

My Tips and Tricks for Prevention and Management of Aortic Valve Embolizations

Chad Kliger MD MS

Director of Structural Heart

Associate Professor of Cardiology and Cardiothoracic Surgery

Northwell Health – Lenox Hill Hospital, New York, NY



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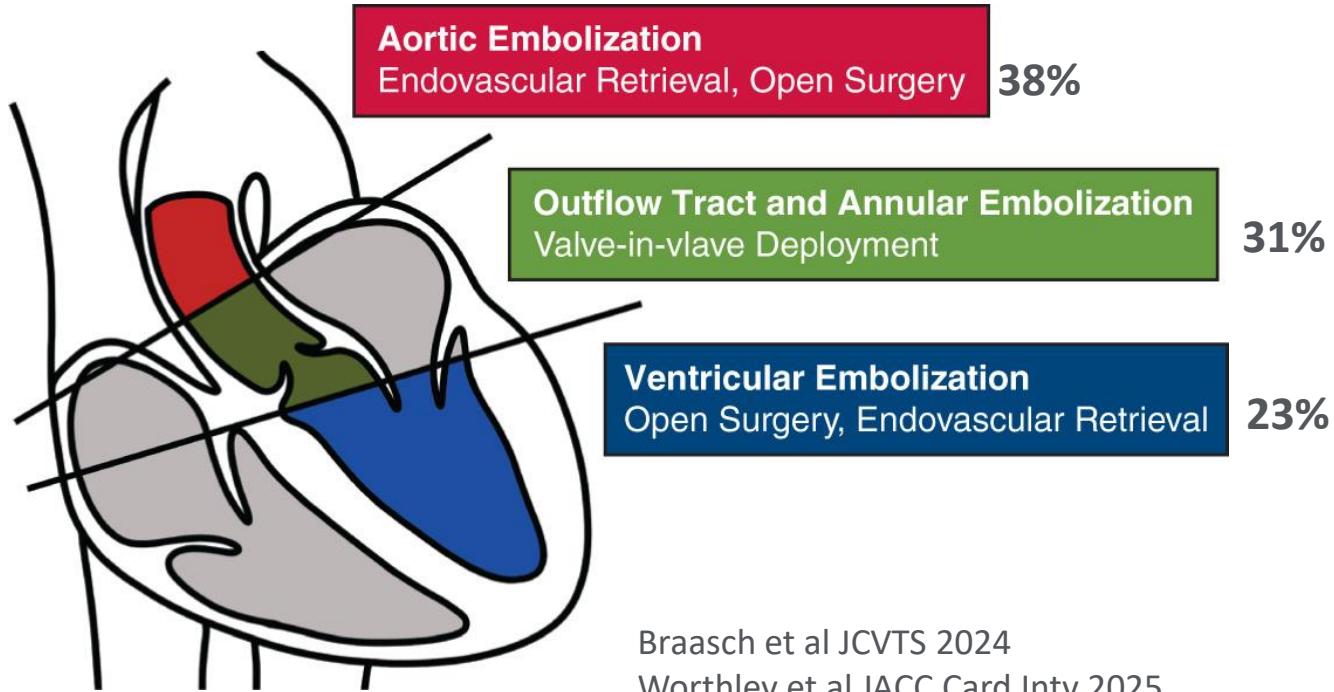
Within the prior 24 months, I have had a financial relationship with a company producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients:

<u>Nature of Financial Relationship</u>	<u>Ineligible Company</u>
Grant/Research Support	N/A
Consultant Fees/Honoraria	N/A
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Royalties/Patent Beneficiary	N/A
Executive Role/Ownership Interest	N/A
Other Financial Benefit	N/A

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TAVR Embolization

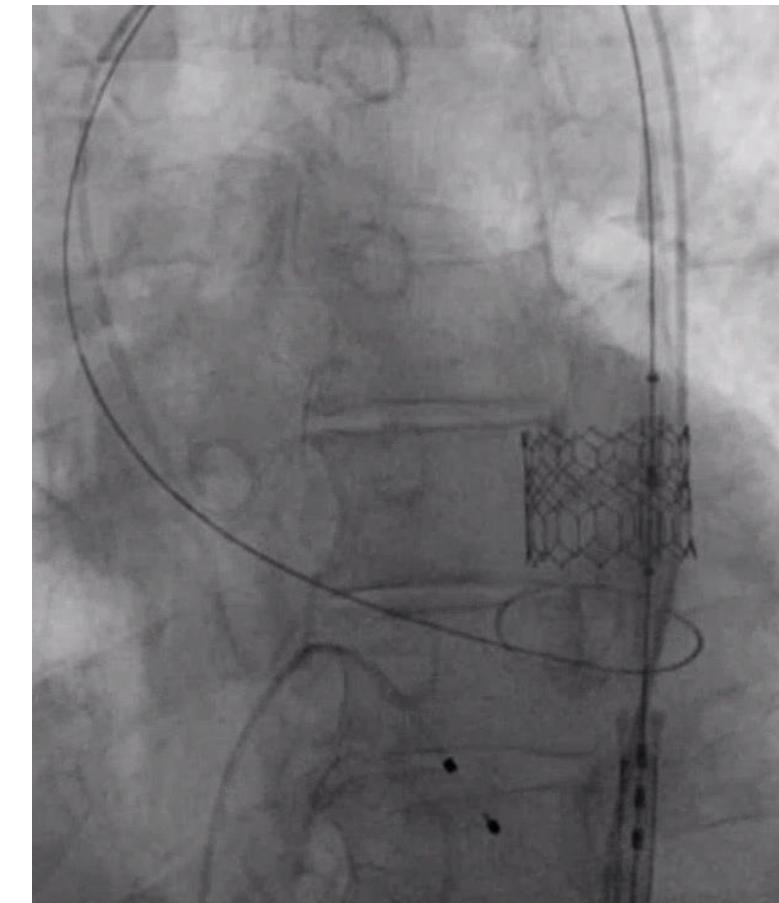
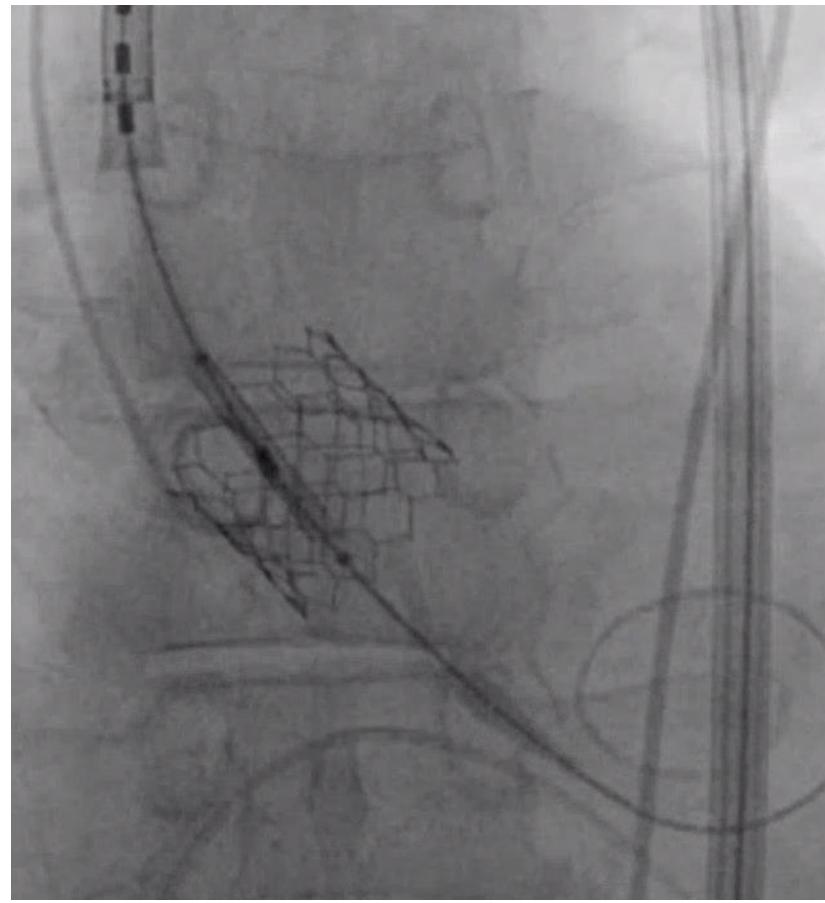
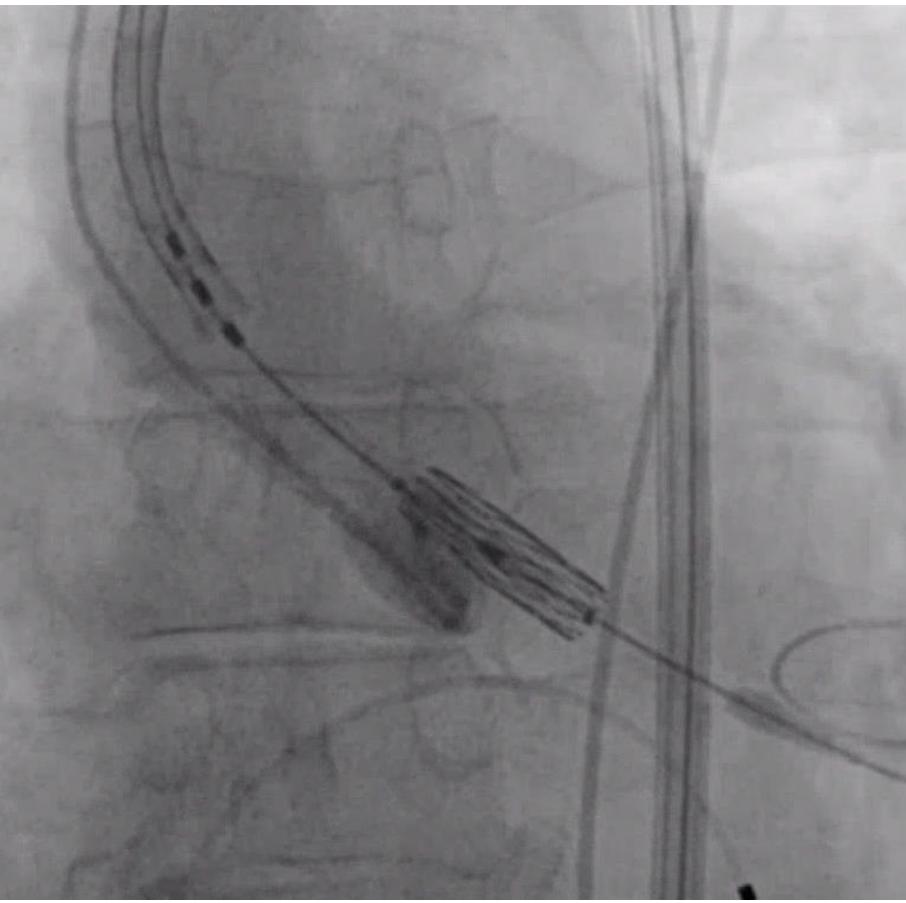
- TAVR Embolization: 0.1-3.7% (Historic Data)
- TRAVEL Registry (2010-17, 26 sites): 1%
- **Evolut Fx: 0.4%**
- **Edwards Sapien S3 Ultra Resilia: 0.1%**
- **Abbott Navitor: 0.9%**



