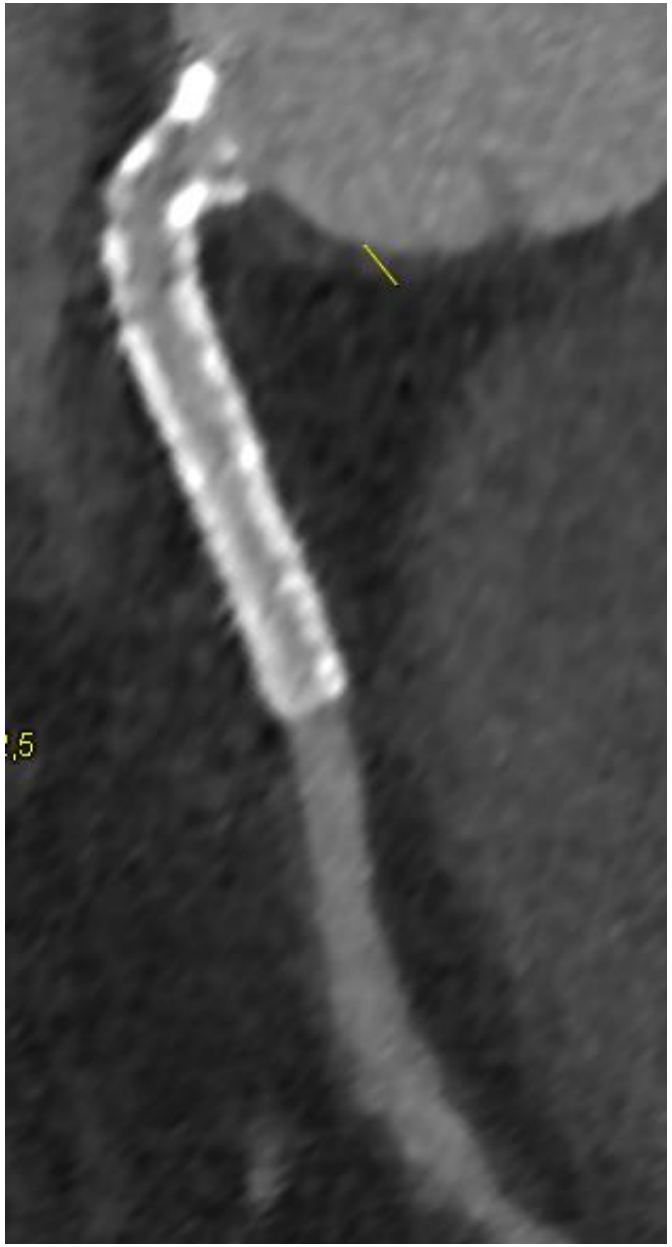
Exemple lésion ostiale CD






Sion Blue
Sion Blue

Résultat angio et CT



12 PCI right coronary artery or left main ostium

↓

Floating balloon technique

↓

CT scan result

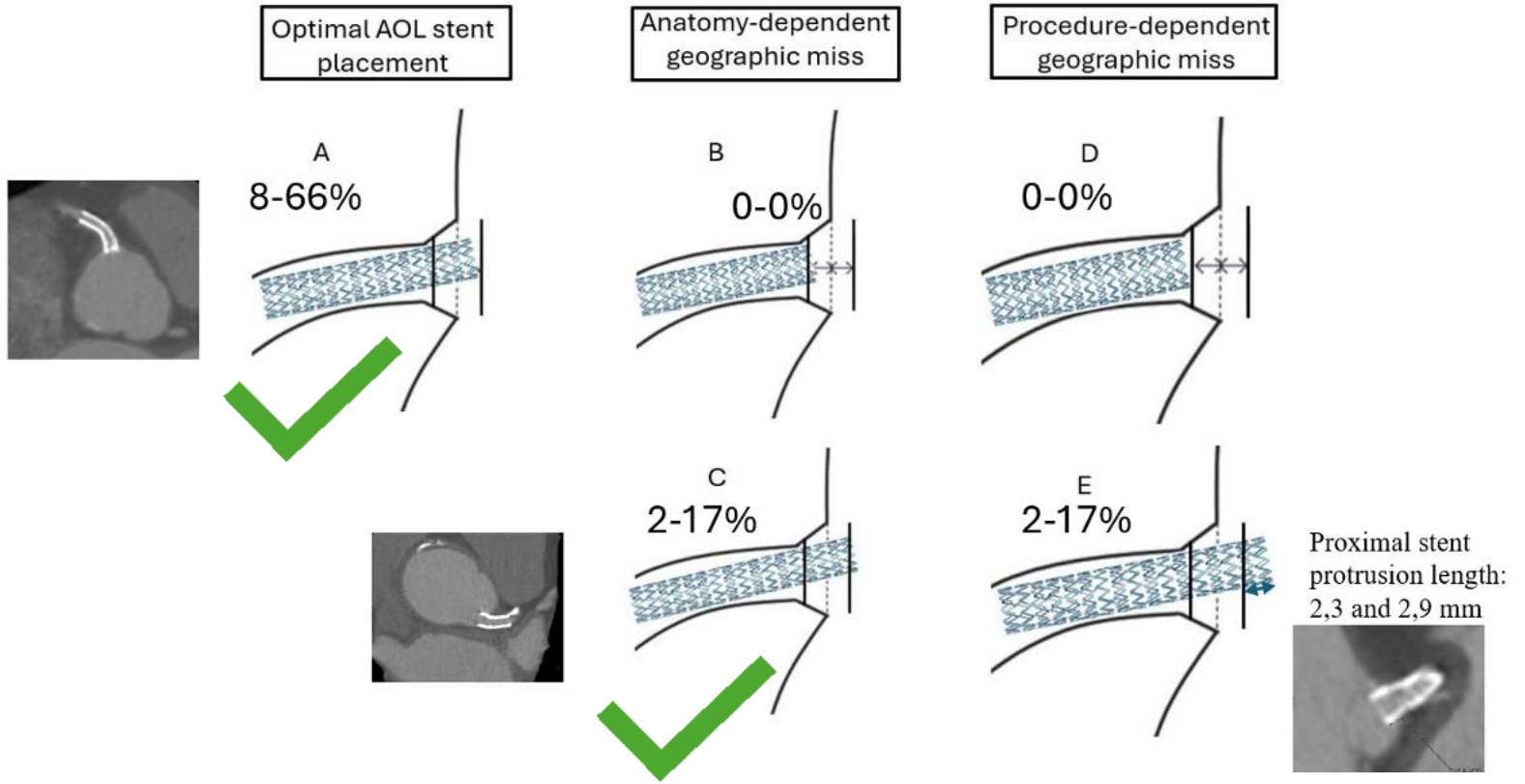
TABLE 2 | Procedural findings.

Right coronary ostium (RCO) (*n*, %)	9 (75)
Left coronary ostium (LCO) (*n*, %)	3 (25)
Ivus guidance (*n*, %)	5 (42)
Radial route (*n*, %)	11 (92)
7 F sheath (*n*, %)	11 (92)
6 F sheath (*n*, %)	1 (8)
Guiding catheter type for RCO	
JR4 (*n*, %)	8 (89)
AR 1 (*n*, %)	1 (11)
Guiding catheter type for LCO	
JL 3.0 (*n*, %)	2 (67)
JL 3.5 (*n*, %)	1 (33)
Predilatation (semi or noncompliant balloon) (*n*, %)	10 (83)
Cutting balloon (*n*, %)	5 (42)
DES diameter	
3.0 mm (*n*, %)	3 (25)
3.5 mm (*n*, %)	5 (42)
4.0 mm (*n*, %)	3 (25)
4.5 mm (*n*, %)	1 (8)
Noncompliant balloon post dilatation (*n*, %)	11 (92)
Contrast material used (mL) (mean ± SD)	176 (64)
Scopy time (mean ± SD)	18.1 (9.3)
Dose surface product (Gy.cm²) (mean ± SD)	90.8 (46.2)
Dose air Kerma (mGy) (mean ± SD)	1447 (712)

CCI Catheterization & Cardiovascular Interventions

Optimizing Stent Placement in Ostial Coronary Lesions with the Floating Balloon Technique: The OSTIAL (Optimizing Stent In Aorto-ostial Lesion) Pivotal Study

Franck Digne, Arthur Darmon, Salim Belguidoum , Mohammed Nejjari, Jacques Feignoux, 2025



