



„Full Percutaneous Three in One“
..an unplanned sequence with extremely good
outcome!

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„Three in One“

Case Presentation

*71y/o woman, decompensated Heart Failure (NYHA IV)
due to a degenerated surgical mitral valve prosthesis (Perimount 27mm) and severe
tricuspid regurgitation,*

Co-Morbidities:

- pulmonary hypertension
(PAP 52/30/40 mmHg; PCWP 18/33 mmHg, CO 4,0L/min, PVR 5,6 wood units)
- renal failure
- no coronary artery disease

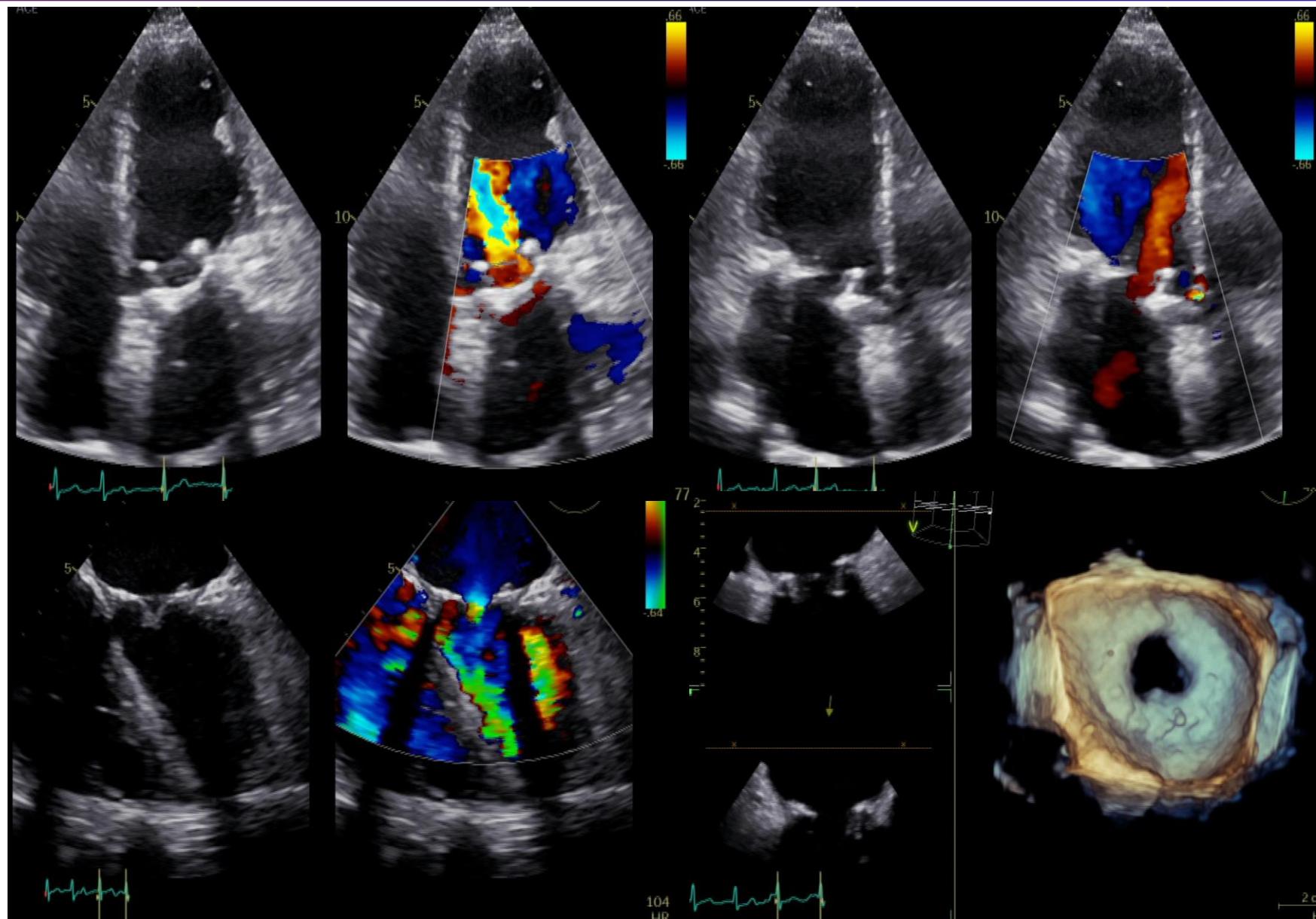
high surgical risk:

log ES I 31%, log ES II 1.1%, STS 10%

LABS:

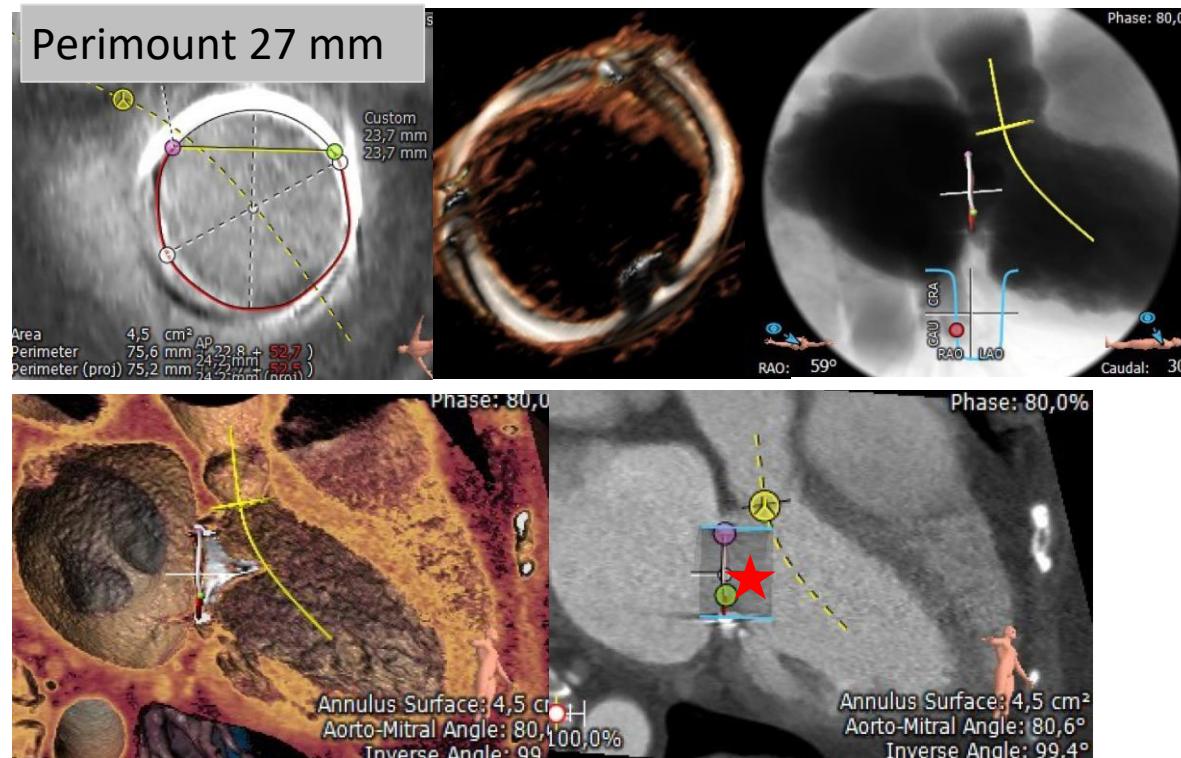
*BNP 731 pg/ml
Creatinine 1.3 mg/dl
GFR 38.8ml/min
hemoglobin 10.6 g/dl*

Imaging and Intervention 1: Echo for transseptal Valve-in-Valve and Procedure TMViV