Reasons for TAVR Embolization

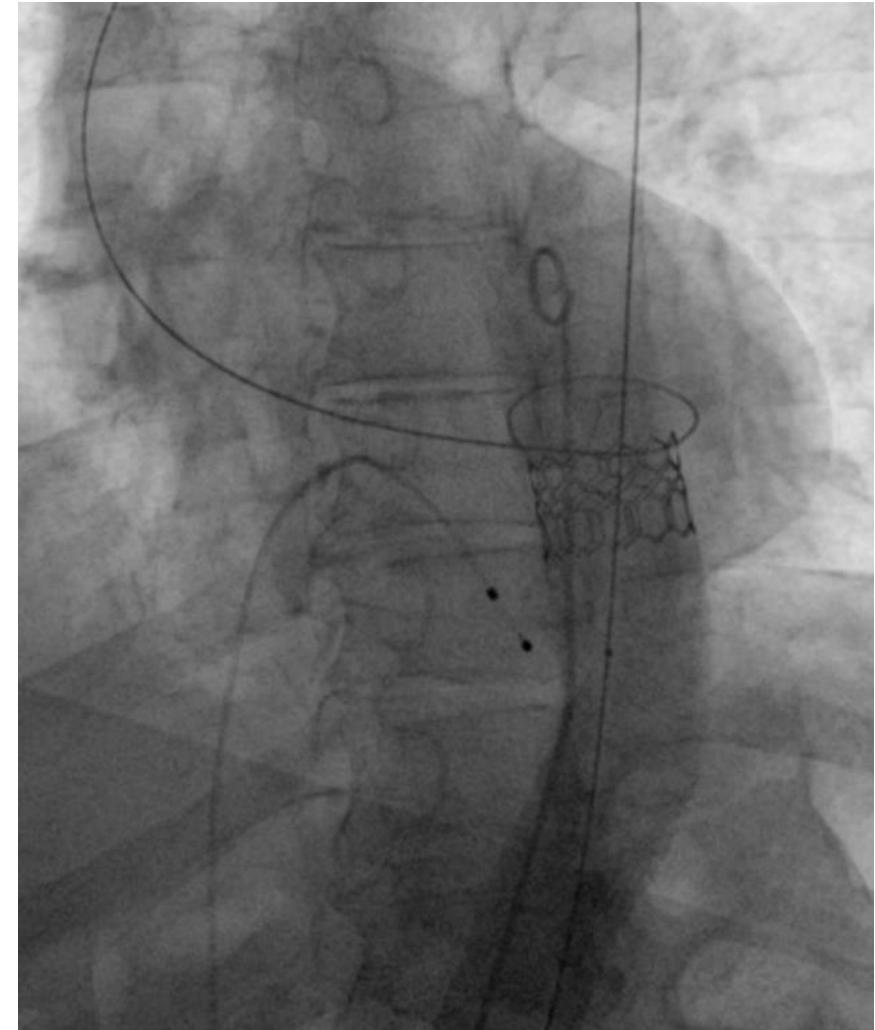
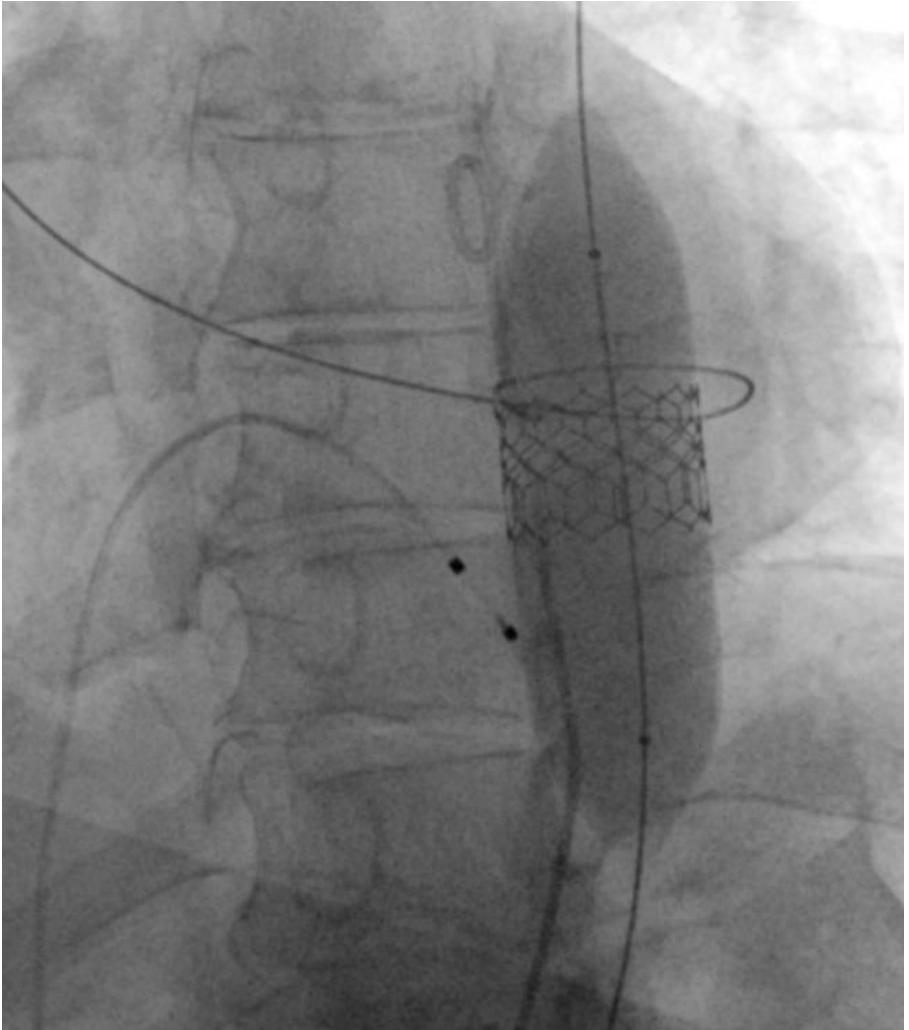
- **Patient Related Factors**
 - Lack of Calcium
 - Asymmetric Calcification
 - Horizontal Aorta
 - Bicuspid Aortic Valve
 - Large aortic annulus
 - Ascending Aortic Dilatation
- **Technical Factors**
 - Incorrect Valve Size
 - Inappropriate Positioning
 - Pacing Malfunction
 - Post Dilatation