83% de positionnement optimal

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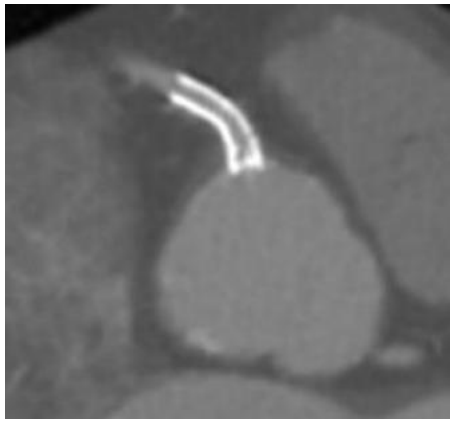
44 PCI of Right Coronary Artery or Left Main Ostium

Floating Balloon Technique

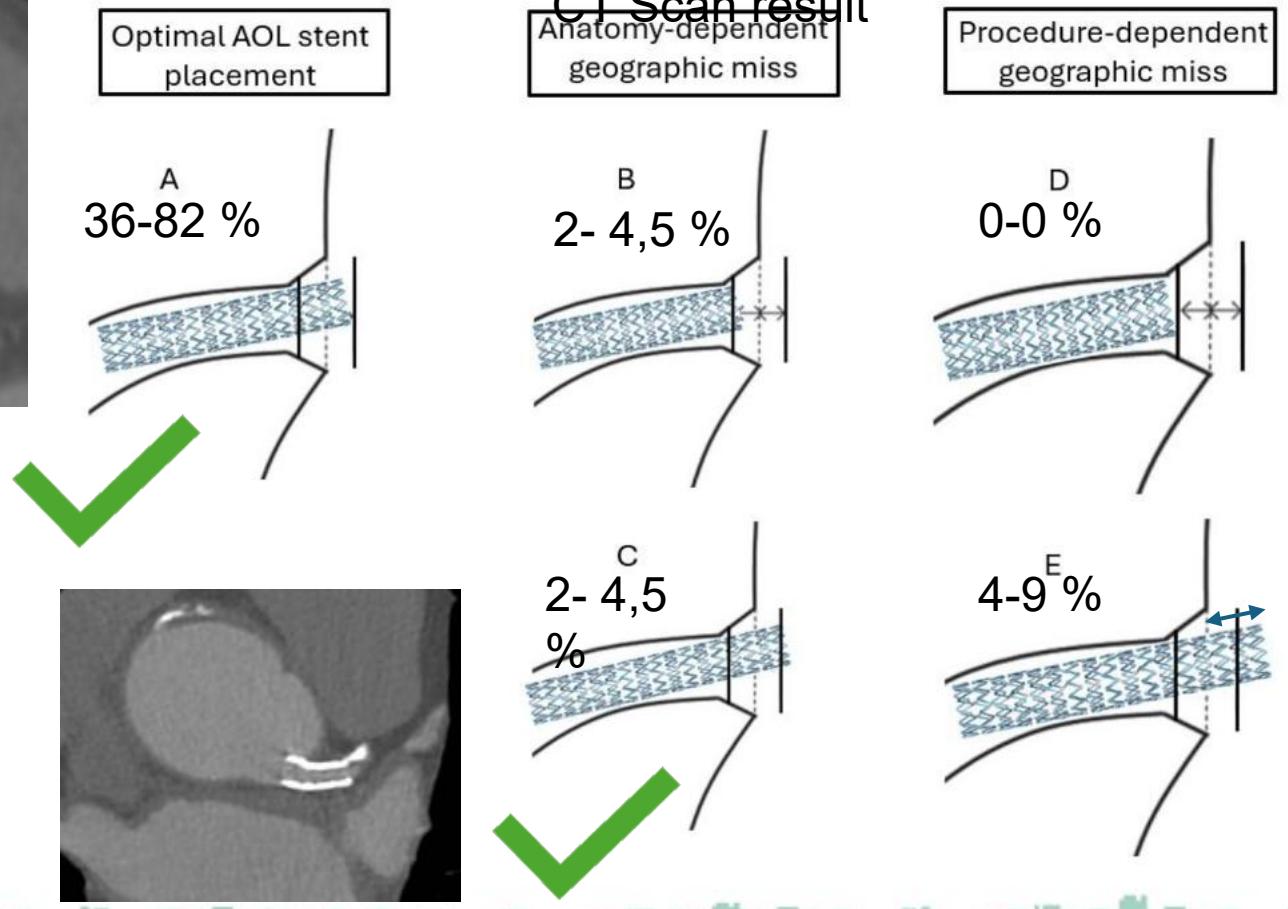
86,5% de positionnement optimal

🔒 Données personnelles, en cours de publication

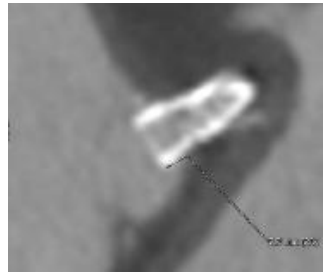
Merci aux opérateurs ayant adoptés la technique :
S.Porouchani, M.Boukhris, Q.Landolff, S.Belguidoum, V.Humeau, P.Commeau N.Amabile



