Emergent Valve-in-Valve TAVR at High Risk of Coronary Occlusion

Treated with ShortCut™ Leaflet Modification Device

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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
Consultant Fees/Honoraria	Edwards Lifesciences Medtronic Shockwave Medical Boston Scientific

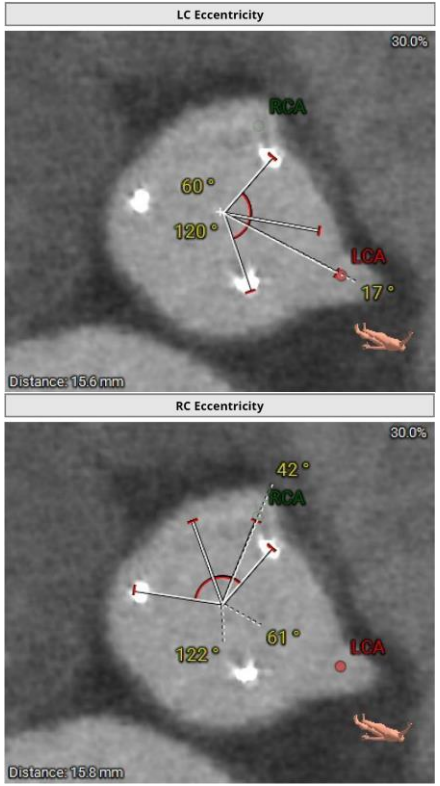
All relevant financial relationships have been mitigated.
Faculty disclosure information can be found on the app

Patient History

- 69yo male
- History of HTN, HLD, CAD - STEMI w/ PCI to LAD, VT ablation, HFpEF, CVA, and Severe AS
- SAVR in 1999
- Redo SAVR in 2010 due to endocarditis
- In 2025 presents with acute decompensated HF and cardiogenic shock requiring dobutamine
- AVA = 2.4 cm2, MG = 16 mmHg and Severe AR
- Referred for urgent ViV TAVR

Risk Assessment & Case Plan

- 27mm Magna Ease
  - True ID = 25 mm
  - Height = 17 mm
- LCA Height = 12.5 mm, LC VTC = 7.3 mm
- RCA Height = 14.5 mm, RC VTC = **1.2 mm**
- Planned for urgent ViV TAVR
- 26mm SAPIEN 3 Ultra RESILIA THV
  - ShortCut due to risk of RCA obstruction



