Evolut FX+ Implantation With a Protruding Left Main Coronary Stent

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Cardiologie Structurelle

HUG Hôpitaux Universitaires Genève

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Disclosure of Relevant Financial Relationships

Within the prior 24 months, I have had a financial relationship with a company producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients:

Nature of Financial Relationship	Ineligible Company
Grant/Research Support	Abbott Vascular, Edwards LifeSciences
Consultant Fees/Honoraria	Medtronic, Edwards LifeSciences, Abbott Vascular, Abiomed, Cordis

All Relevant Financial Relationships have been mitigated.
Faculty disclosure information can be found on the app

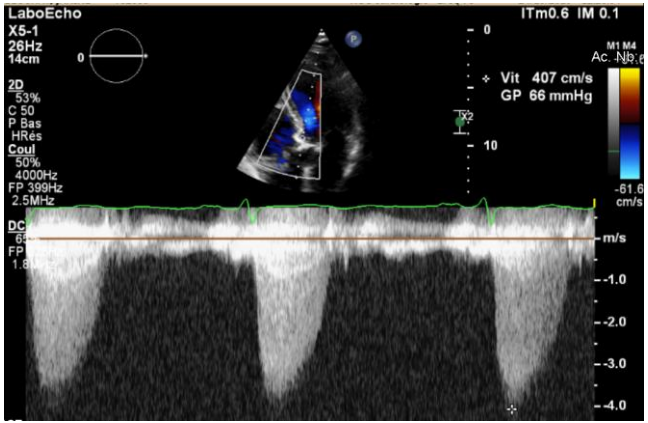
Clinical Presentation

Case Demographics

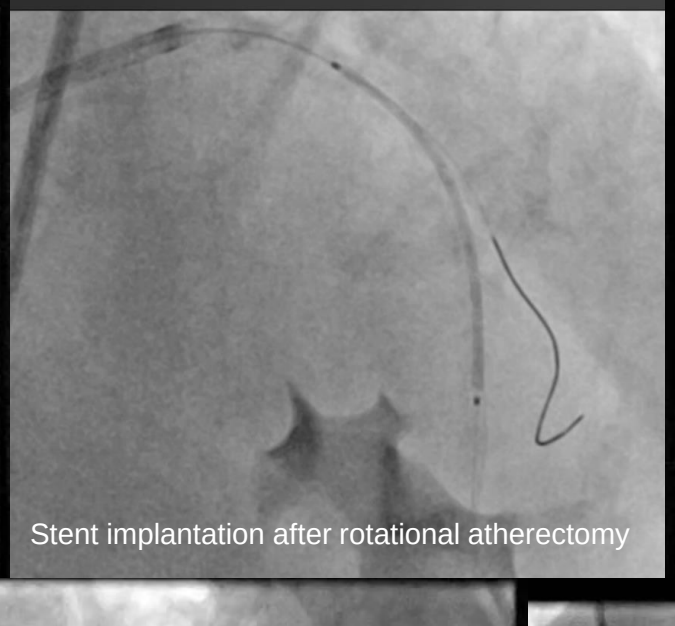
Age (years): 87
Gender: female
BMI (kg/m^2): 17.8

STS score. : 4.69%
EuroScore II : 4.13%

- *She was known for a **3-vx CAD** with an **LM stenting 5 months** ago and an **ostial RCA stenting 2 months** later in the context of **SOB and angina***
- *Still symptomatic (SOB)*
- ***TTE: severe aortic stenosis***