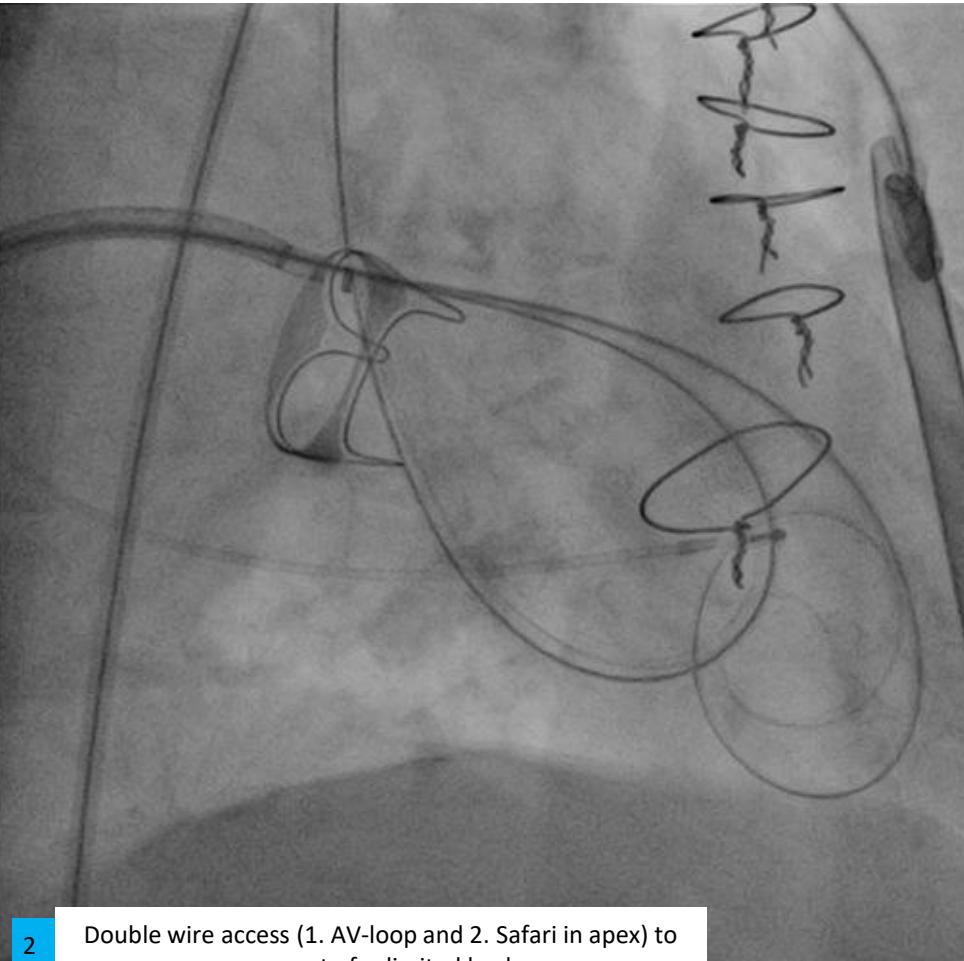
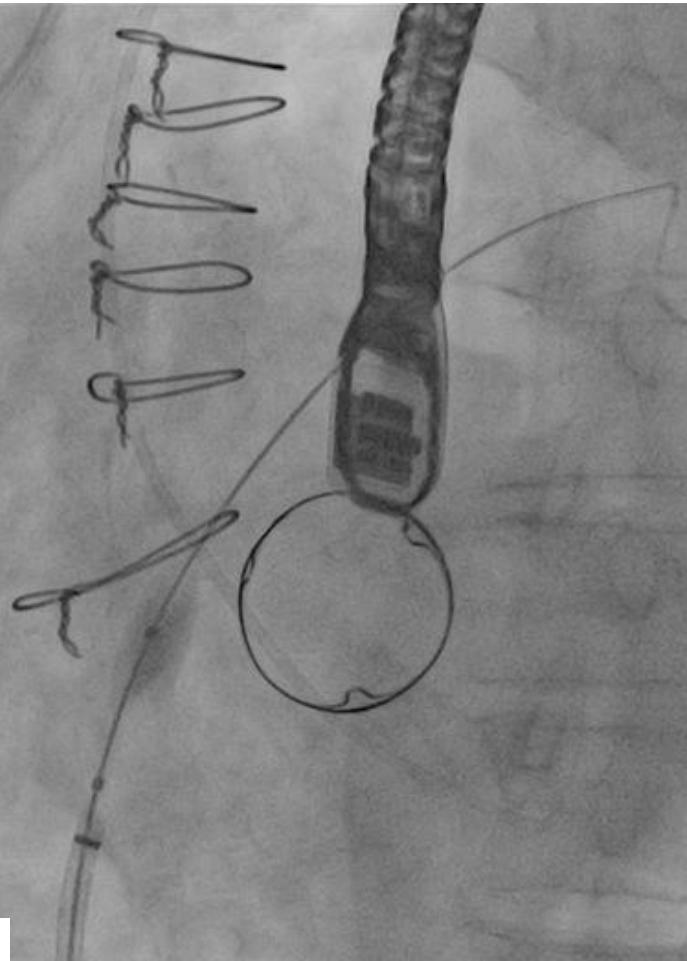