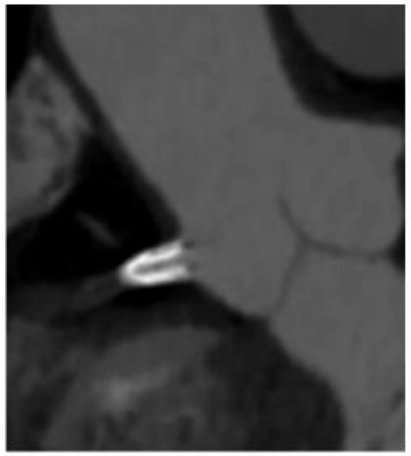
CT Scan result

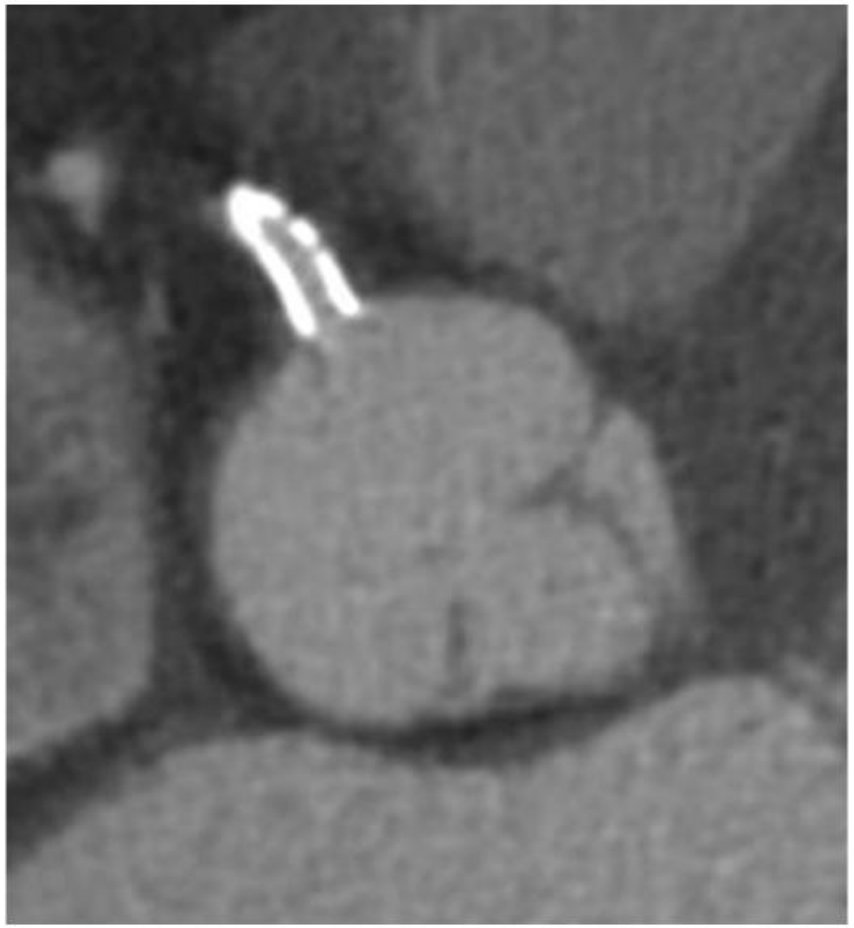


Proximal stent protrusion length: 2,3-2,7-2,9 and 4,5 mm



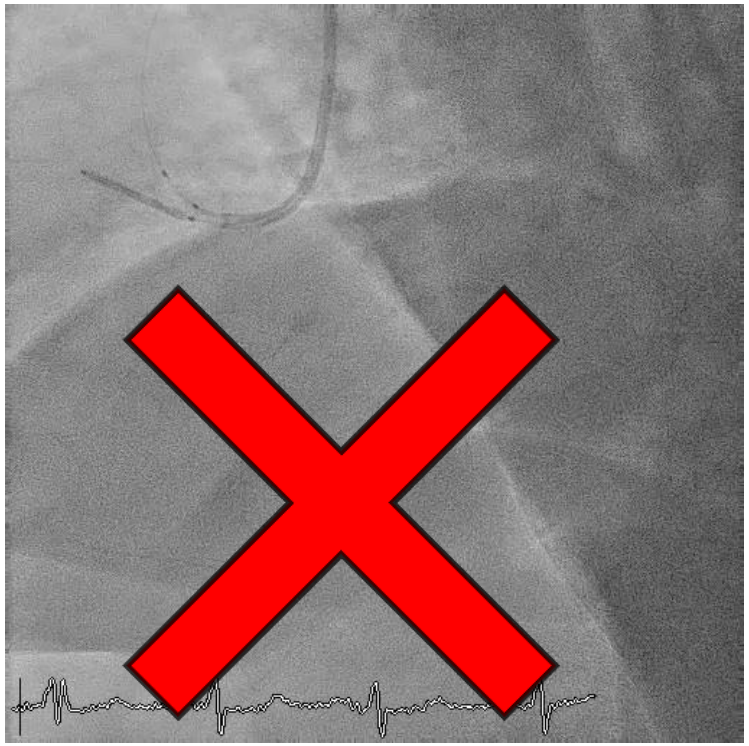
Quelques exemples



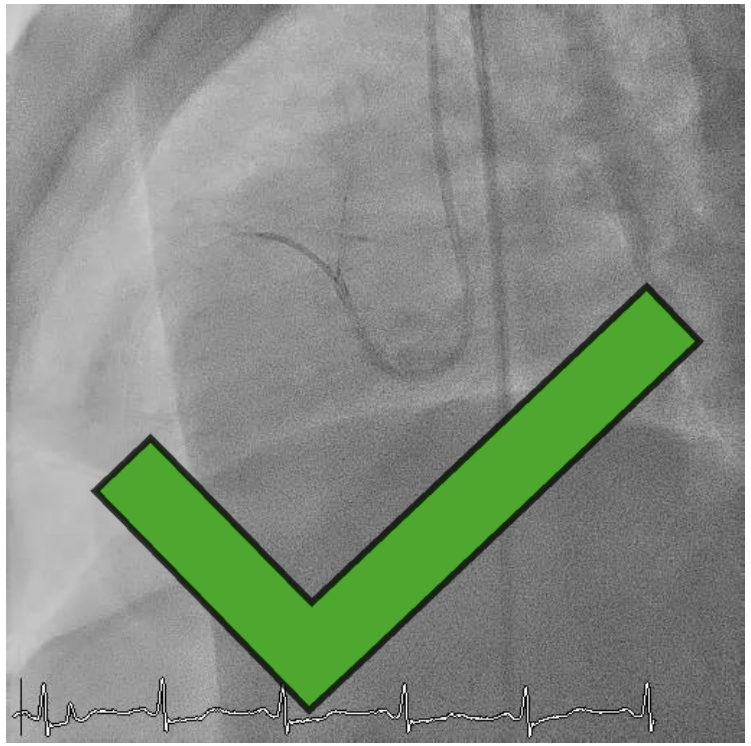


Tips & Tricks

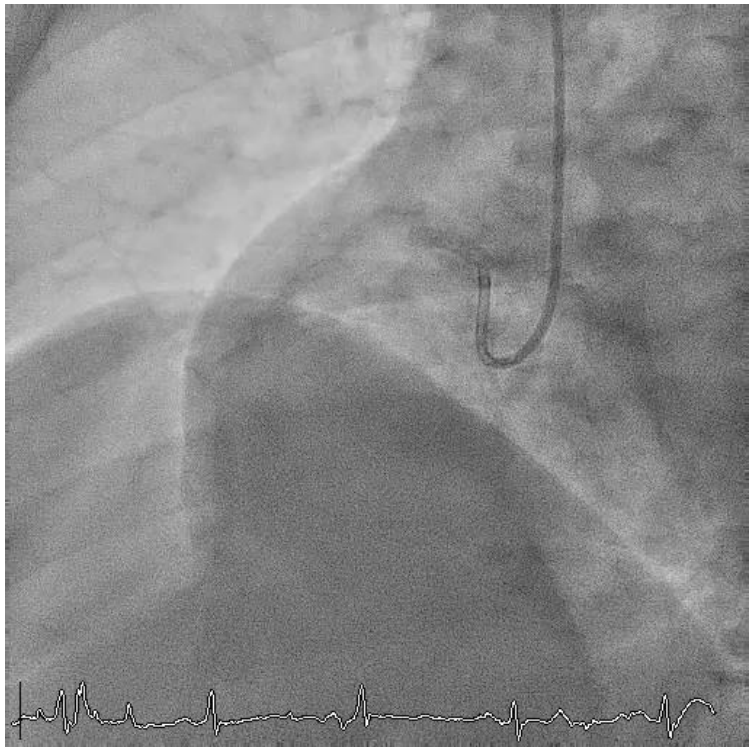
1- Réussir à bien « plaquer » le ballon sur la paroi aortique



Sonde JR 4



Sonde AL 0.75 ++
Meilleure expérience
Dépend de l'anatomie



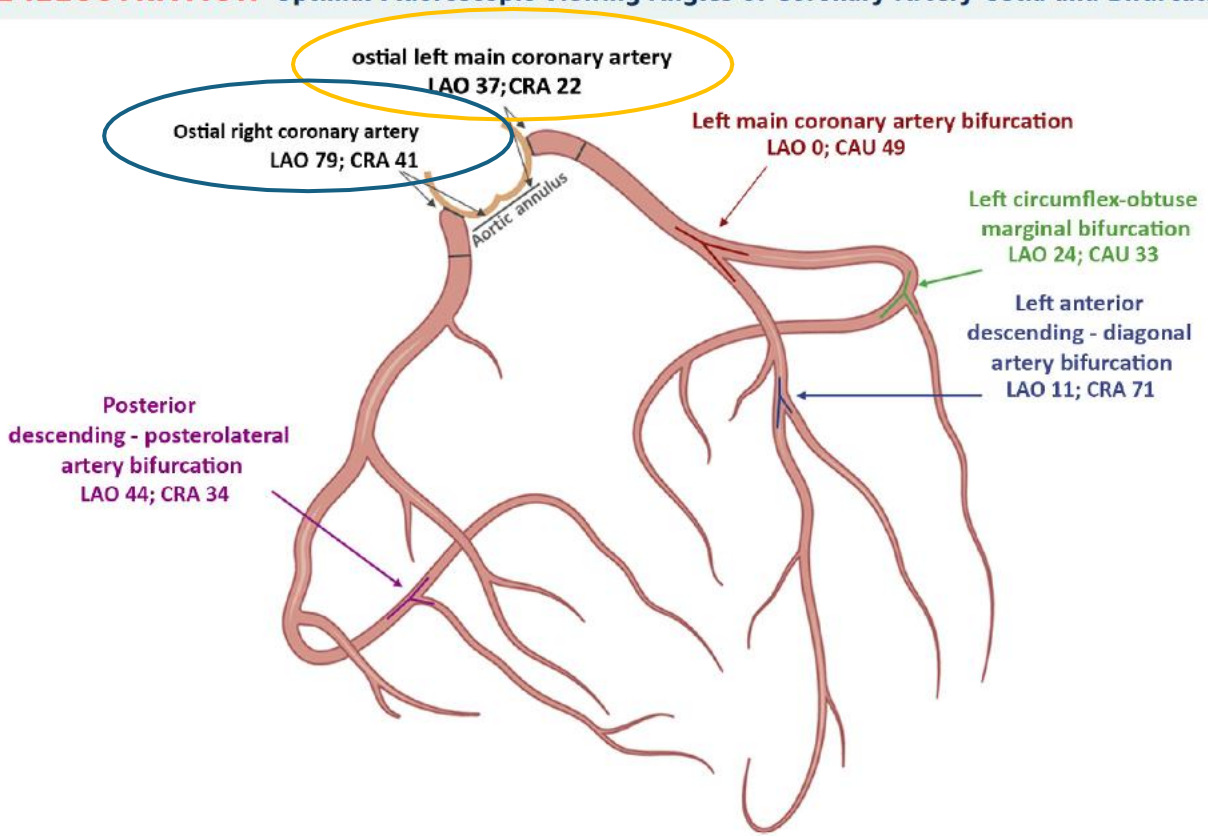
Résultat final

Tips & Tricks

2- Trouver la bonne incidence du plan aorto-ostial

Pour la CD
- Profil OAD
- OAG / CAUD

CENTRAL ILLUSTRATION Optimal Fluoroscopic Viewing Angles of Coronary Artery Ostia and Bifurcations

