

Antegrade aortic ViV and double chimney stenting for failed sutureless aortic valve with Perceval-induced LV pseudoaneurysm

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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

- Grant/Research Support
- Consultant Fees/Honoraria
- Individual Stock(s)/Stock Options
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- Executive Role/Ownership Interest
- Other Financial Benefit

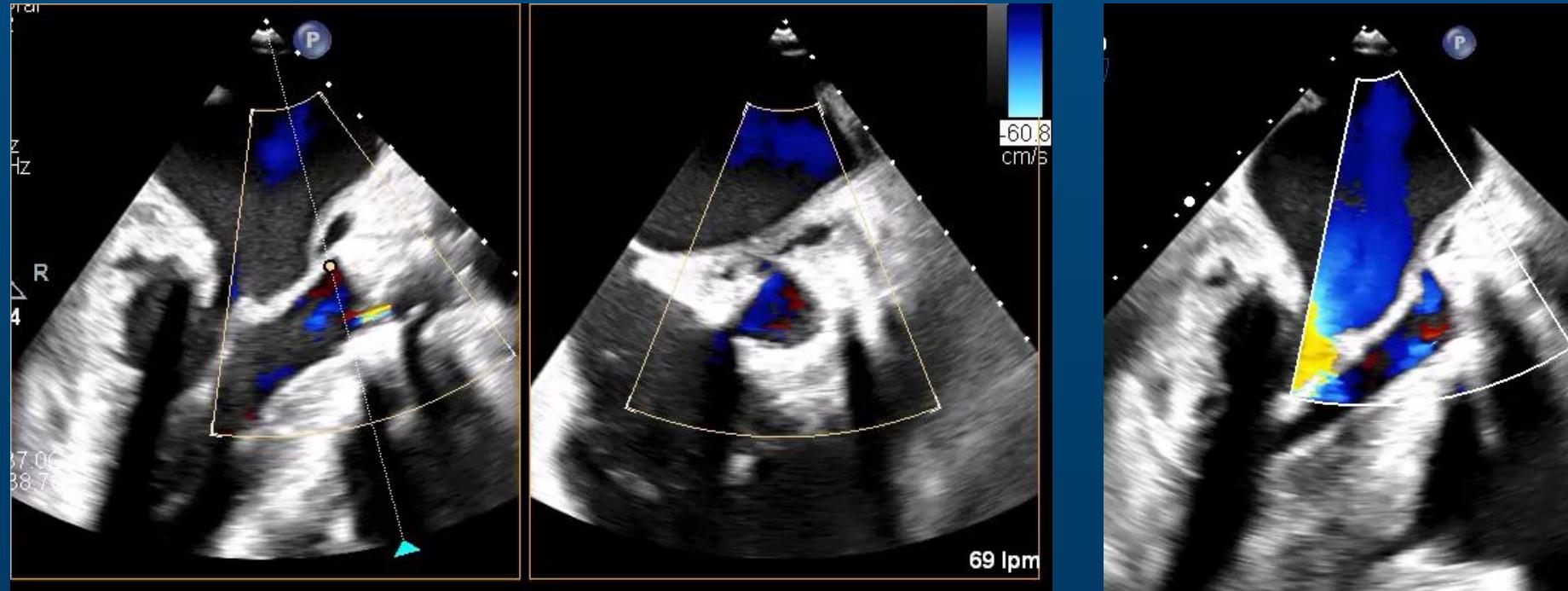
Ineligible Company

-
- Abbott, Edwards
-
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-
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Background