- *Treatment Plan:*

transseptal Valve-in-Valve (Sapien Ultra 26mm) with subsequent staged tricuspid cardioband after reevaluation 4-8 weeks later.



★*of note, the septal tilt of the MVR*



1 septostomy

Set up:

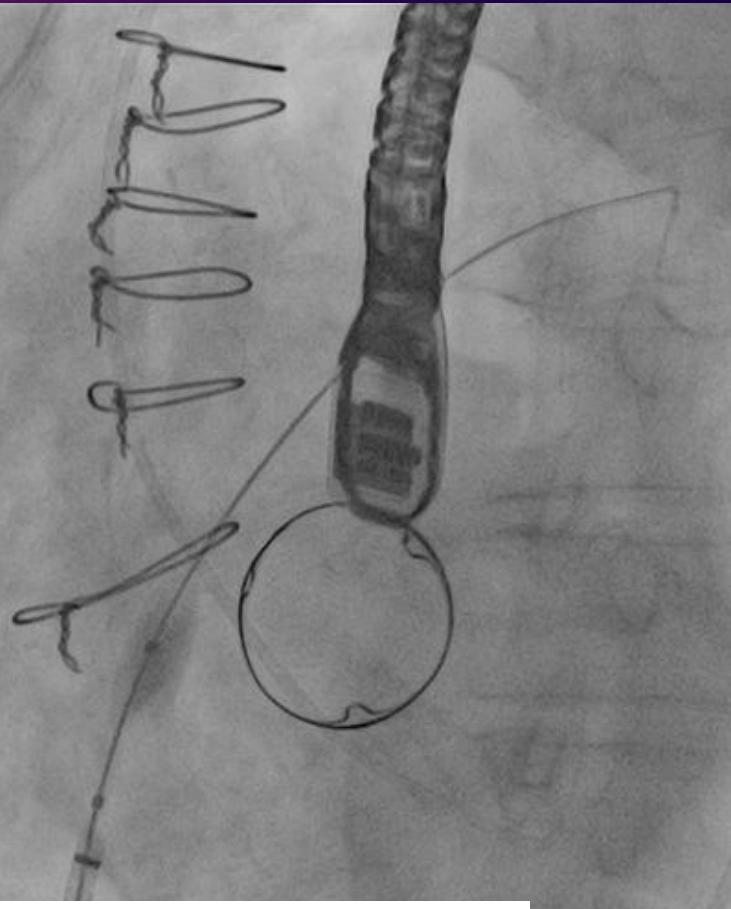
- Bifemoral vein puncture and puncture of the left femoral artery
- TEE-guided transseptal puncture (4 cm above MVR)
- After Septostomy, decision for buddy wire (AV-loop) due to complex anatomy (septal tilt of MVR) and TM-ViV

Tools:

- Admiral PTA balloon 12x20mm, Long Cook Sheath 8 Fr, 100cm, Amplatz superstiff ST1 260cm, Andra Snare 30mm Safari wire (small)
- Sapien Ultra 26mm, 1 Proglide, 6 Fr AngioSeal

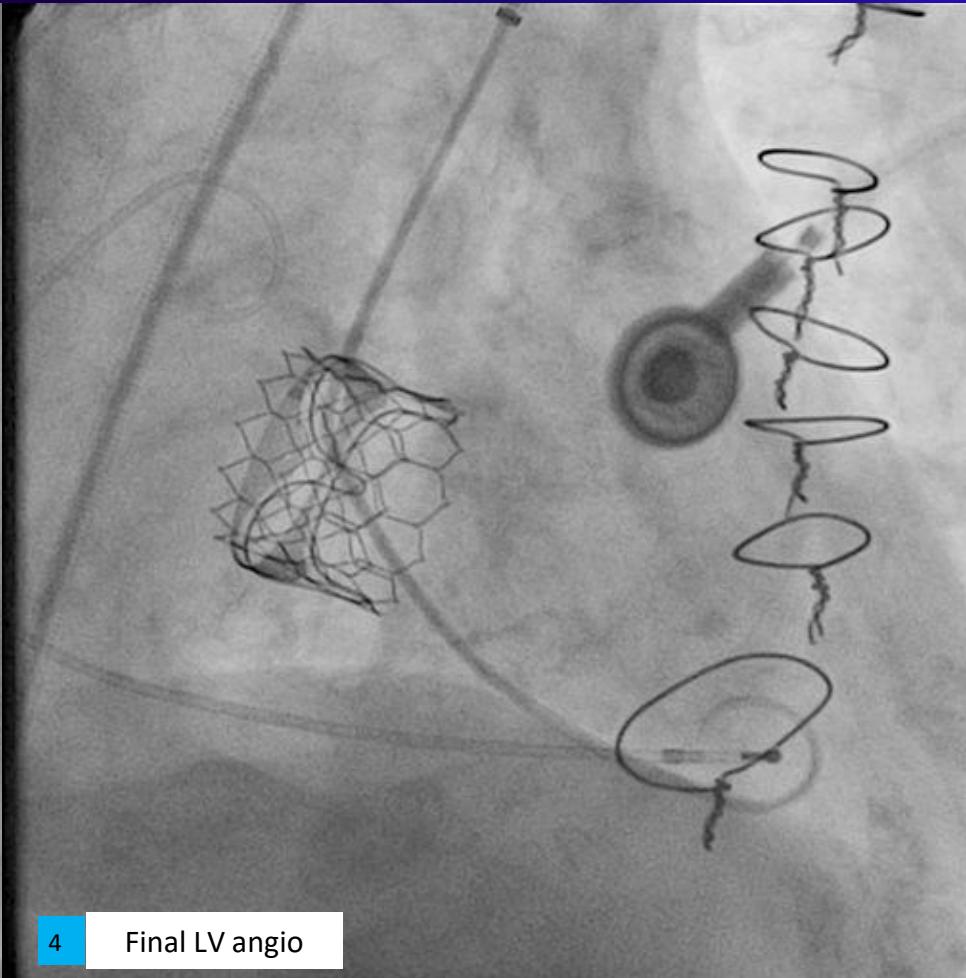
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Double wire access (1. AV-loop and 2. Safari in apex) to compensate for limited back up

Intervention 1: transseptal Valve-in-Valve (TMViV)

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Introduction of Sapien-catheter, removal of AV-loop and Sapien ultra implantation (fast pacing 180 bpm)