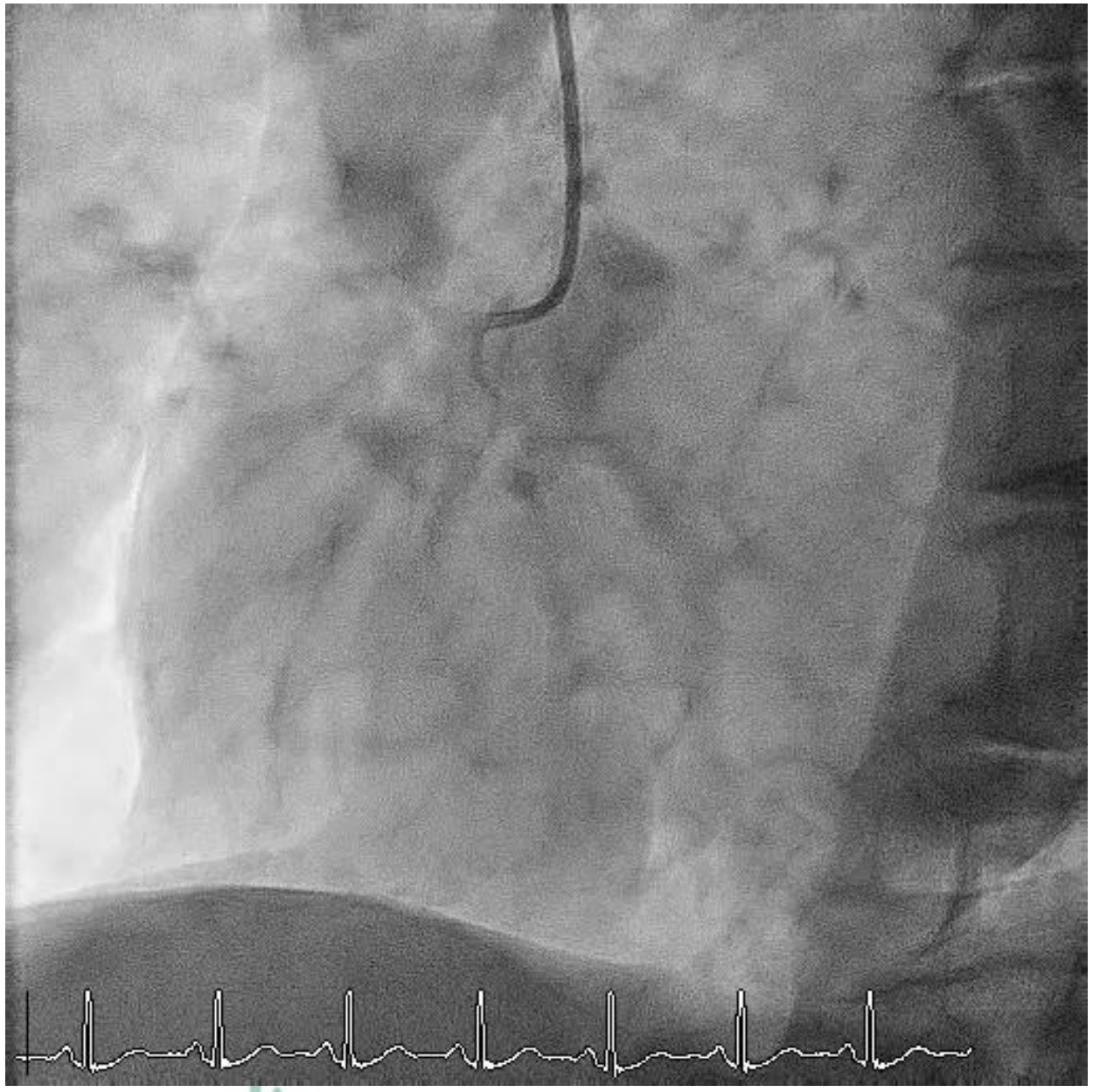


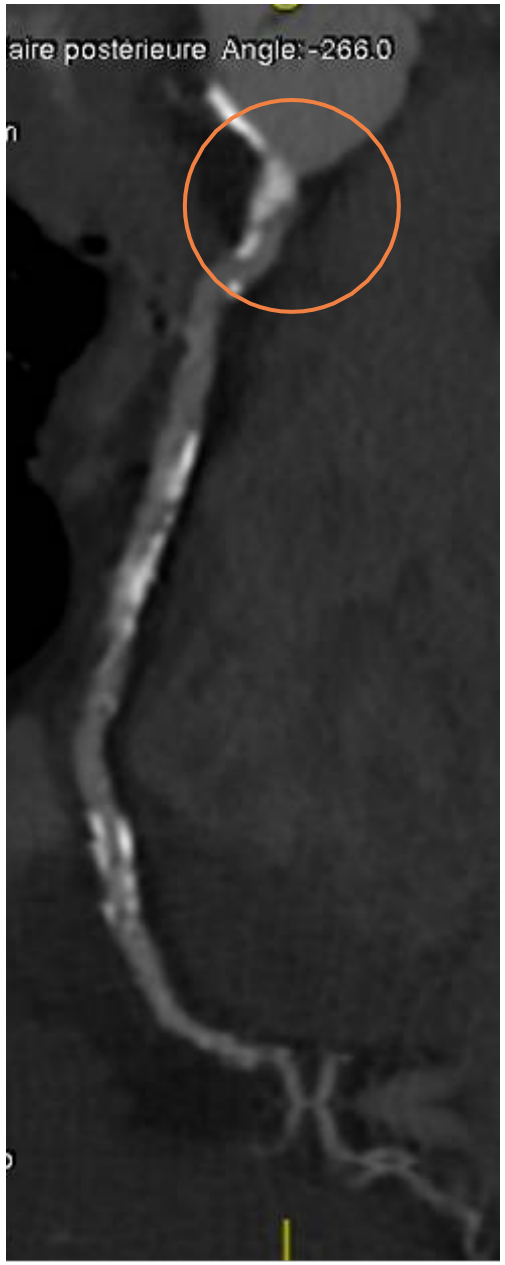
Kočka, V. et al. J Am Coll Cardiol Intv. 2020;13(21):2560-70.

CAU = caudal; CRA = cranial; LAO = Left anterior oblique.