Mean gradient 39 mmHg, max V: 4.1 m/s, VA: 0.8 cm^2



Stent implantation after rotational atherectomy

LAD and left main stenting

LAD stent: 3.0x38 mm and LM stent 3.5x28 mm

Spider view

LAO cranial View

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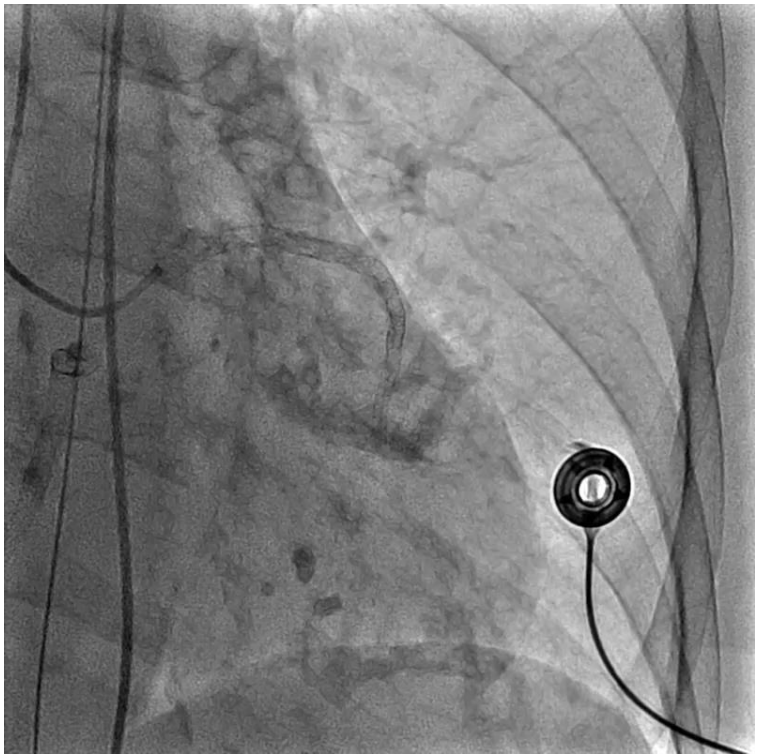
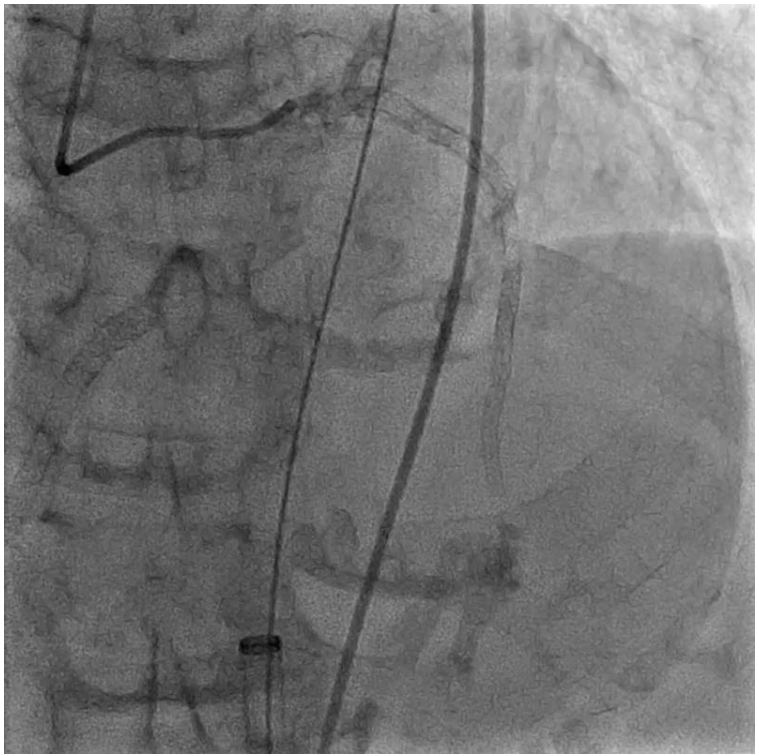
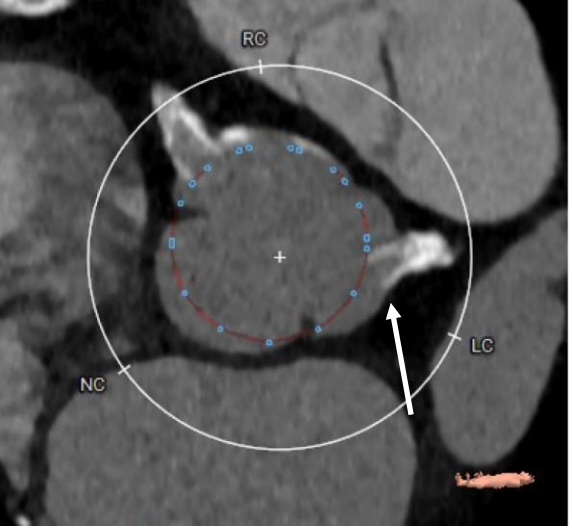
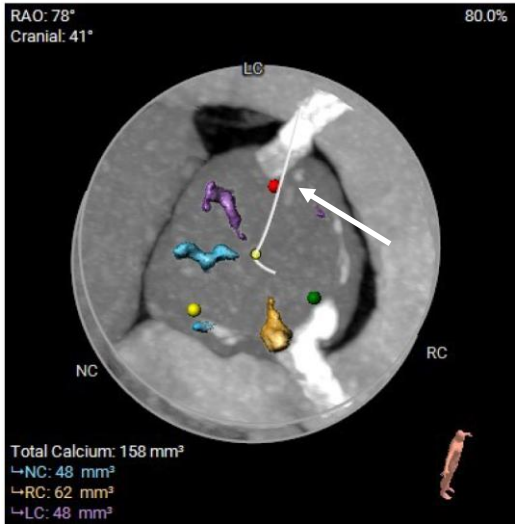