ShortCut - First Dedicated Leaflet Splitting Device

Designed to treat patients undergoing TAVR at risk for coronary obstruction

Innovative Design

Facilitates safe, simple splitting of single or dual leaflets using same device

Intuitive Control

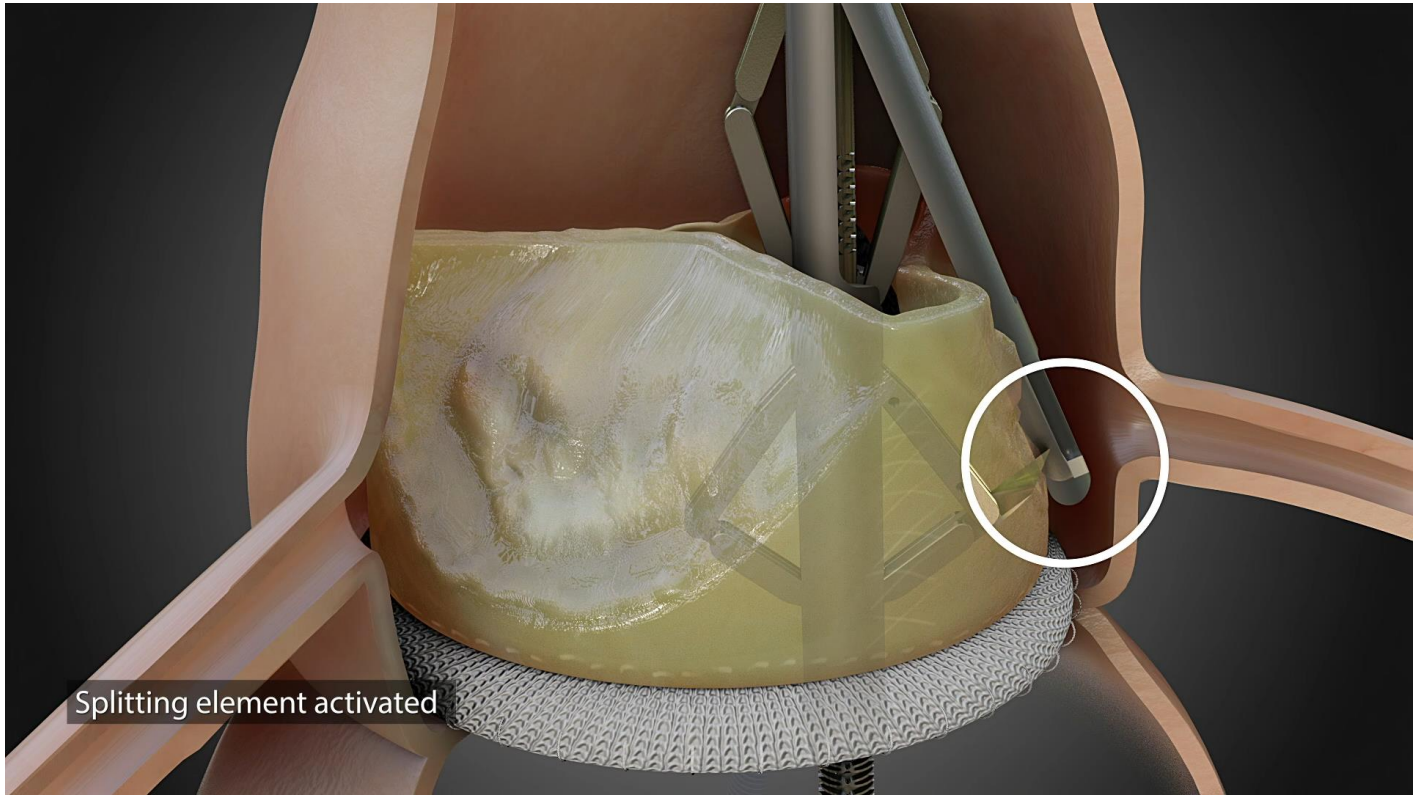
Responsive system allows for precise positioning and leaflet splitting

Efficient Procedure

Integrates seamlessly into regular TAVR workflow

ShortCut™ is a medical device cleared by the U.S. Food and Drug Administration for splitting bioprosthetic valve leaflets for patients at risk for coronary obstruction. For more information, visit www.pi-cardia.net