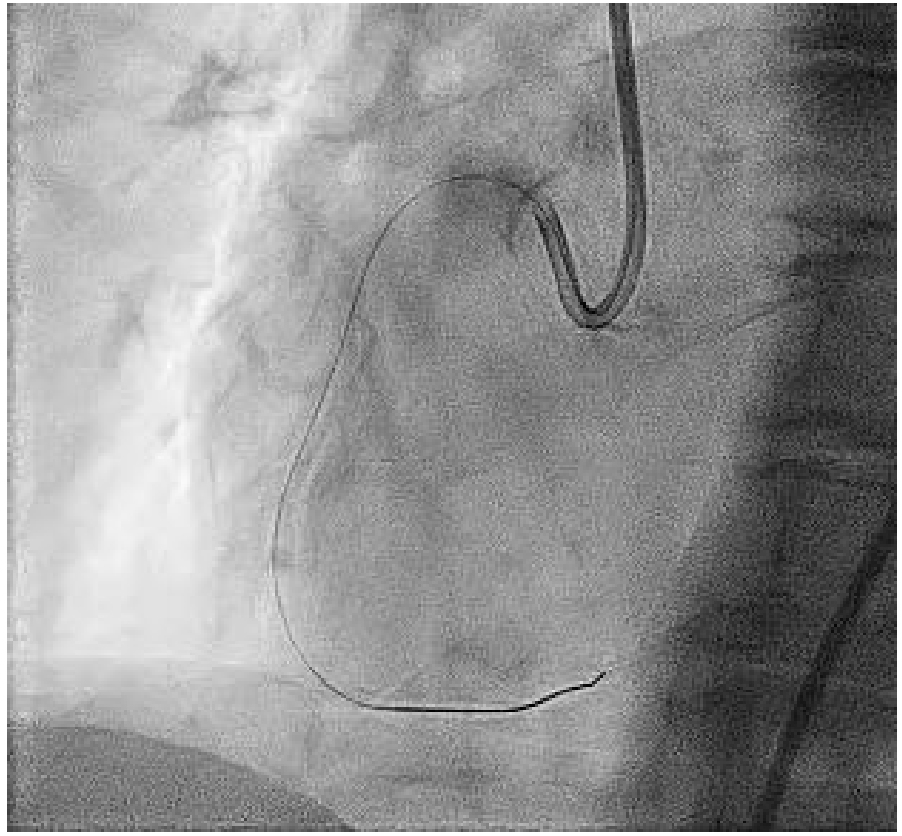
Tips & Tricks

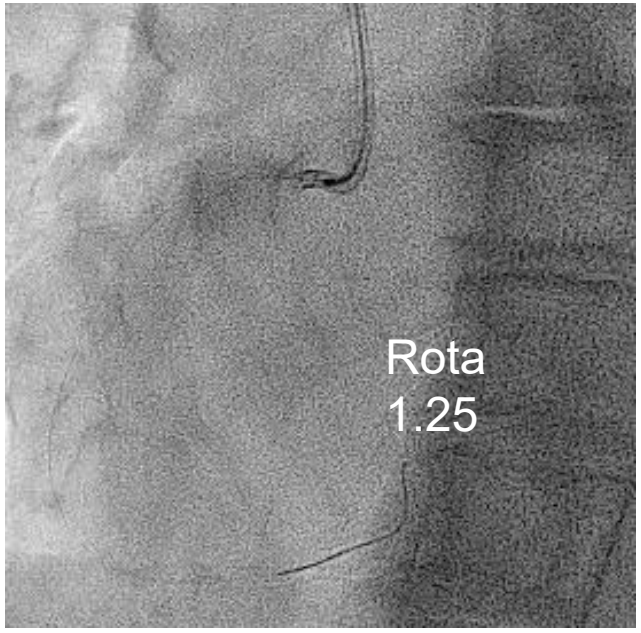
- **Préparation « agressive » de la lésion**: cutting / scoring balloon indispensable
- **Imagerie** toujours (autant que possible …)
- **Matériel** : possible en 6F à condition de mettre le stent avant, puis le ballon flottant ensuite
- Contrôler ses premiers cas par **scanner**

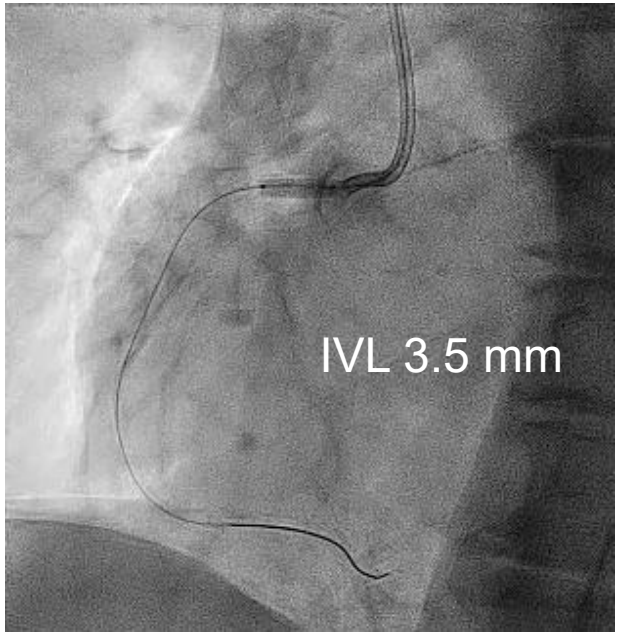


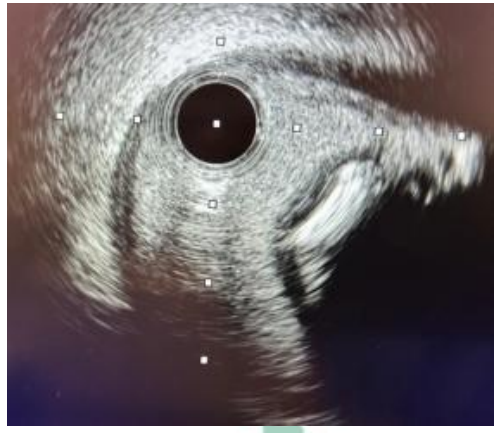

aire postérieure Angle: -266.0

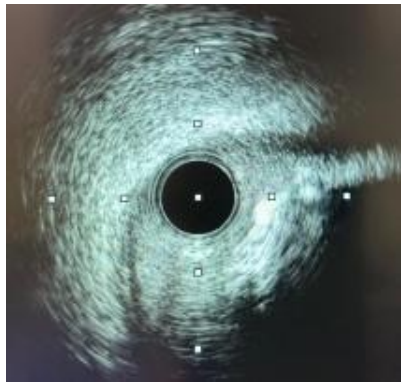

FOV 3.6 x 3.2 cm
TND/DL-M No Filter Ph:75%
Ex:Jul 07 2025
ASR
PM:67
L
S
P
.94/MIP LSection / -161°
V 80
.6mm /0.62sp
V = 3093 L = 1200
PIL
Curved 70/08
rtère coronaire droite Angle: -243.0
FOV 13.6 x 12.1 cm
S
PM:67
Ex:Jul 07 2025
L
.6mm /0.62sp 0.33/
V = 3093 L = 1200