Case # 1 : Edwards Sapien



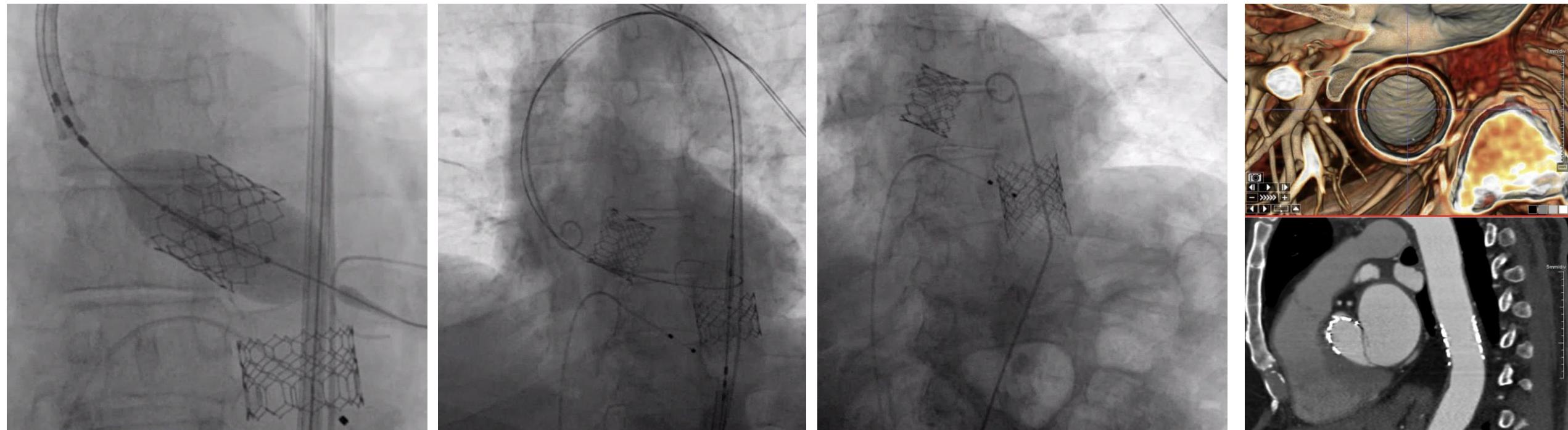
Borderline Annulus/STJ: 460mm²
23mm+2cc S3UR
Pacing malfunction during deployment
Undersized?