Angiographic control of the left main stent

RCA stents: 4.0x38 mm and 4.5x24 mm





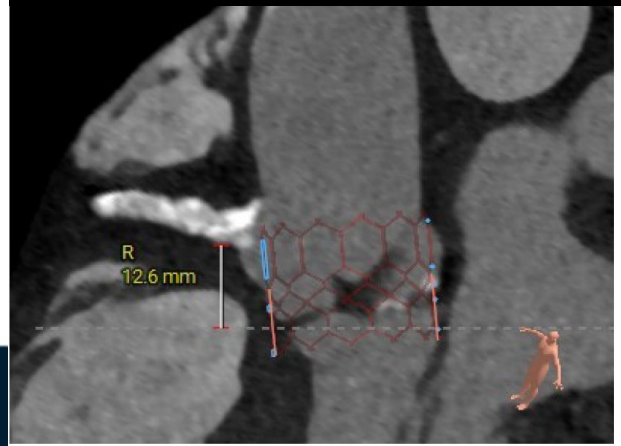
Annulus Area	457.3 mm²
Area Derived Diameter	24.1 mm
Annulus Perimeter	79.8 mm
Perimeter Derived Diameter	25.4 mm
Annulus Min Diameter	19.2 mm
Annulus Max Diameter	28.7 mm

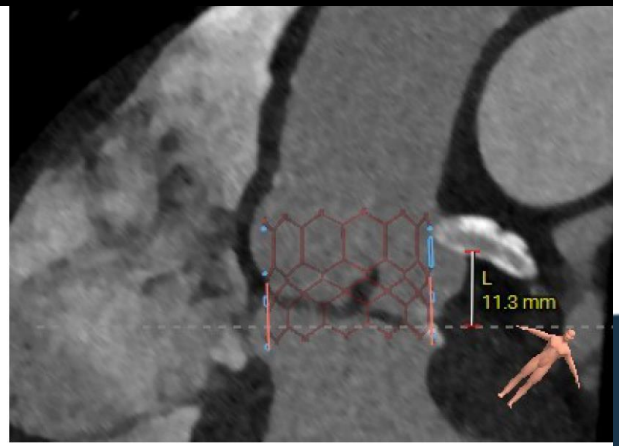
Sinus of Valsalva Diameter	28.7 mm
Sinotubular Junction Diameter	25.0 mm
LCA Height	11.3 mm
RCA Height	12.6 mm
Sinotubular Junction Height	22.3 mm

Pre-TAVR CT scan

Showing the protruding LM stent *(geographic mismatch)*

Risk of stent crushing with a balloon expandable THV (26 mm, area 4.6 mm²)