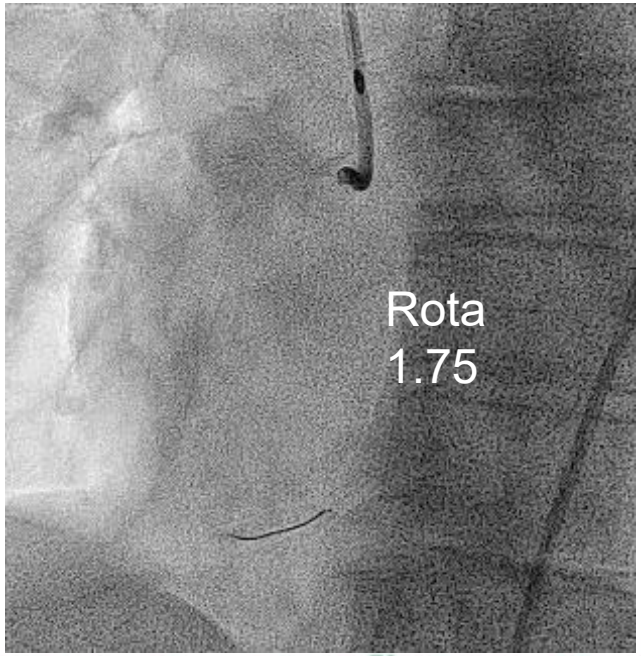


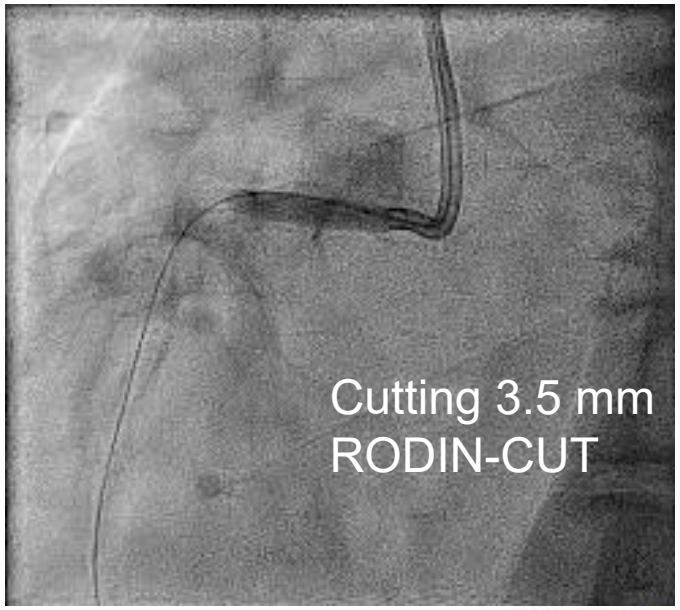




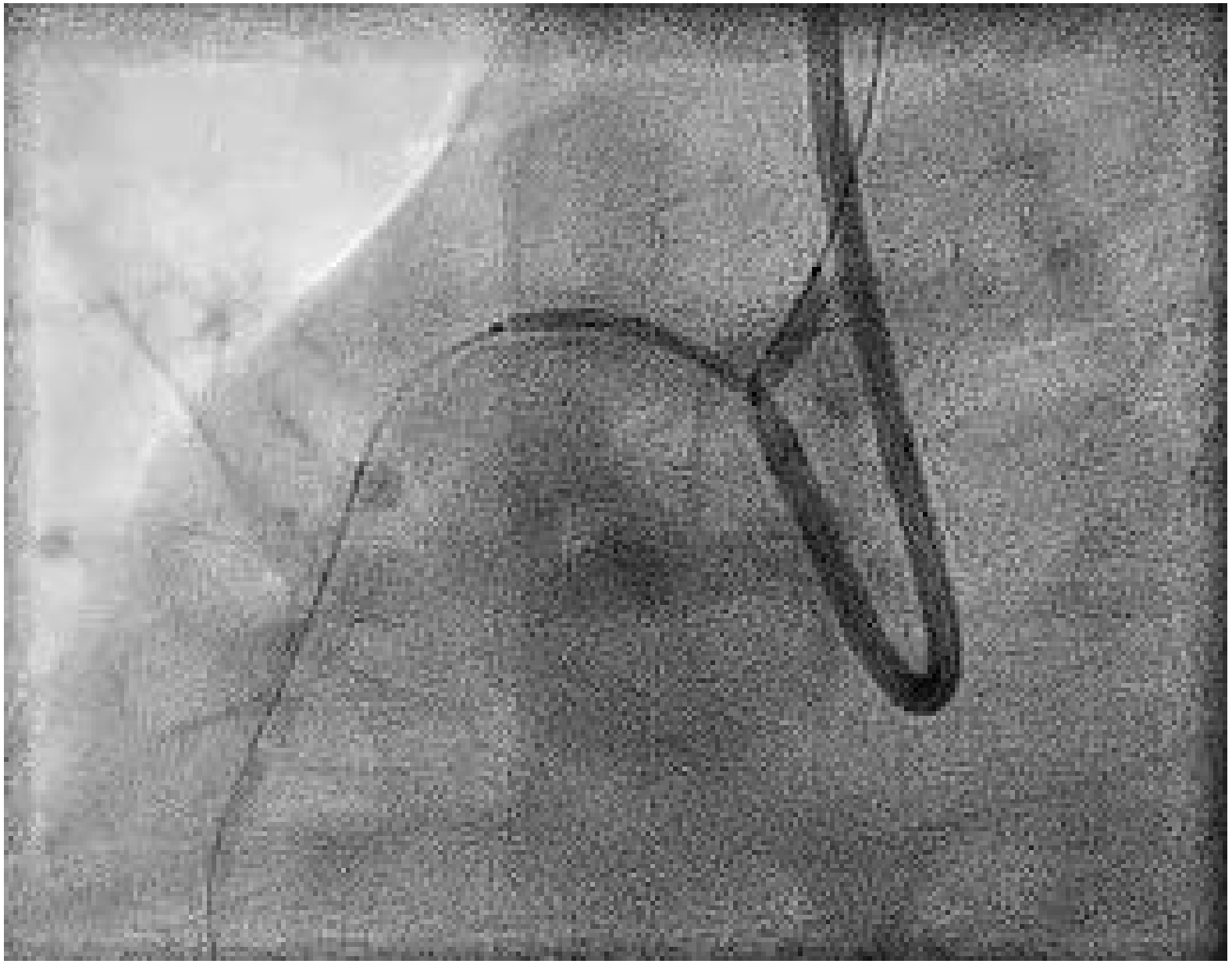


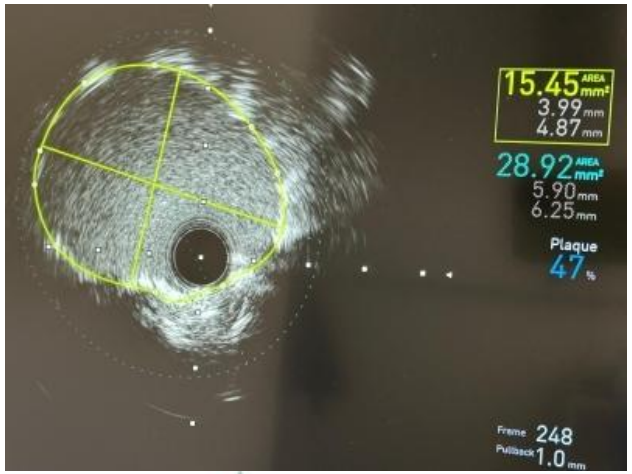


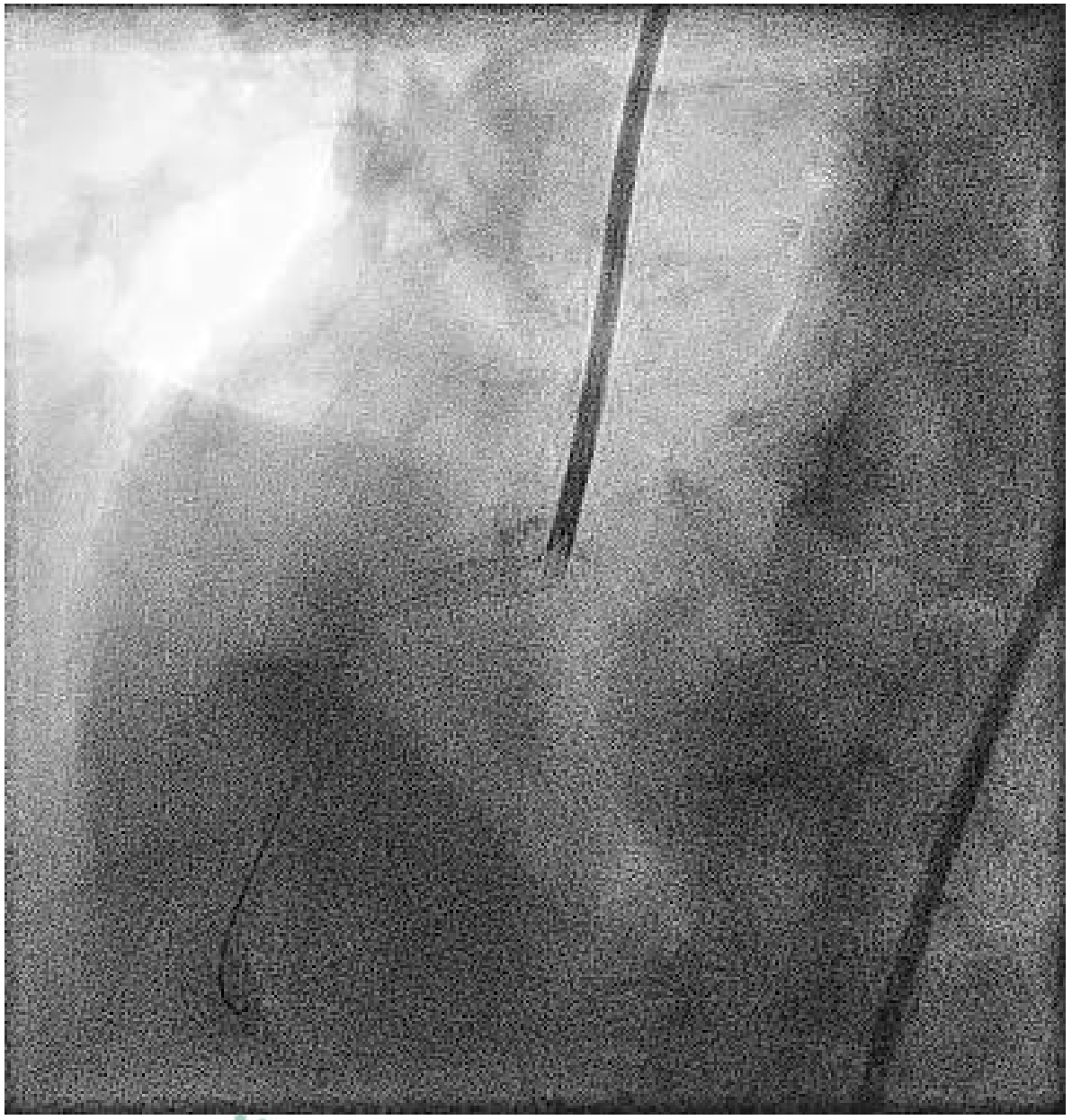


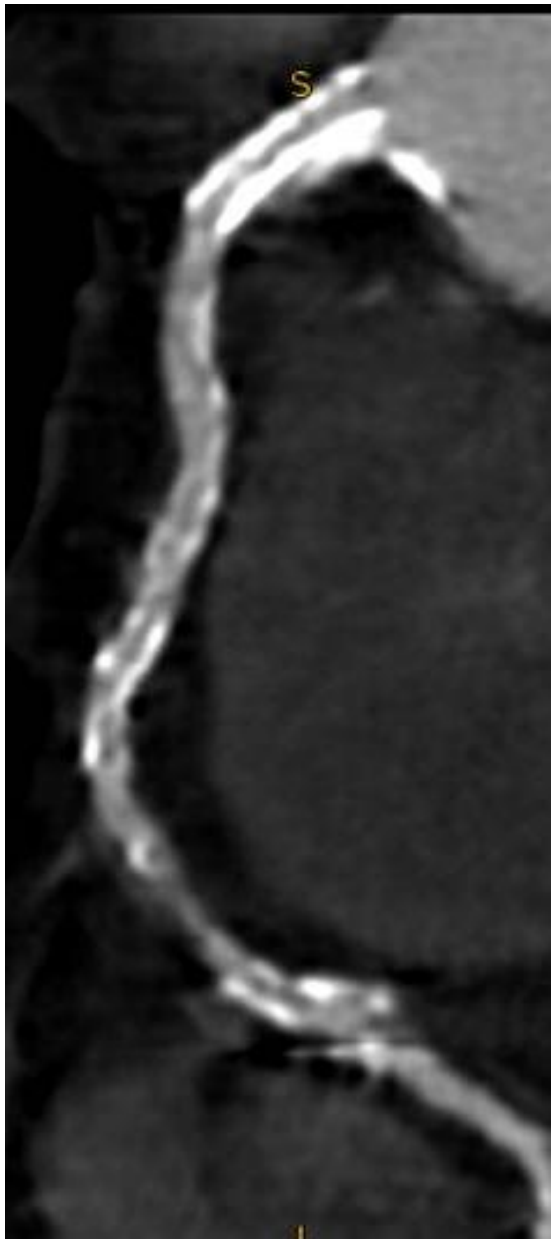


IVUS pré-PCI
Nodule calcaire éruptif