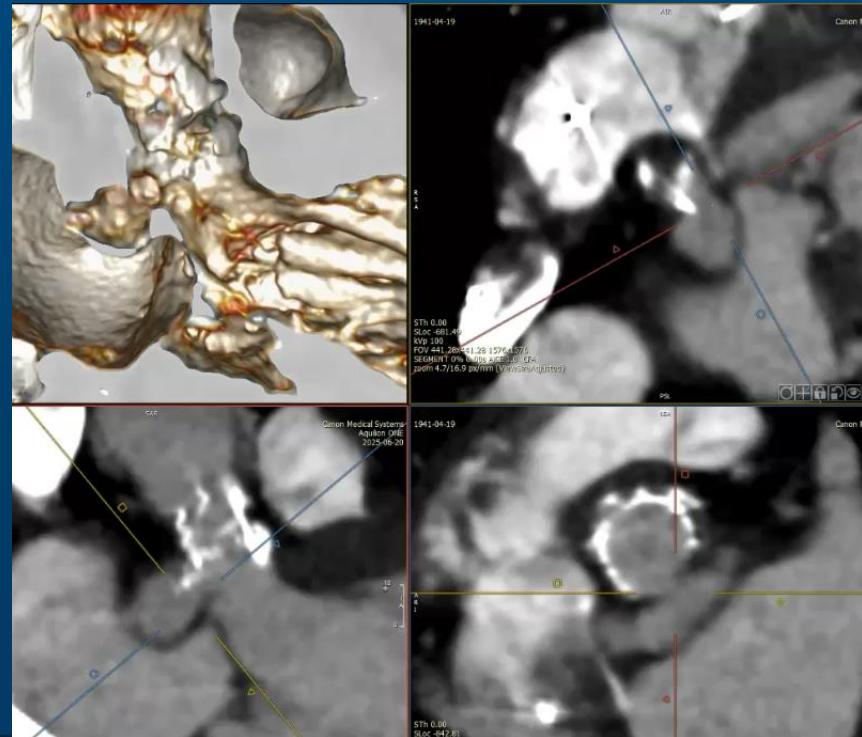
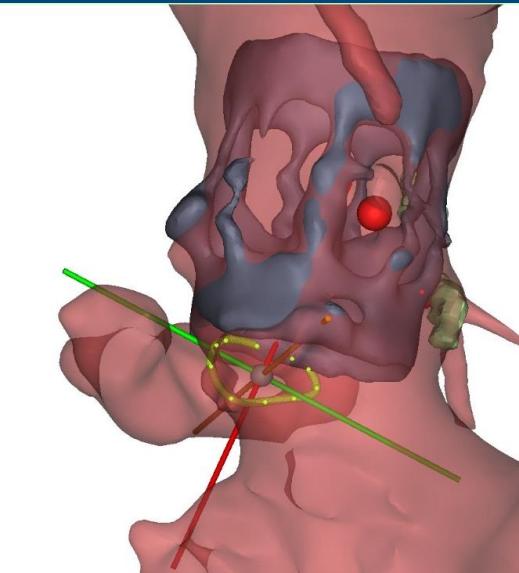
- 84-yo woman
- AVR Sorin Crown #21 (2016)
- ReAVR Perceval S (2019)
- Permanent pacemaker
- Acute HF
- Bioprosthetic degeneration
(severe AS, MG 39 mmHg, AVA 0.5 cm²), LVEF 43%
- Tilted Perceval valve
- SVD with diffuse leaflet calcification
- Area: 379 mm², Perimeter: 70
- LMCA: Height 4.9 mm, VTC 3.5
- RCA: Height: 8.3 mm, VTC: 2 mm
- LVOT perforation caused by the Perceval, pseudoaneurysm (42x15x14 mm) with an entry orifice of 14x9 mm

TOE



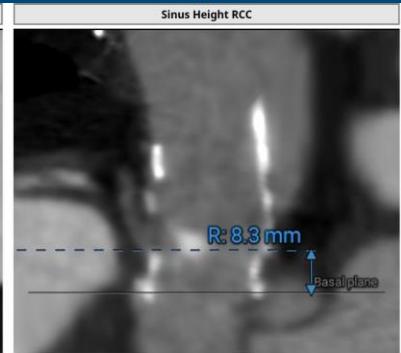
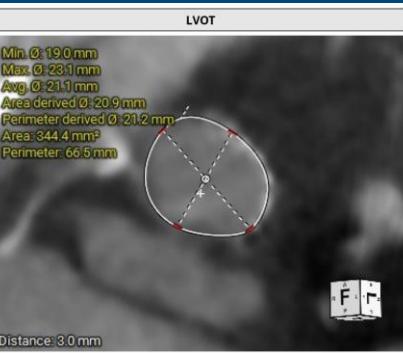
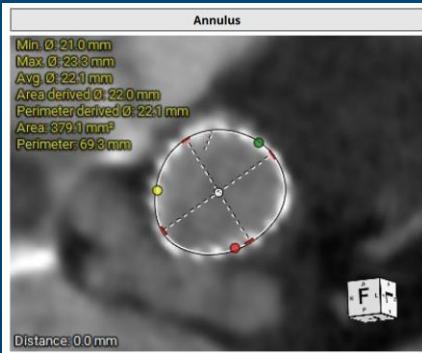
3D-CT Modeling