Case # 1 : Edwards Sapien



Post dilated with 25mm ZMed

Case # 1 : Edwards Sapien



26mm S3



Valve secured with a 10x40mm
PalmaZ XL stent crimped on
25mm ZMed

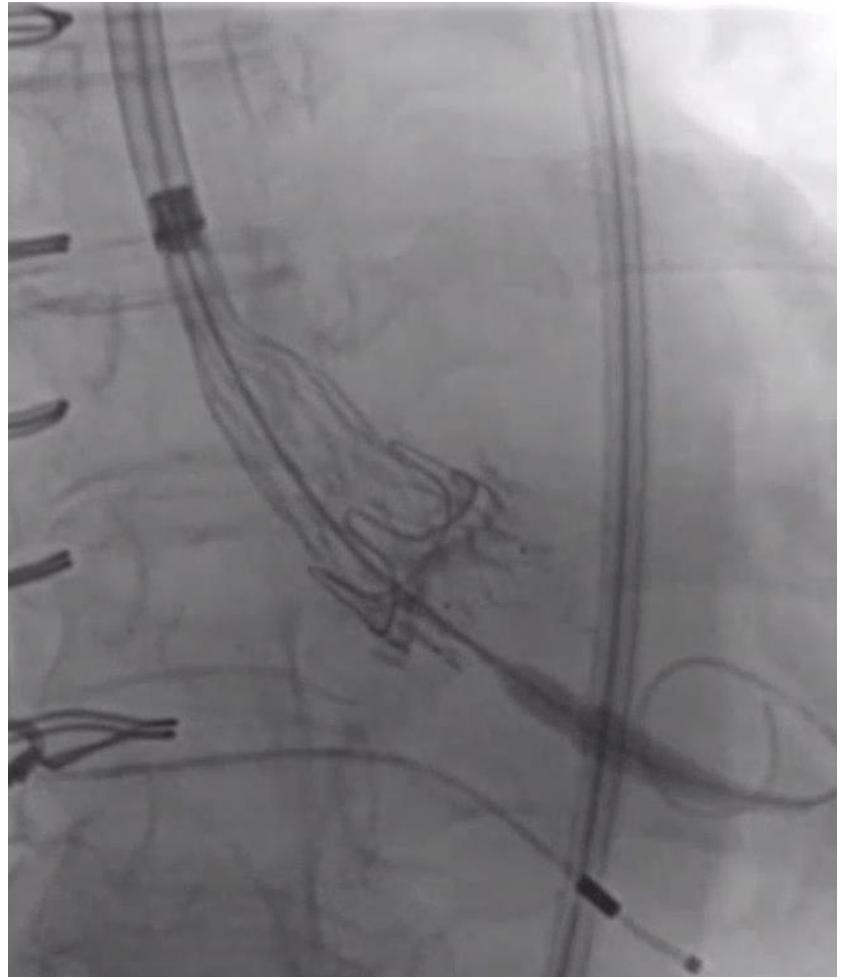
Case # 2 : Edwards Sapien



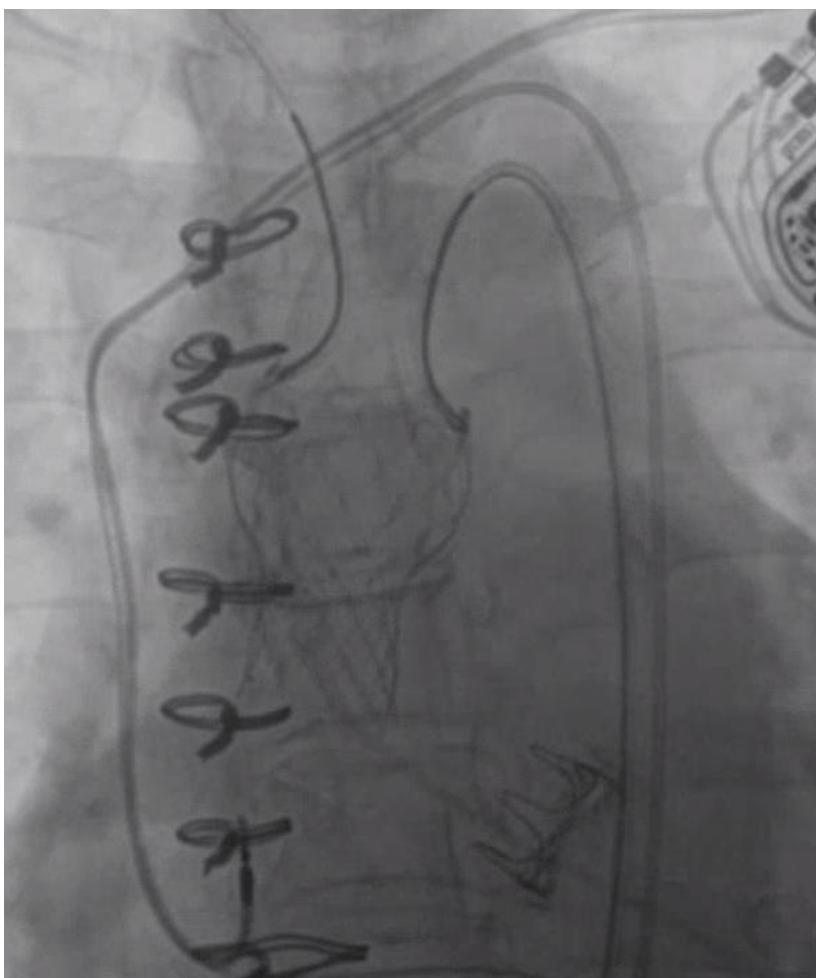
26mm S3U
Pacing Malfunction during deployment