15.45 AREA mm²
3.99 mm
4.87 mm
28.92 AREA mm²
5.90 mm
6.25 mm
Plaque
47 %
Frame 248
Pullback 1.0 mm




S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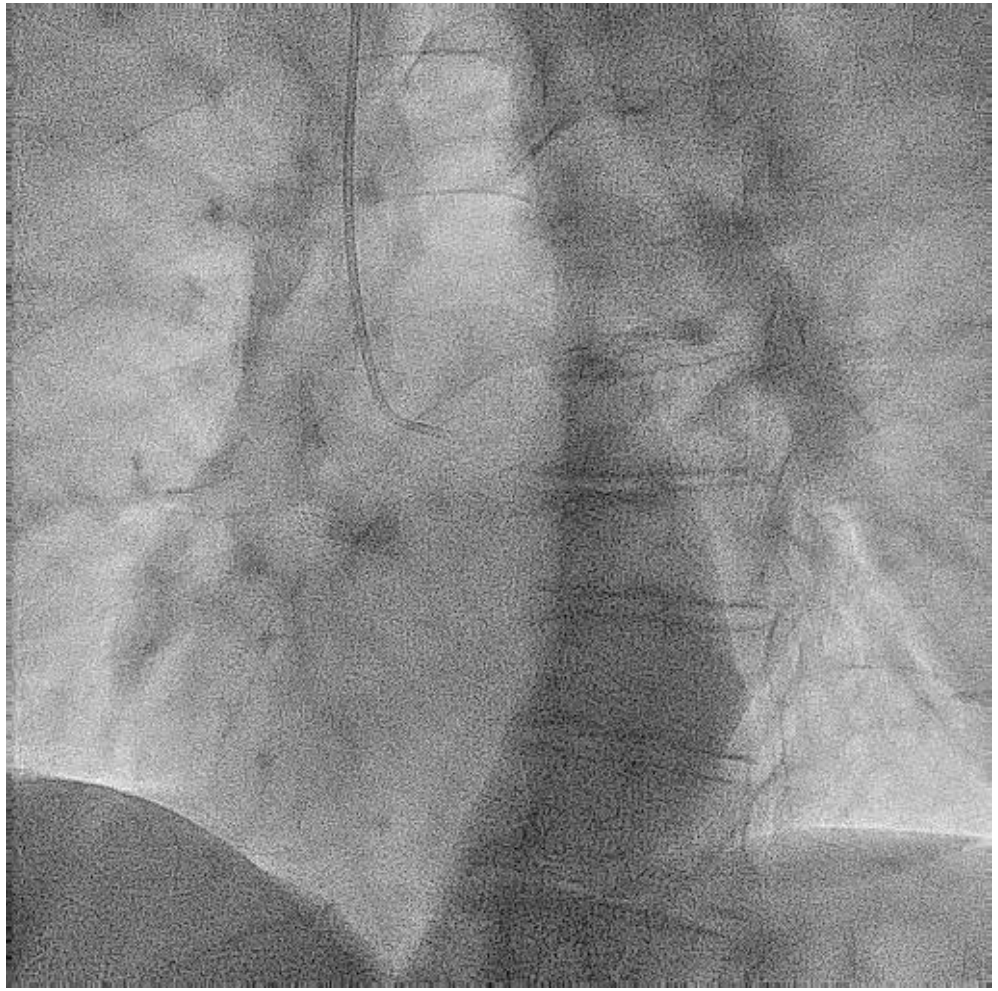
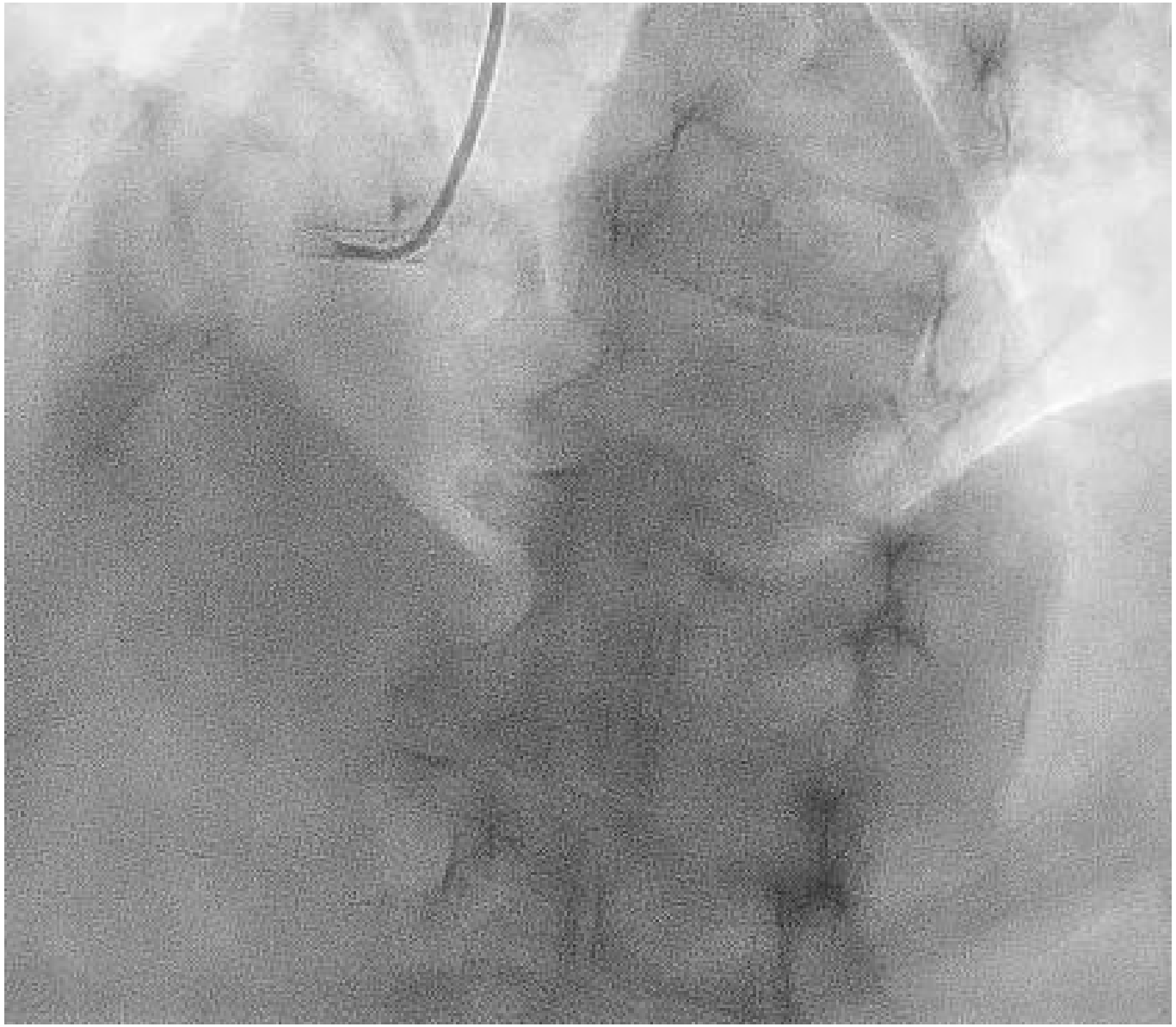
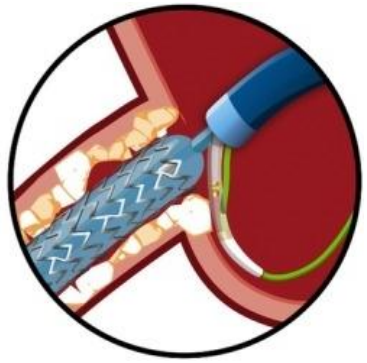
Contrôle angio