CRF TCT

FX+ has 3 large cells at 120-degree apart

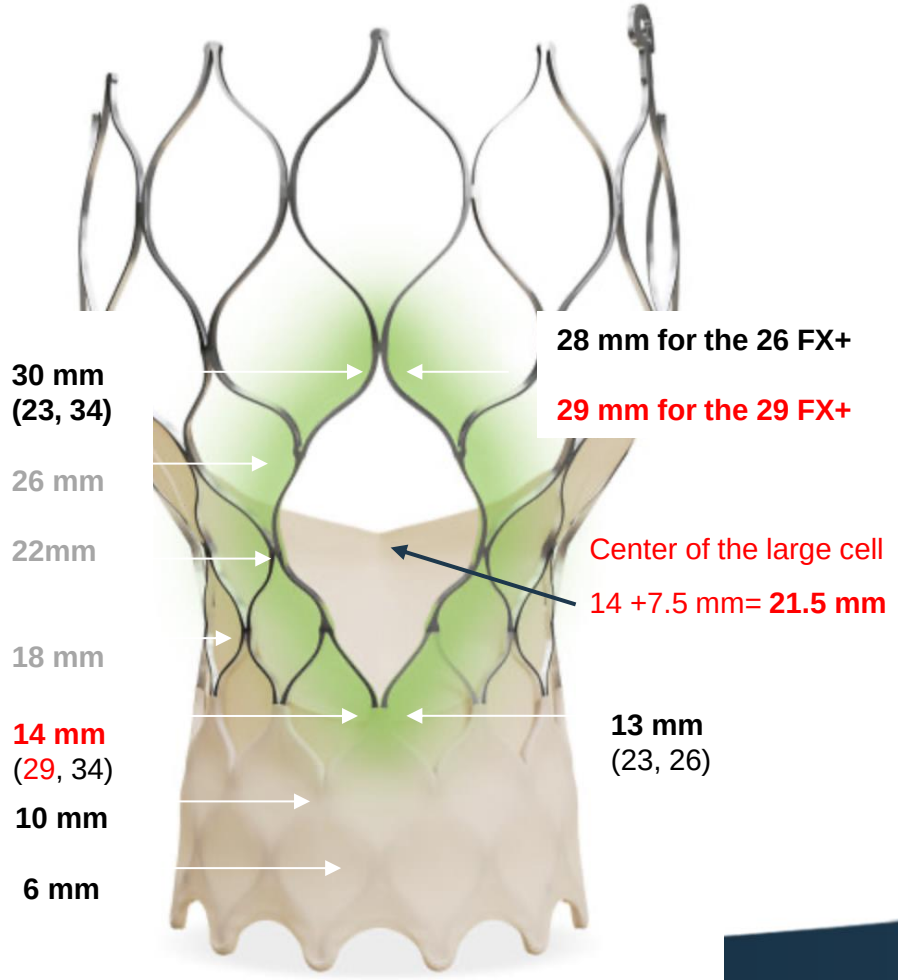
Large cell size for the different FX+ sizes

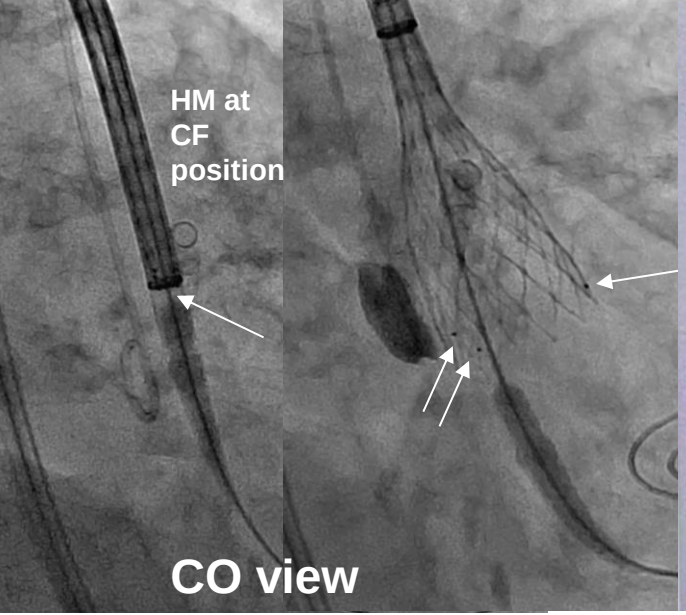
For the 23 mm FX+ : 30-13 = 17 mm – 27.6 F
26 mm : 28-13 = 15 mm – 21.0 F
29 mm : 29-14 = 15 mm – 21.6 F
34 mm : 30-14 = 16 mm – 23.4 F