LV Pseudoaneurysm. Potential access through RA

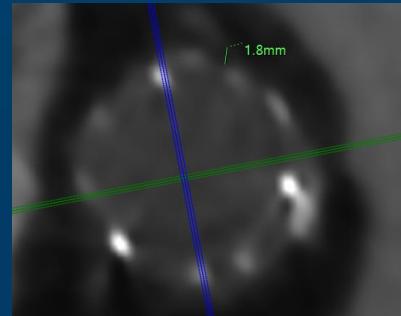
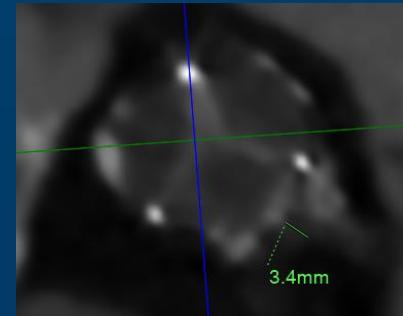
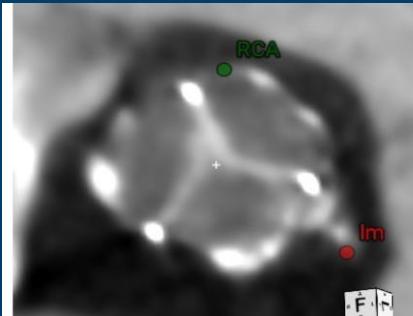


Baseline CT

ViV Planning



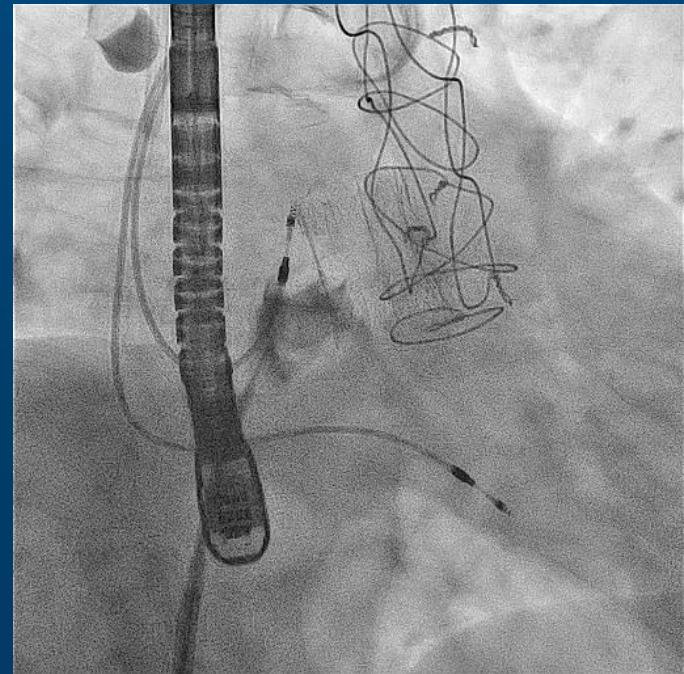
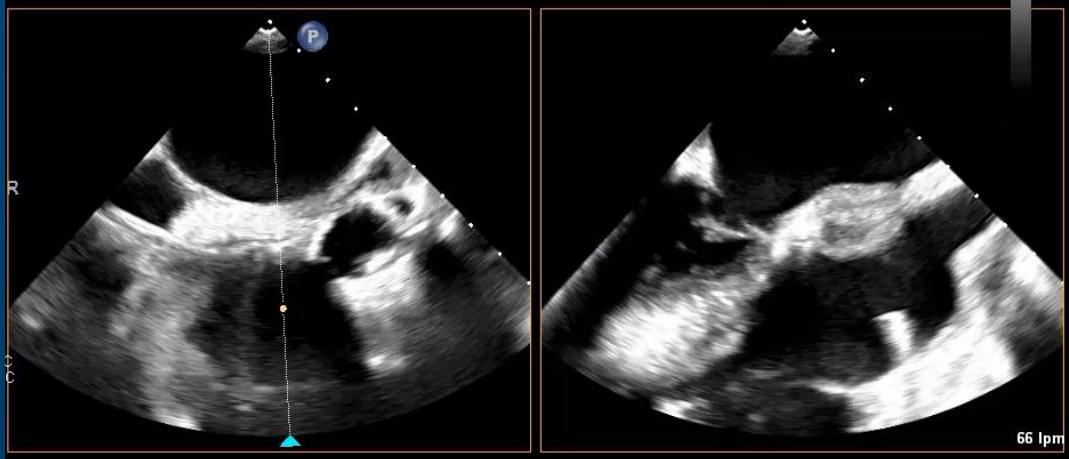
Severe
MISALIGNMENT