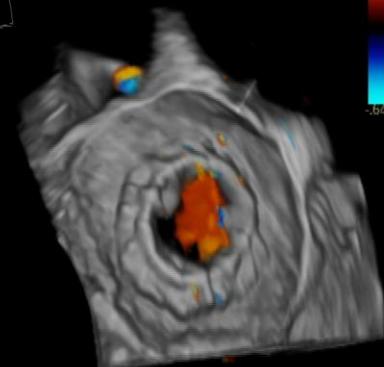
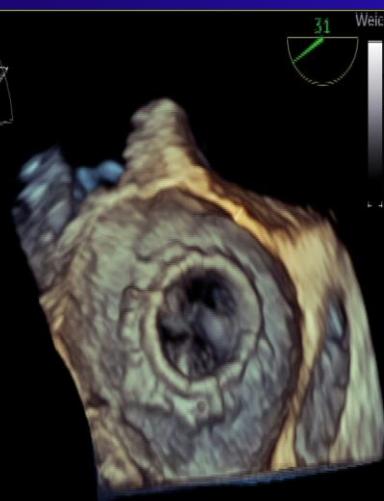
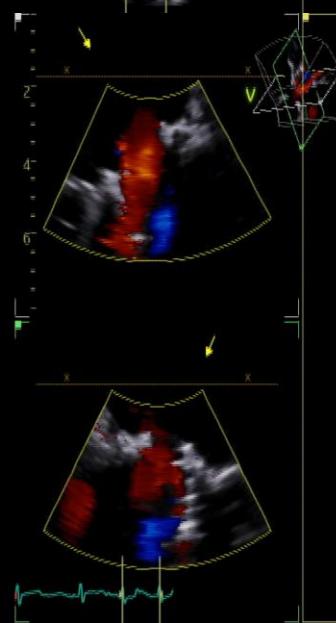
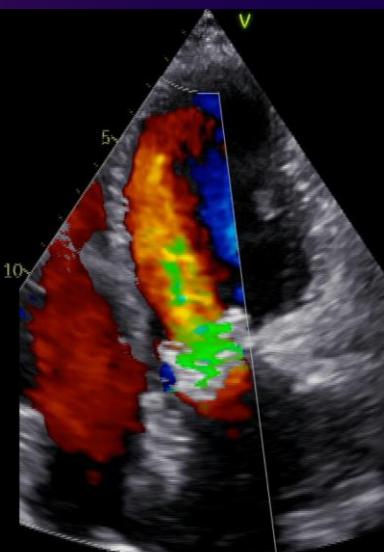


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Final LV angio

	Ao	LV	LA	PPeak (mitral)	Pmean (mitral)	HR (min)
pre	119/52/69	119/10	17(32)	16	9	88 (AFib)
post	125/53/71	125/10	12(23)	9	4	76 (SR)