Unable to pull back beyond this point
SAVR

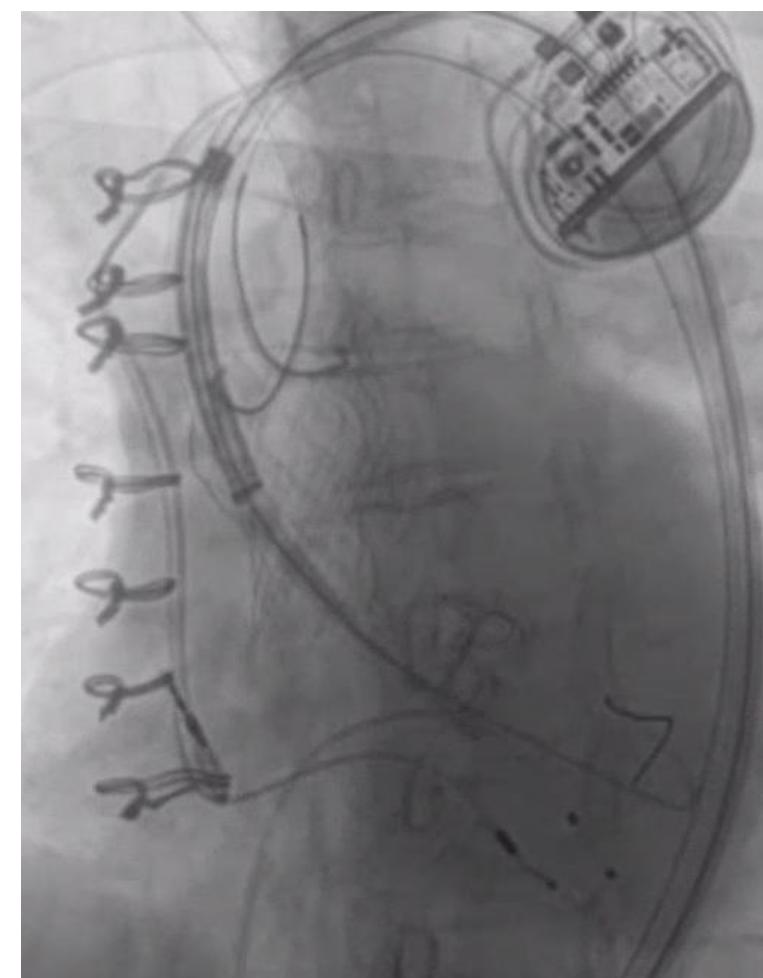
Case # 3 : Evolut Fx



**23 Evolut Fx inside 19mm Magna Ease
Pacing over Wire**

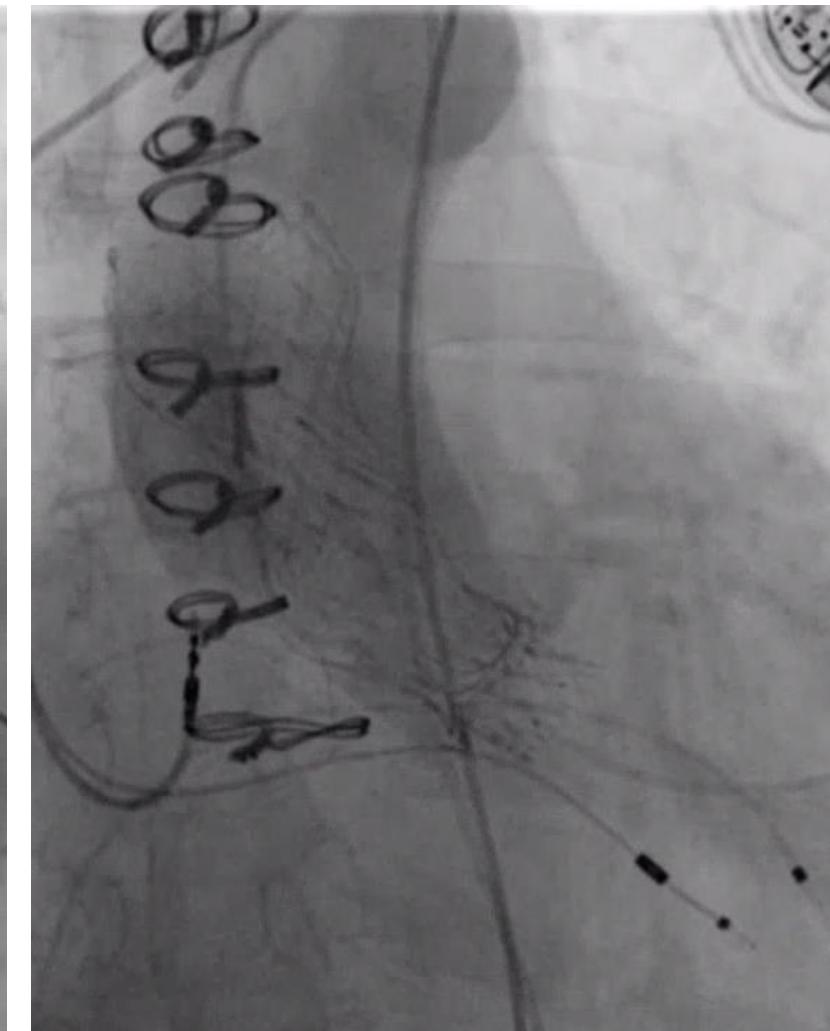
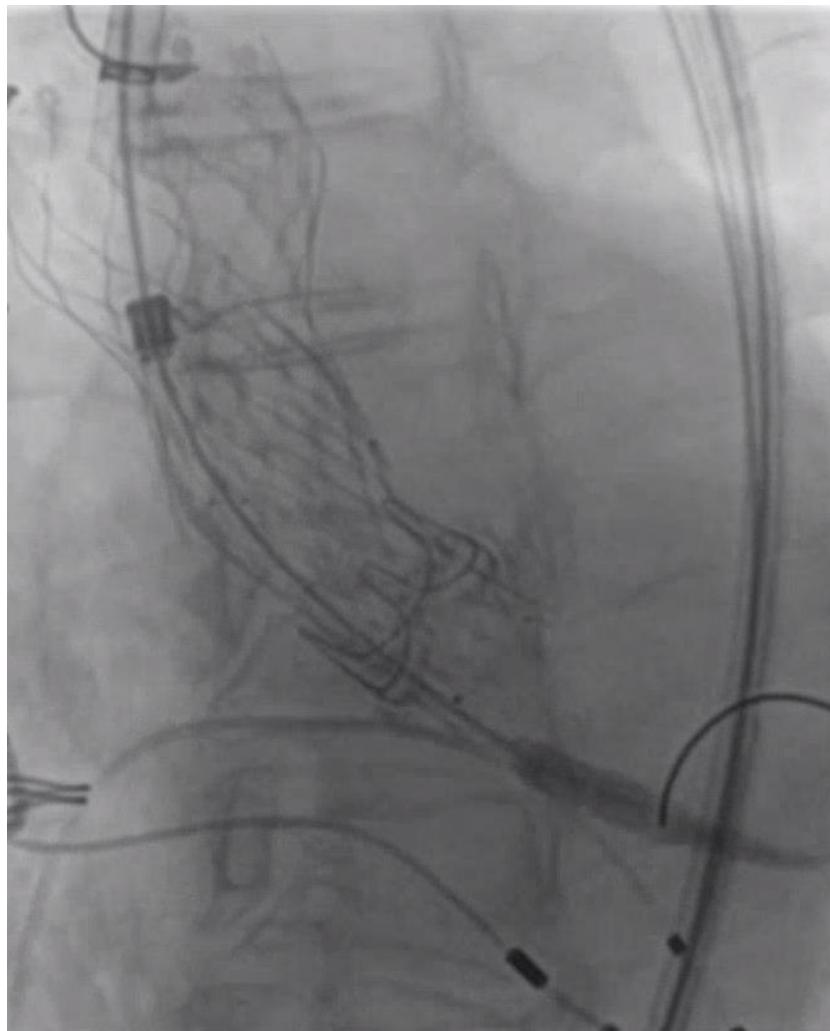
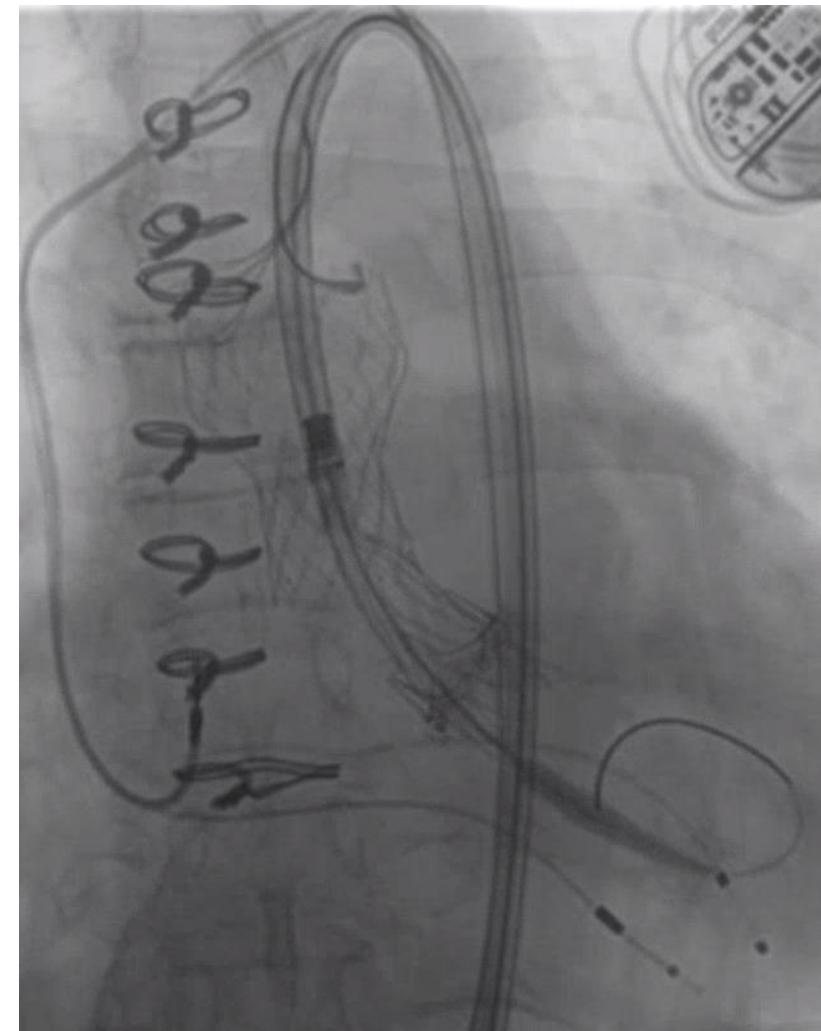


**Both tabs snared - JR4 guide
and Ensnare**



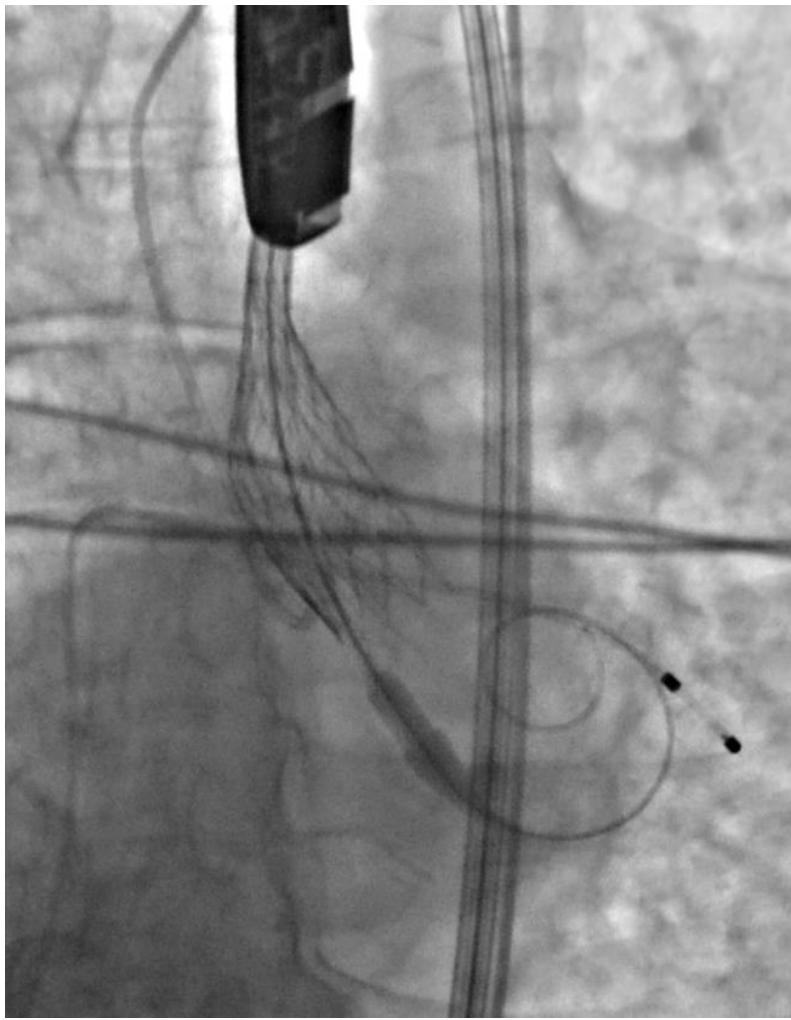
**Dilated Ascending Aorta
Unable to secure valve**