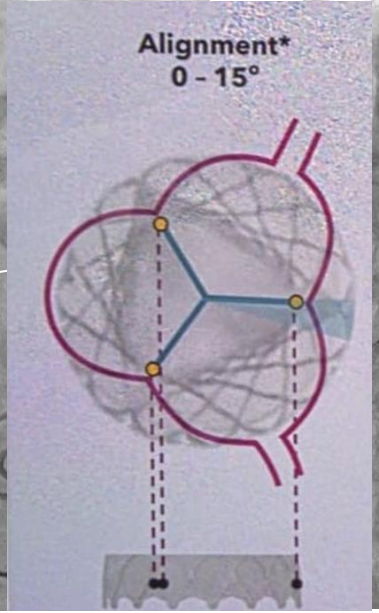
Normal cells 3.3 mm – 10F

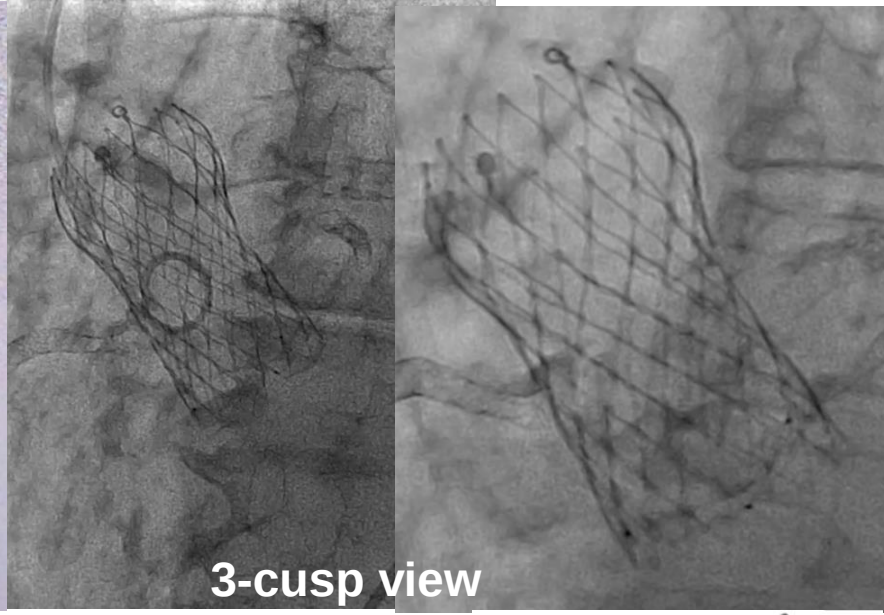
LM ostium height : 11.3 mm
RCA ostium height : 12.6 mm

to center the large cell with
LM : 21-5 – 11.3 = ***10.2 mm into the LVOT***
RCA: 21.5 – 12.6 = ***8.9 mm into the LVOT***