LM: 4.9 mm, VTC 3.4 mm
RCA: 8.3 mm, VTC 1.8 mm

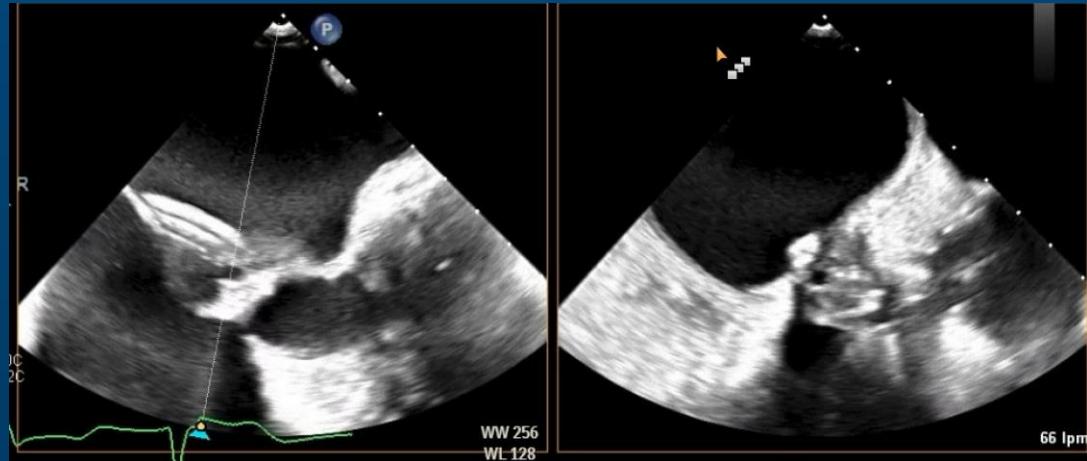
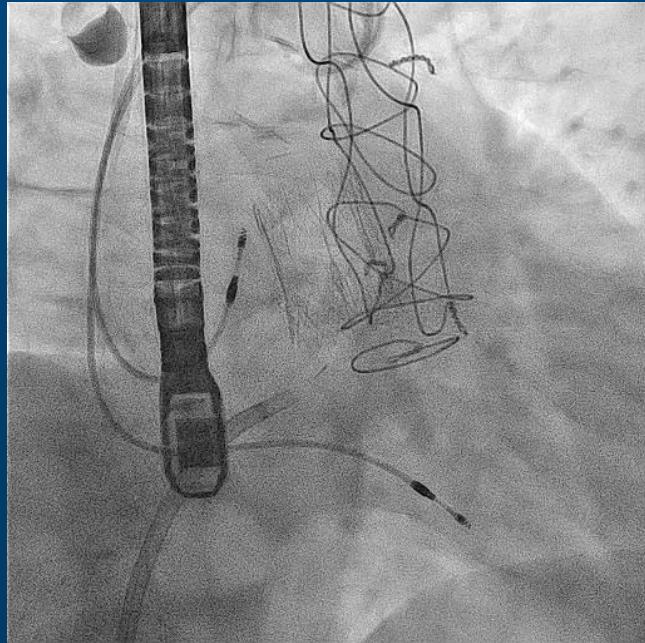
Procedure