Case # 3 : Evolut Fx

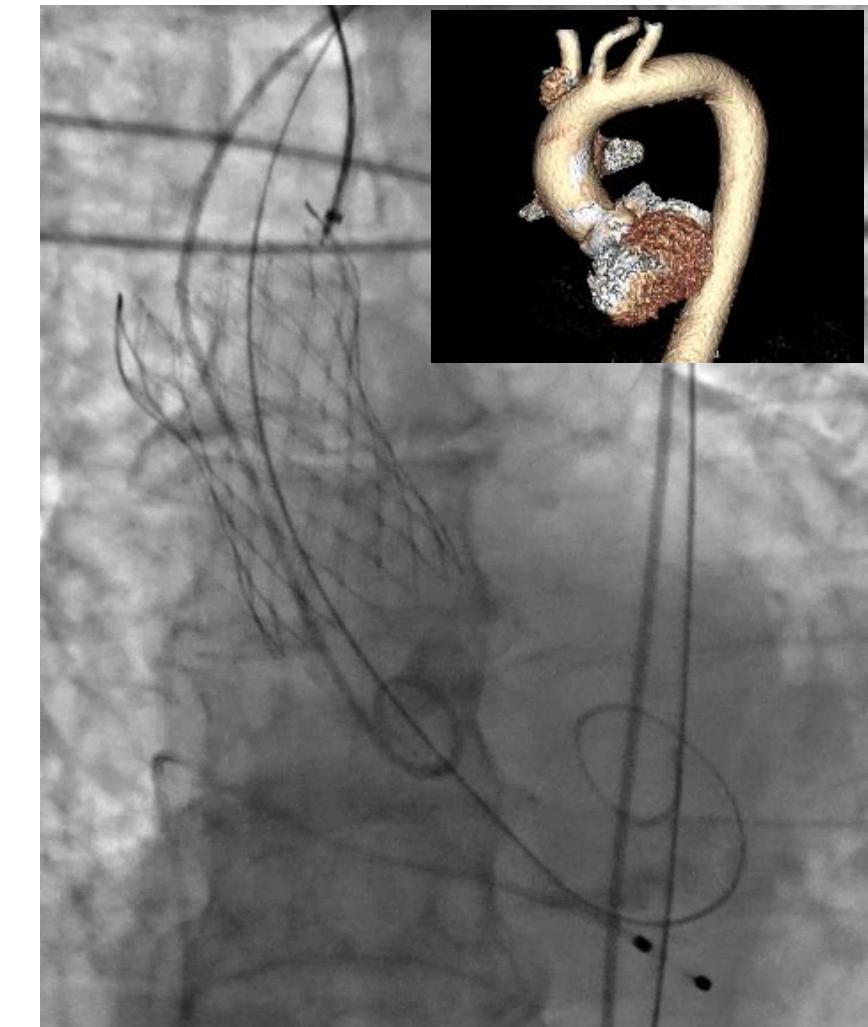
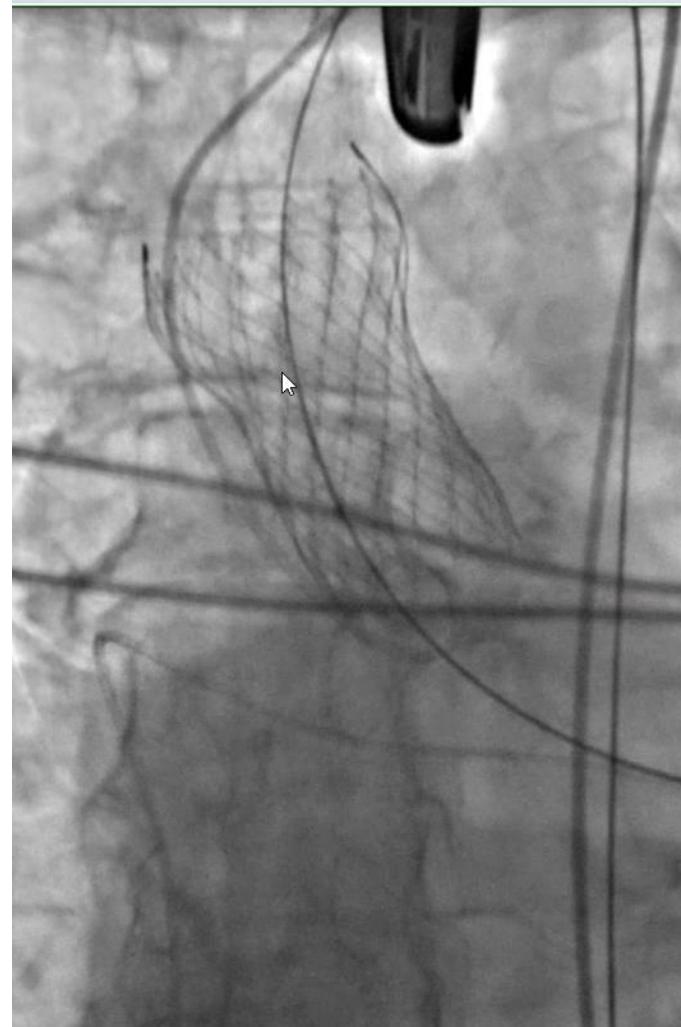