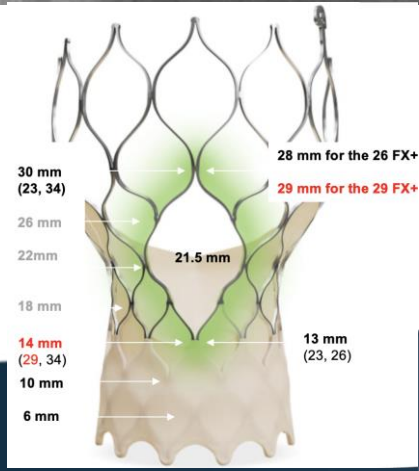


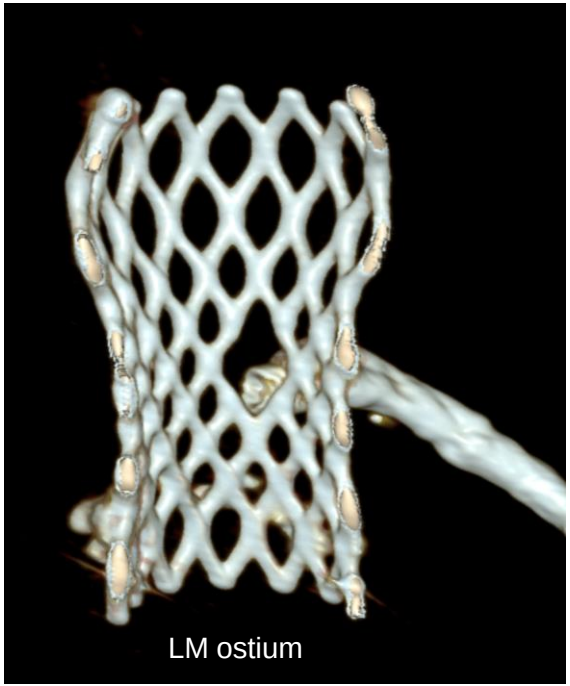


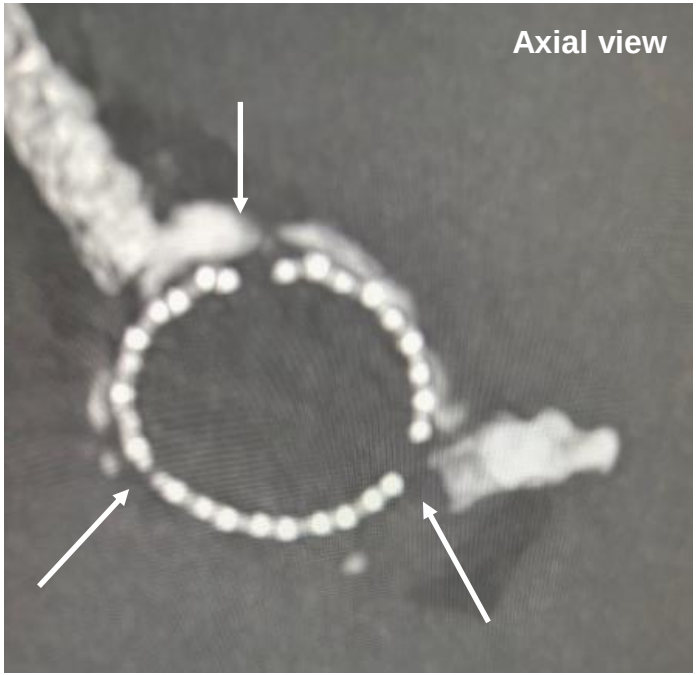
→ ***Planning: 29mm Evolut FX +*** *(79.8 mm)* ***positioned > 3 mm*** *(14-11 mm)* ***in the LVOT with optimal commissural alignment***

to center the large cell with the LM:10.2 mm, RCA: 8.9 mm

In the CO projection: Hat marker at the central-front position
The 2 dots superimposed





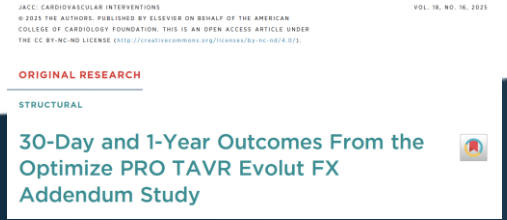


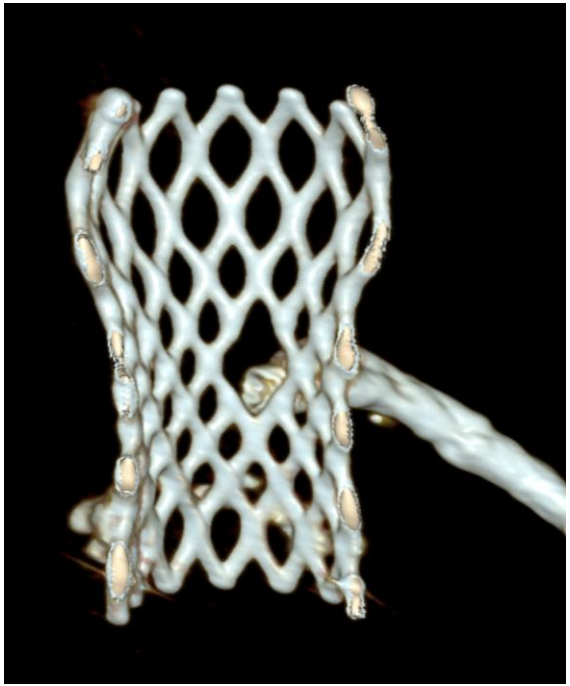
Post-TAVR CT scan showing the large cell in front of the off-axis protruding LM stent.