Attempts to connect pseudo through RA



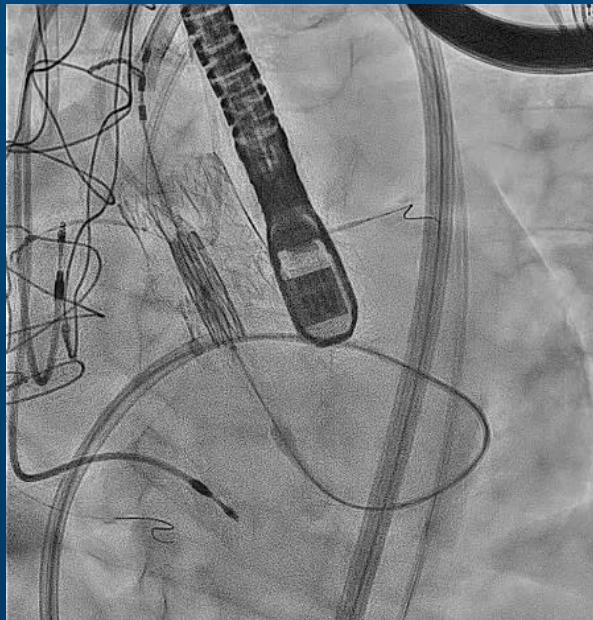
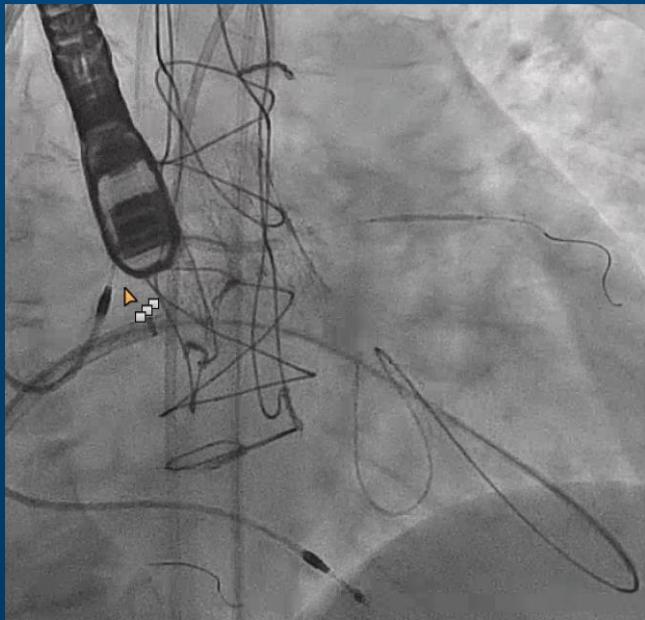
Procedure