2nd Evolut valve to secure the 1st Evolut

Case # 4 : Evolut Pro+



29 Evolut Pro+



Snared into ascending aorta, unable to get above the STJ

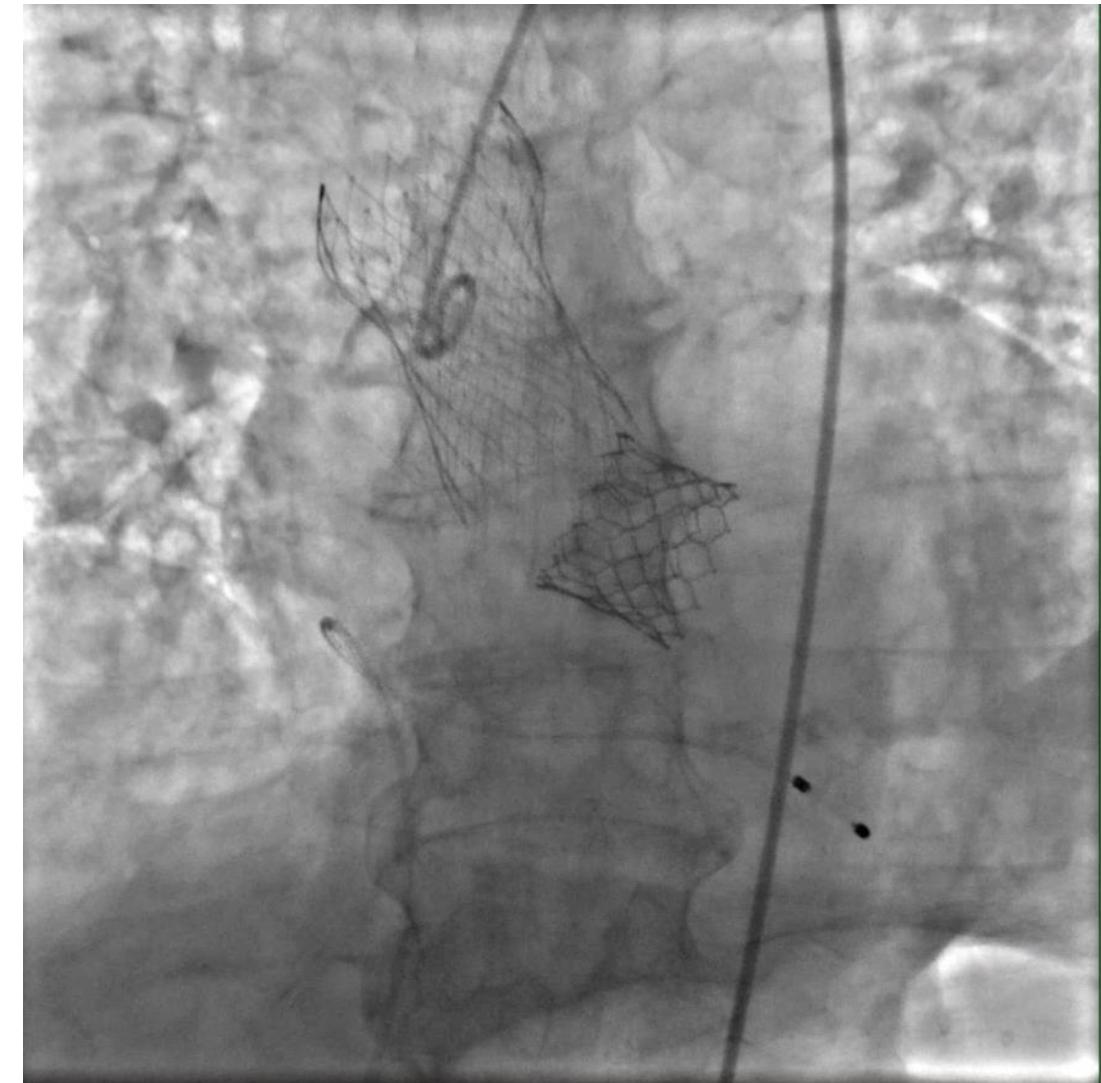
Case # 4 : Evolut Pro+



23mm S3



Case # 4 : Evolut Pro+



Aortogram – pigtail above leaflets
Valve at STJ not allowing diastolic coronary filling

Case # 4 : Evolut Pro+

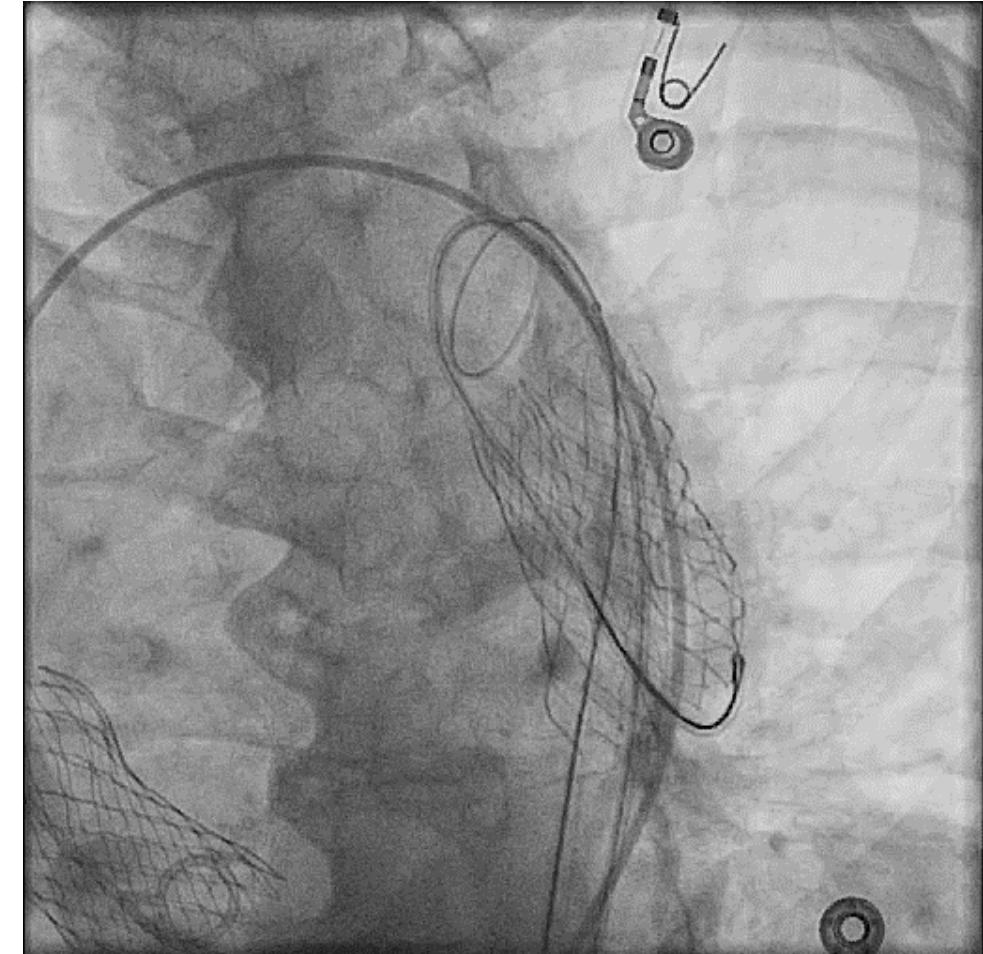
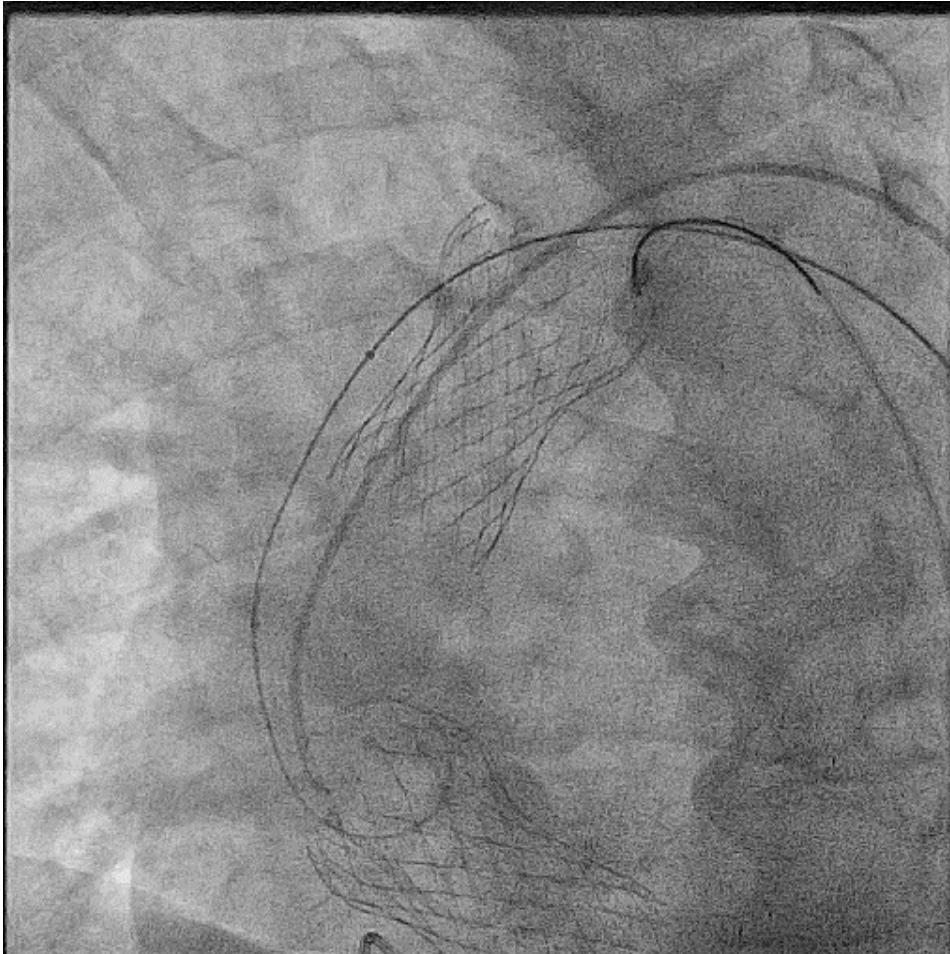