The RCA ostium seems adequately positioned in the 3D reconstruction, with no contact with the valve frame, but mildly misaligned with calcium on the axial view

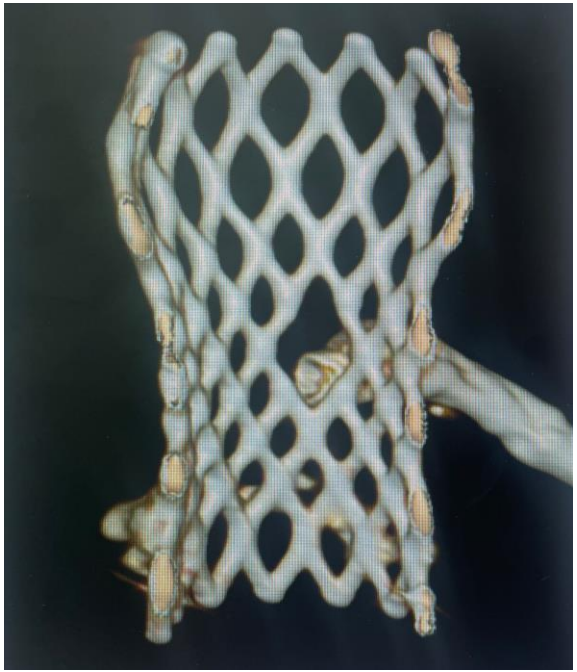
Take-home Messages

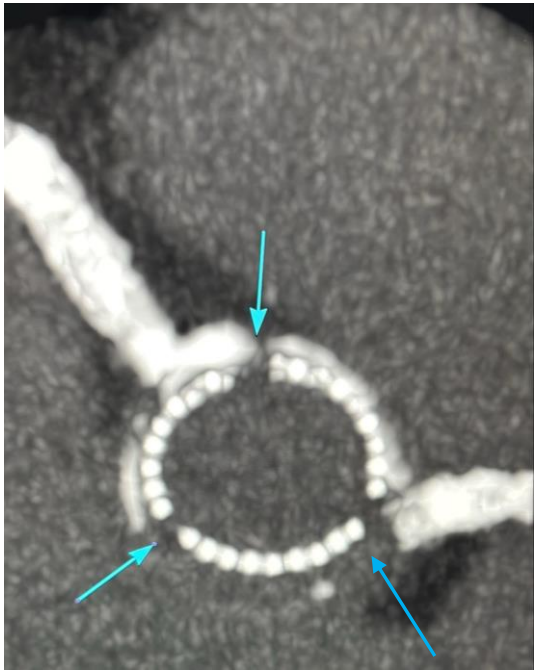
- Coronary ostia stenting remains a challenge, with a risk of geographic mismatch and subsequent potential longitudinal stent deformation in the case of stent protrusion
- Stent protrusion may complicate a potential future TAVI procedure
- The Evolut FX+ THV offers an interesting option to limit the risk of longitudinal stent deformation while positioning the large cell in front of the ostium
- The rate of commissural alignment using the CO technique exceeds 90% with the Evolut FX platform
- The absence of severe coronary misalignment assessed by CT scan was > 92% in the Optimize PRO TAVR Evolut FX Addendum study





תודה
Dankie Gracias
Спасибо شكراً
Merci Takk
Köszönjük Terima kasih
Grazie Dziękujemy Dėkojame
Ďakujeme Vielen Dank Paldies
Kiitos Täname teid 谢谢
Thank You
Tak
感謝您 Obrigado Teşekkür Ederiz
감사합니다
Σας ευχαριστούμε ขอบคุณ
Bedankt Děkujeme vám
ありがとうございます
Tack





Take-home Message

- Coronary ostia stenting remains a challenge, with a risk of geographic mismatch and subsequent potential longitudinal stent deformation in the case of stent protrusion
- Different PCI techniques could help avoid this issue

Optimizing Stent Placement in Aorto-Ostial Lesions

Introducing the New Floating Balloon Technique

Franck Digne, MD, Arthur Darmon, MD, Mohammed Nejjari, MD

JACC: CARDIOVASCULAR INTERVENTIONS VOL. 17, NO. 17, 2024

SEPTEMBER 9, 2024:2082–2084

IVUS Guided Ostial Lesion Preparation With Sequential Cutting Balloon Inflations and Stent Placement—The ORCAS Technique

Claudiu Ungureanu[1] | Mihai Cocoi[2] | Marouane Boukhris[3] | Giuseppe Colletti[4] | Adrien Jossart[1] | Quentin Trefois[1] | Gregor Leibundgut[5]

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ORIGINAL RESEARCH

STRUCTURAL

30-Day and 1-Year Outcomes From the Optimize PRO TAVR Evolut FX Addendum Study