Attempts to connect pseudo through TSP/LA

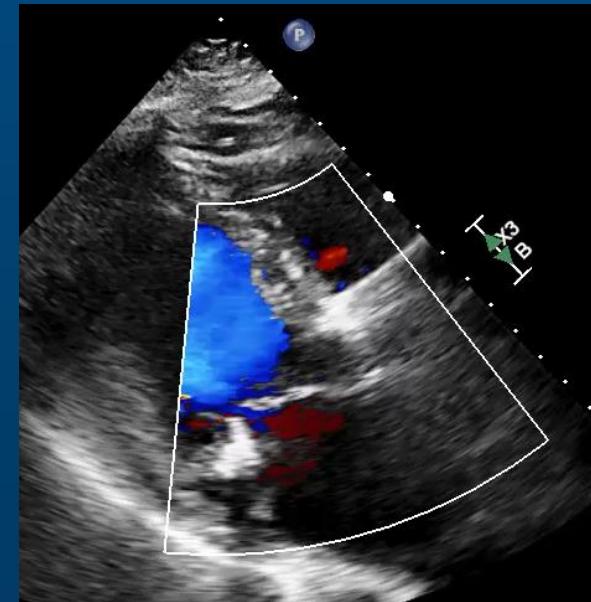
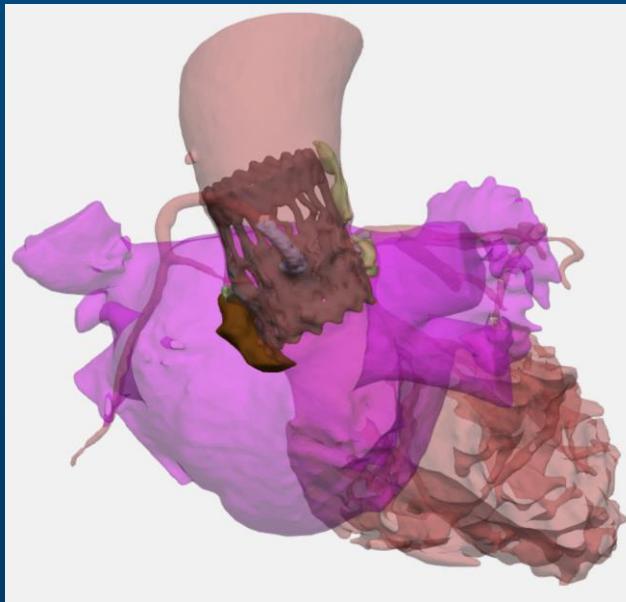
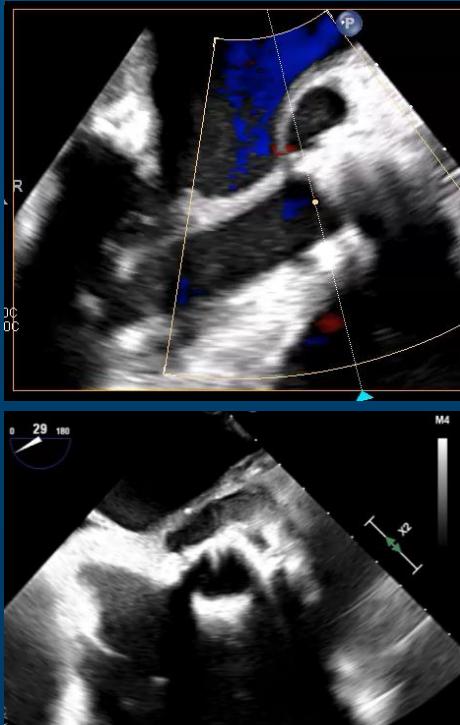


Antegrade ViV through AV loop (ESUR 23)

Double chimney stenting



Multimodality imaging result

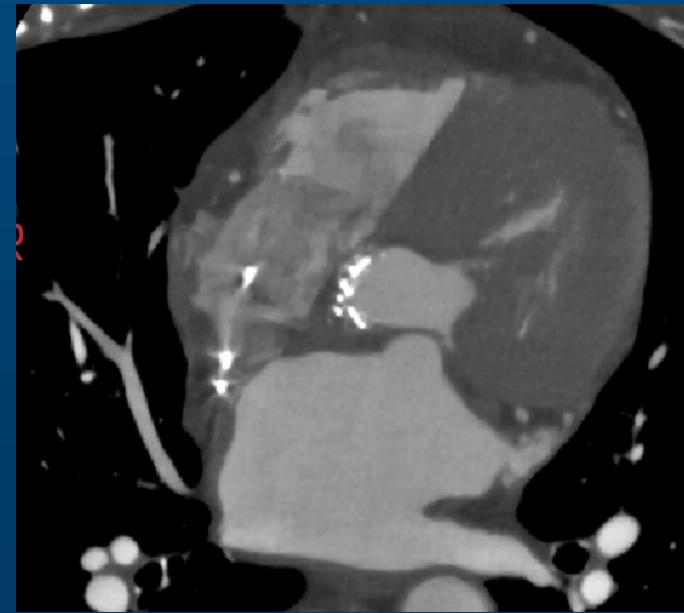


Multimodality imaging result

PRE



POST



Take-home Message

- **3D-CT planning** – defines anatomy, anticipates challenges, and guides strategy in complex SHD cases.
- **Alternative / escalation approaches** for LV pseudoaneurysm closure – TA, TSP, retrograde aortic or ViV
- **Predefine bailout strategies** – antegrade bailout in uncrossable aortic ViV cases.
- **Dedicated RF systems** – facilitate challenging transseptal crossings.
- **Coronary protection or leaflet modification** – high risk of coronary occlusion