Stent

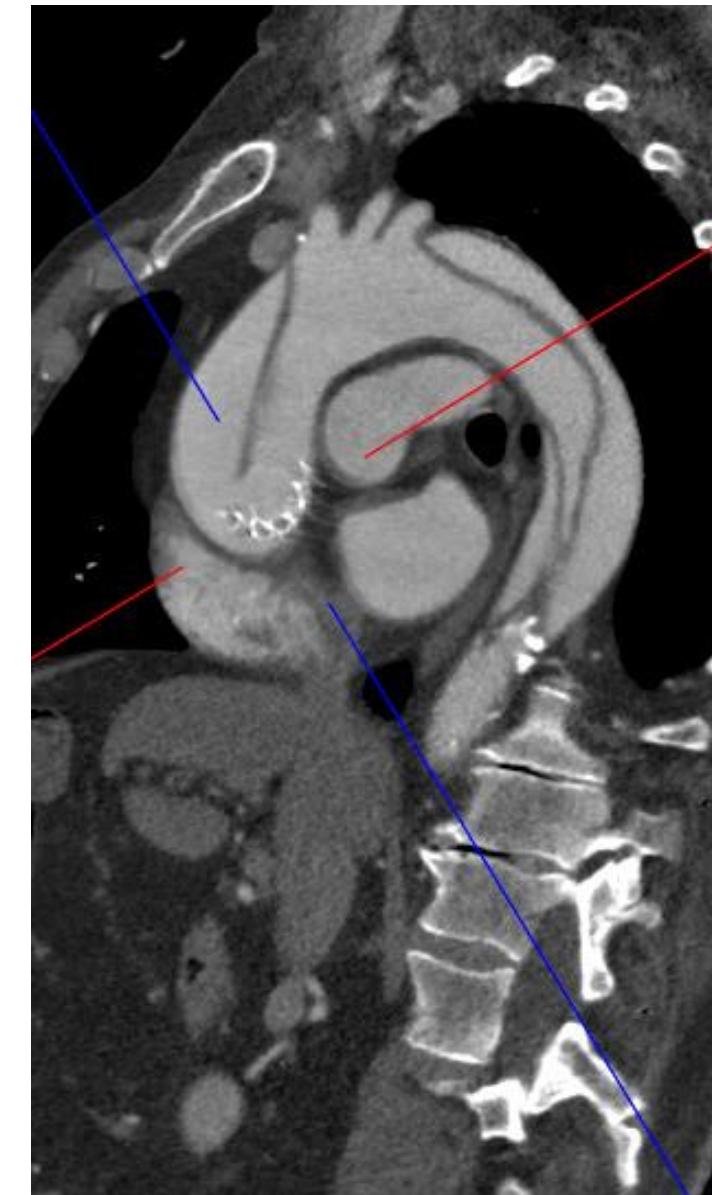
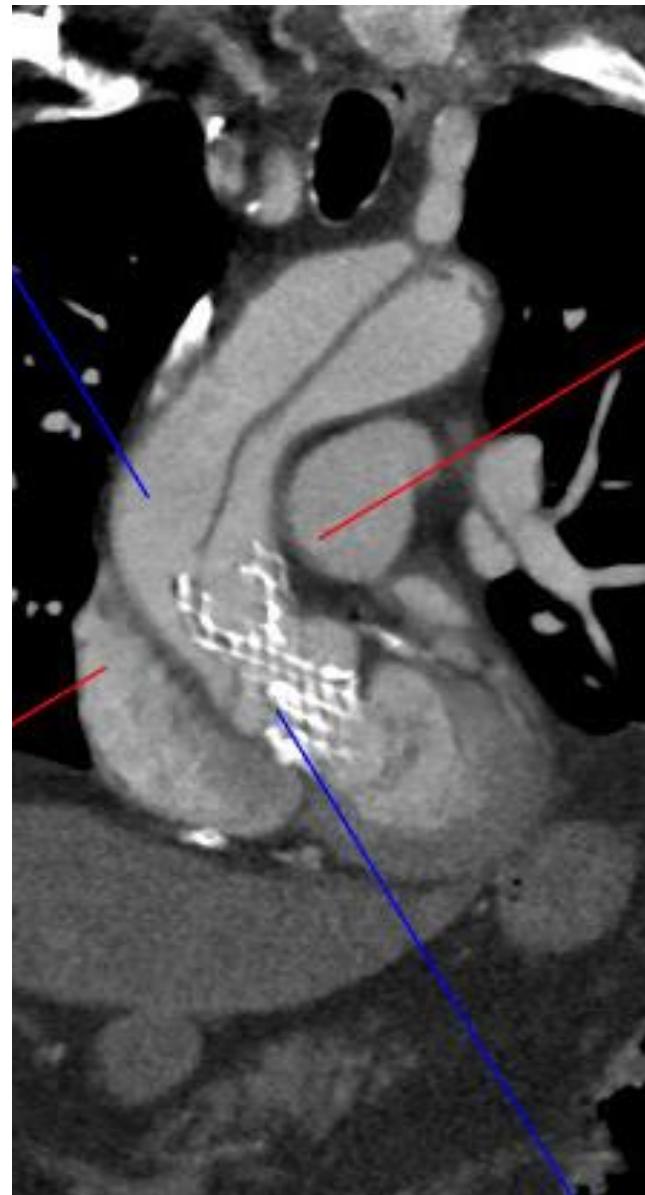


Case # 5 : Evolut Pro

**Don't Pull Hard
Try to Avoid this!!**



Case # 5 : Evolut Pro



TAVR Embolization Management Strategies

Self Expanding THVs

Aortic Embolization

- Snare (Ensnare, Gooseneck)
- Lasso
- **Secure valve in ascending aorta (before innominate)**
- If not possible then **secure with second SEV/stent**

LVOT Embolization

- Snare to pull aortic
- Valve in Valve

Balloon Expandable THVs

Aortic Embolization

- Pull to descending aorta via valve delivery system balloon or an inflated balloon (Coda, Z-med, etc)
- ? Stent to secure / post leaflets

LVOT Embolization

- Valve in Valve

Ventricular Embolization

- Surgery



"An ounce of prevention
is worth a pound of cure."
Benjamin Franklin

THANK YOU

ckliger@northwell.edu