Ré-intubation aisée

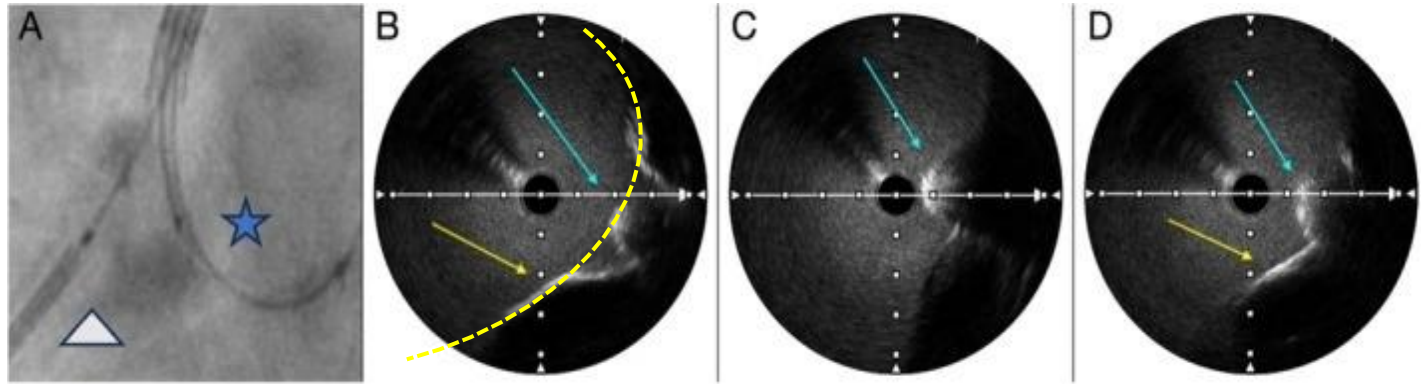


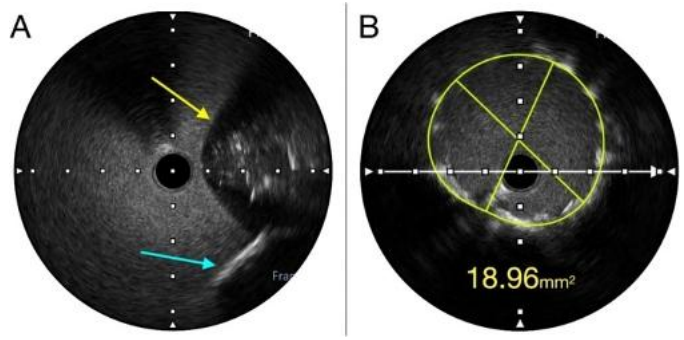
Autres techniques de stenting aorto-ostial

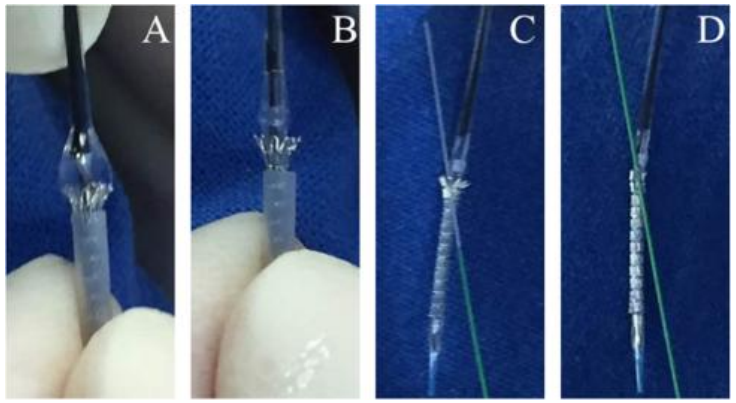


ORCAS

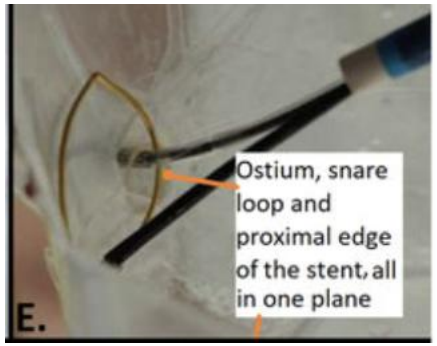
Ostial RODIN-CUT
Angioplasty and Stenting

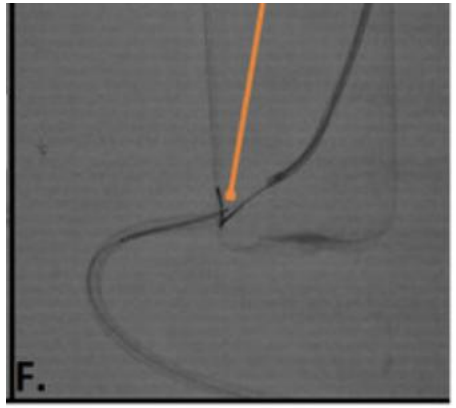




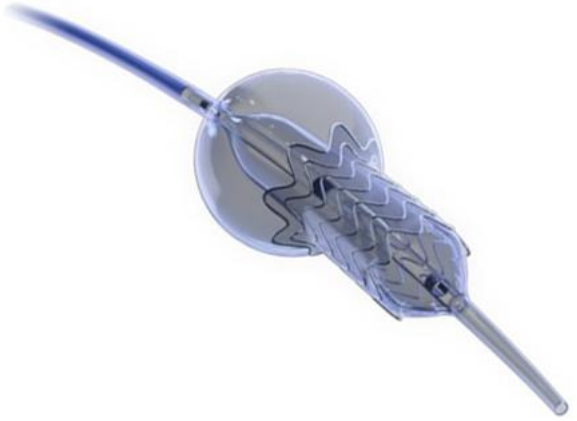


Technique Szabo





Snare-assisted



Ostial-Flash Ballon

Ungureanu C, Boukhris M et al, Catheterization Cardiovascular Intv, 2025

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Conclusions

- La lésion aorto-ostiale est une lésion **complexe**
- Sans technique dédiée, le positionnement du stent est optimal dans 13% des cas, et l'ostium est non couvert dans > 50% des cas
- La technique du floating balloon **répond aux challenges** des lésions aorto-ostiales
  - Stabilité du cathéter-guide, sans glissement du stent lors de l'implantation
  - Possibilité d'injection de contraste
  - Délimitation du plan aorto ostial, et visualisation de la limite proximale de la AOLZ
  - Pas d'excès de coût procédural, reproductible et courbe d'apprentissage rapide
  - Résultats imagerie encourageants, follow up clinique en cours
- **D'autres techniques** existent : ORCAS, Live IVUS stenting, Szabo, floating-wire, …

Rubinshtein R et al, EuroIntervention, 2015 / Dishmon D et al, JIC, 2011

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PALAIS DU PHARO

Merci pour votre attention

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