ShortCut – Safe, Controlled, Predictable Split



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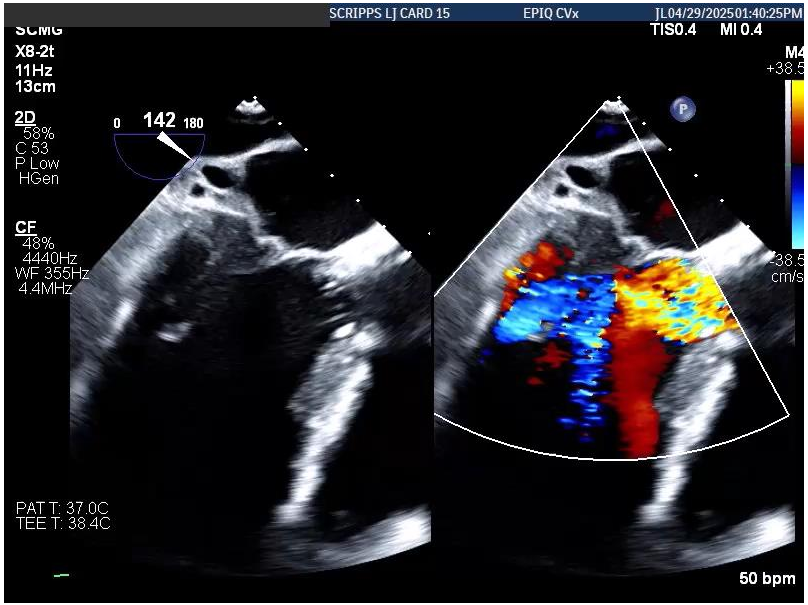
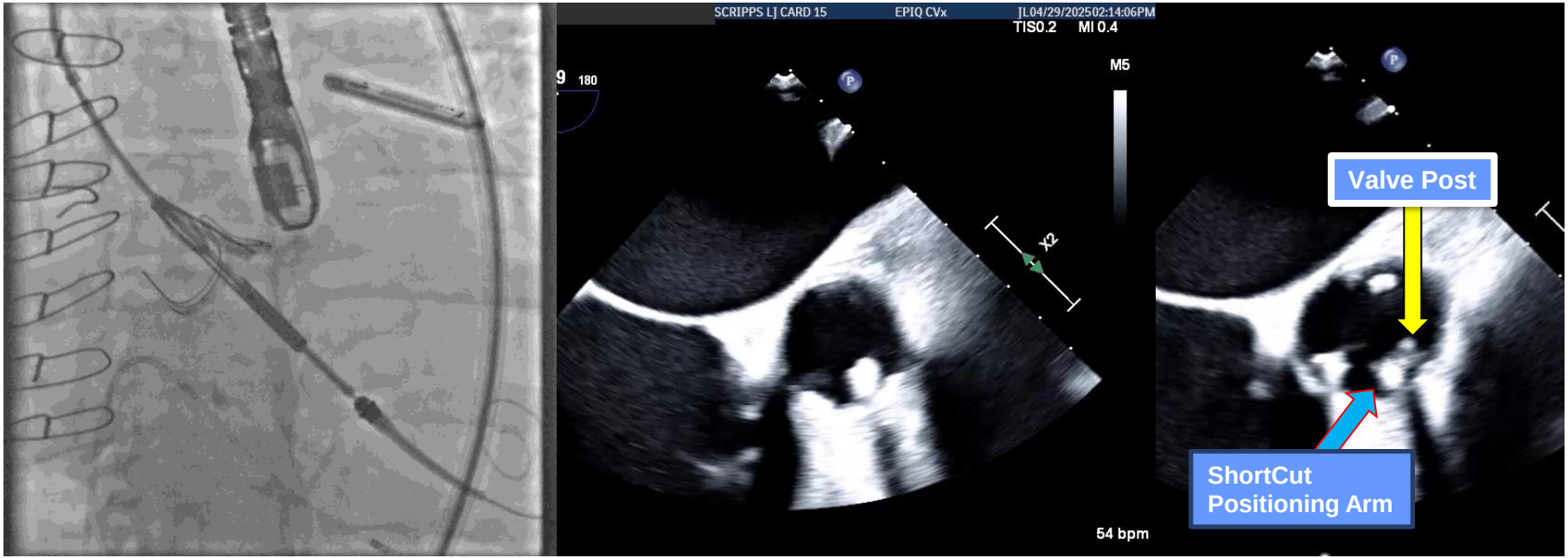
Baseline AR and Possible PVL



ShortCut Positioning on RC Leaflet

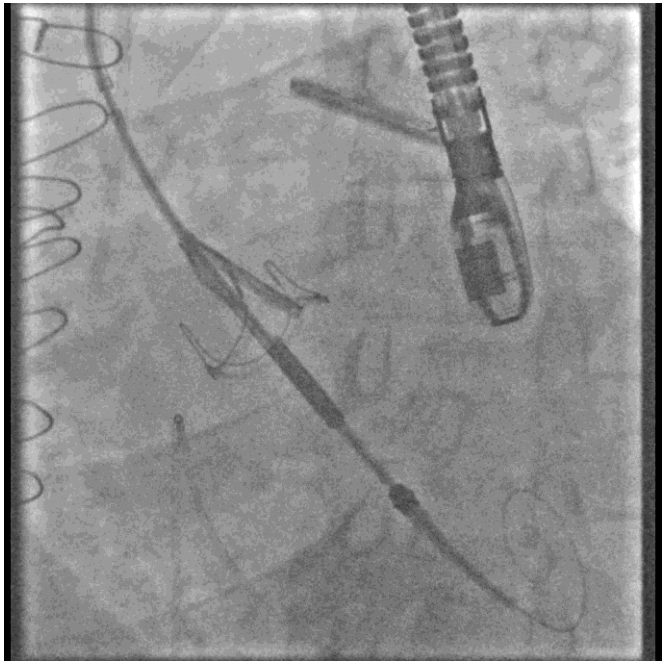
Positioning arm placed off-center towards eccentric RCA

Confirmed position on TEE

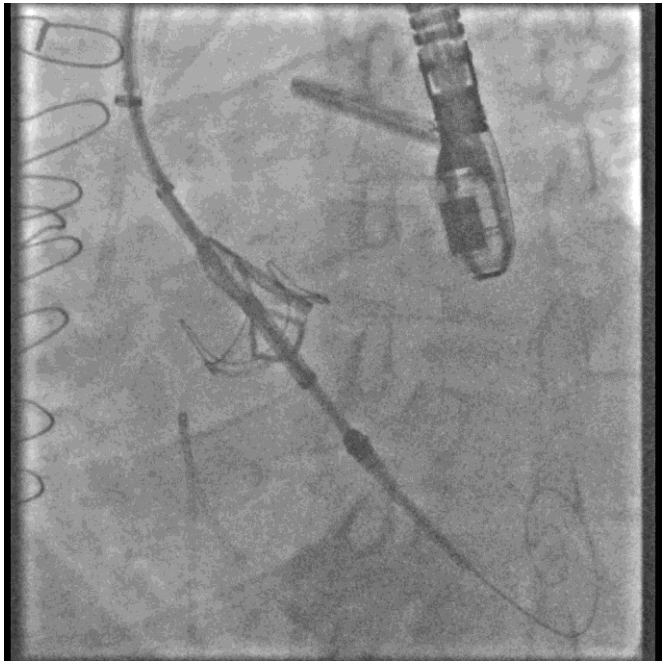


ShortCut Activation & Leaflet Splitting

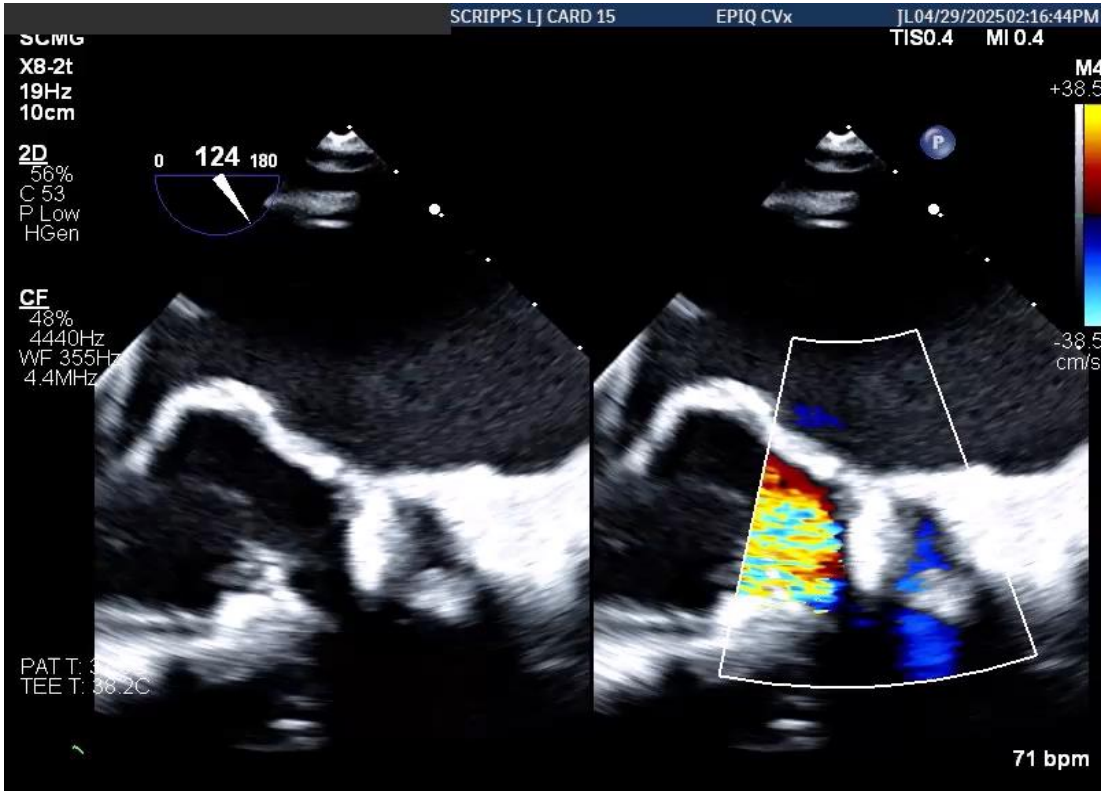
Activation of Splitting Element



RC Leaflet Split

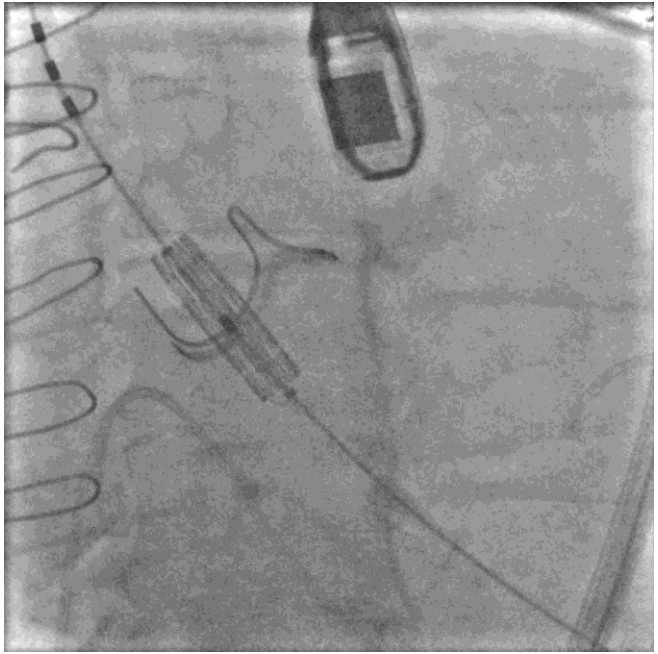


Post-Split AR

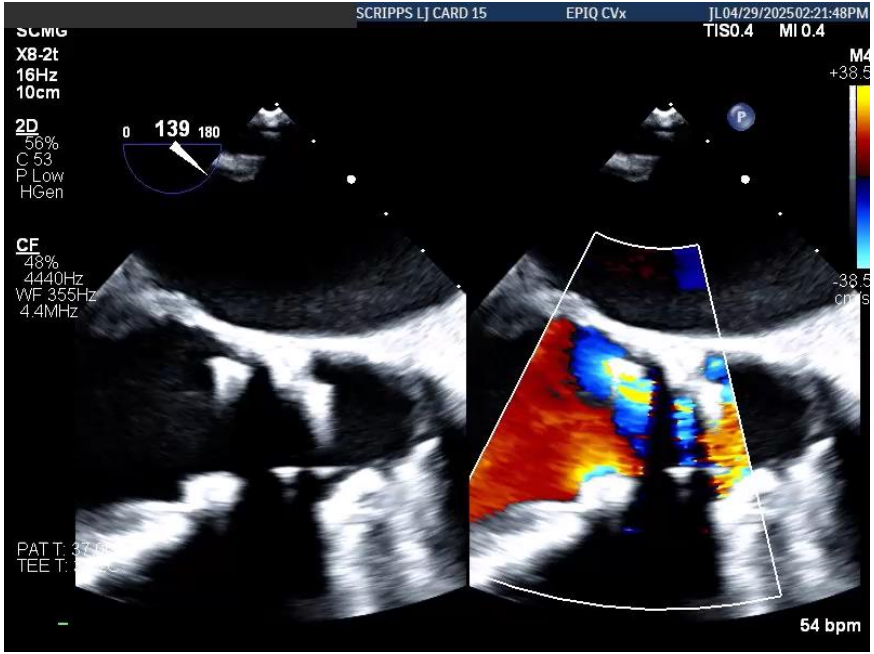


SAPIEN 3 TAVR Deployment

26mm SAPIEN 3 Implanted



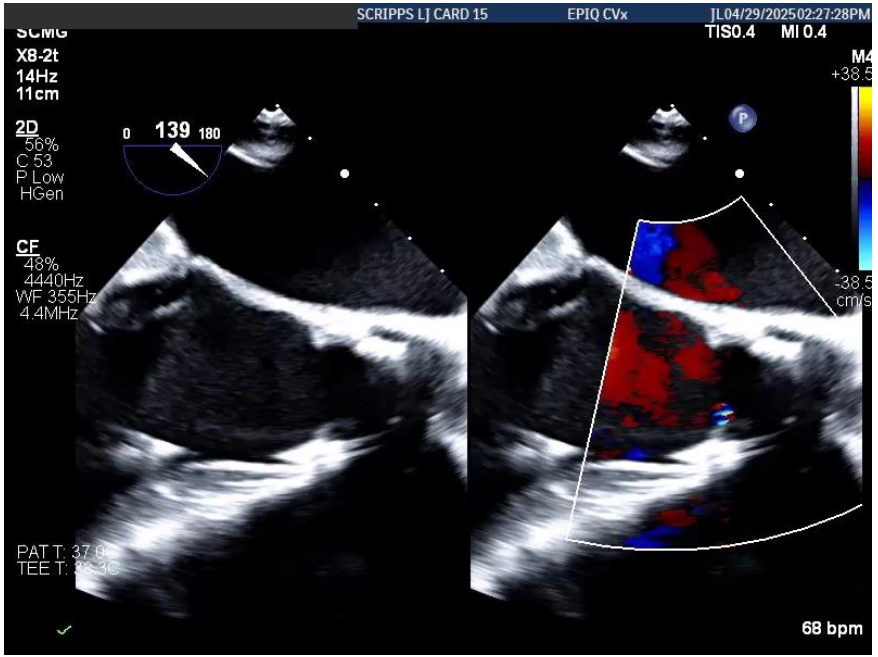
PVL Post Deployment



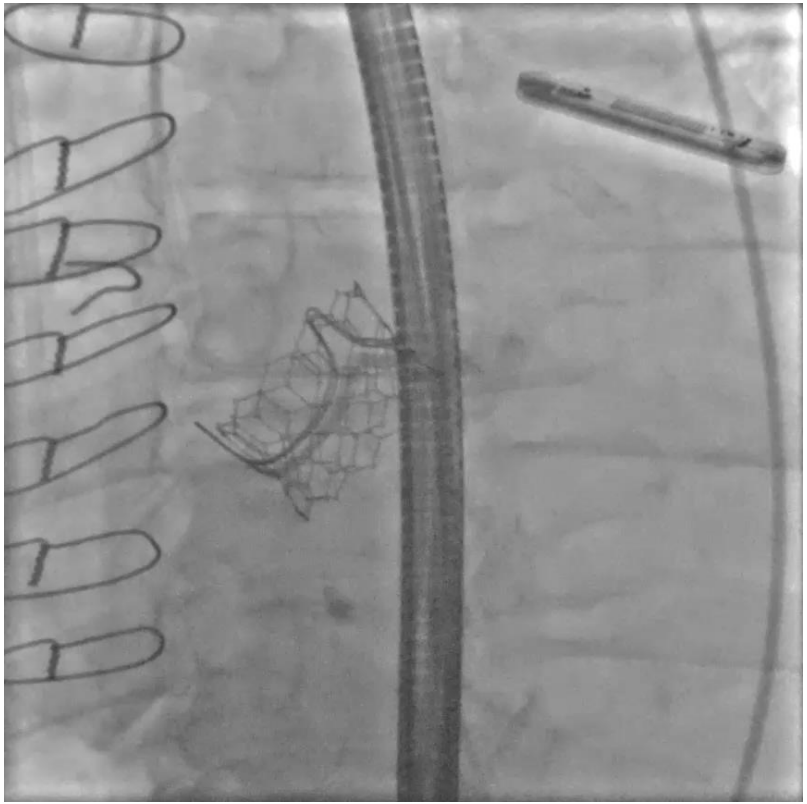
High Pressure Balloon Dilation

Post Dilation with 28mm True Balloon

Resolution of PVL



Good Flow to RCA Maintained



Post-Procedure Echo

	Next Day	1-Month
Valve Area	2.3 cm^2	2.3 cm^2
Mean Gradient	15.2 mmHg	14.7 mmHg
PVL	None	None
Central AR	Trace	None
EF	42.8%	56.7%

Conclusions

- Mechanical leaflet modification using the ShortCut™ device allowed for a safe, controlled and rapid targeted splitting of RC leaflet in this patient at high risk for RCA occlusion who presented in shock due to severe AI
- The simplicity of ShortCut enables heart teams to treat patients who would otherwise not be eligible with much lower complexity and faster procedure times than BASILICA
- Efficient leaflet modification followed by implantation of an S3UR valve followed by high pressure balloon optimization resulted in rapid resolution of central and perivalvular AR and resolution of cardiogenic shock
- Patient reported complete resolution of symptoms and motivation to return to exercise especially with powerlifting at 30D follow-up