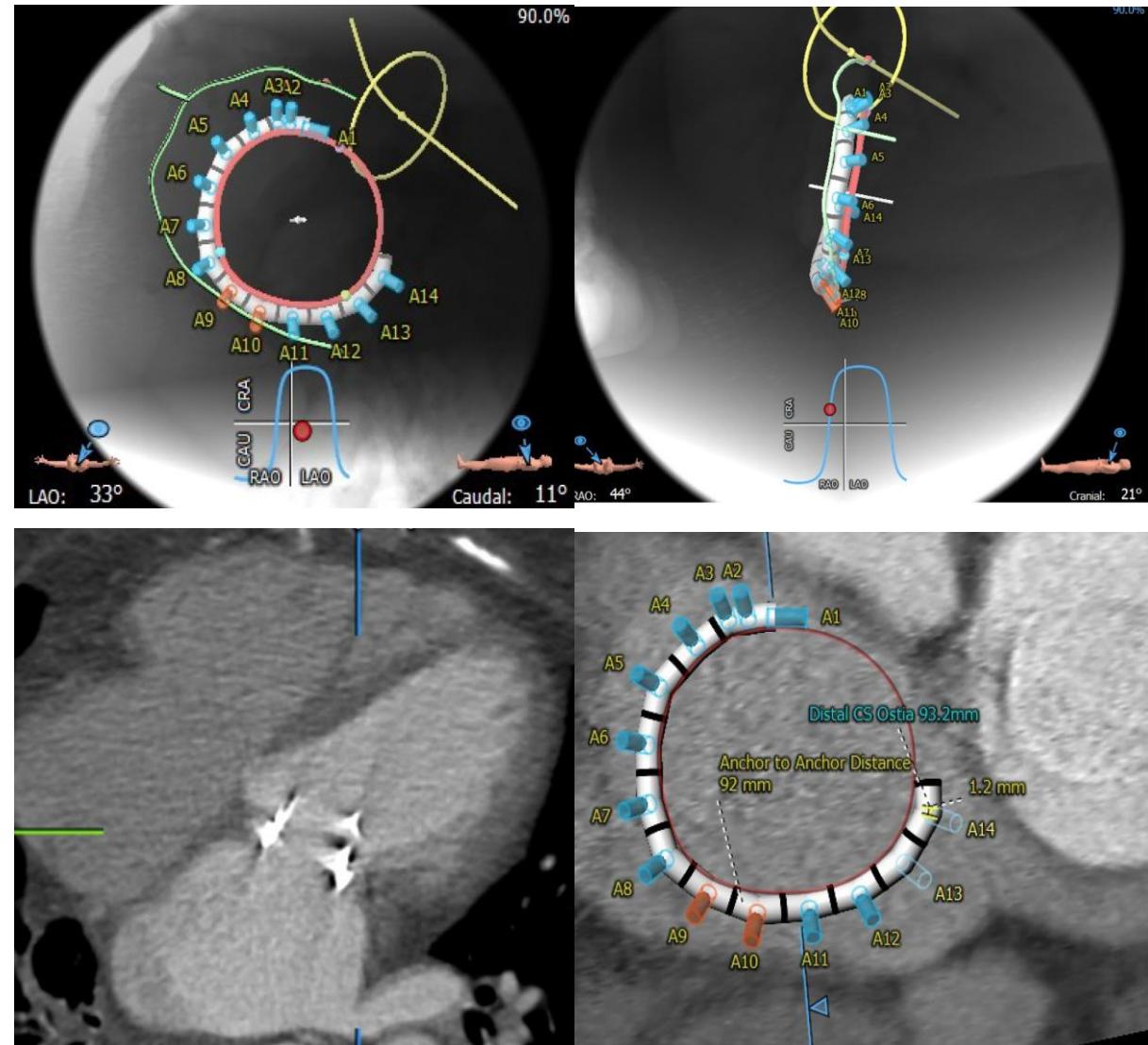
Intervention 1: transseptal Valve-in-Valve (TMViV)



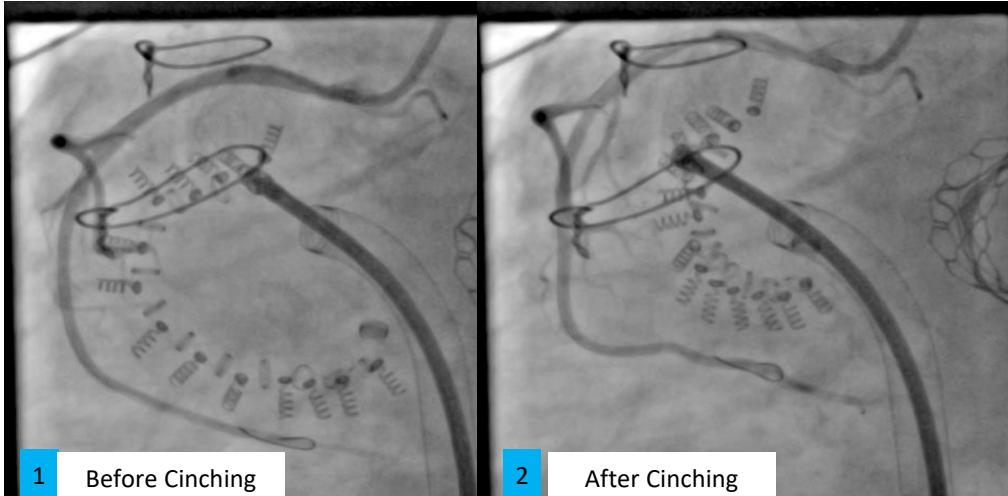
Intervention 2: tricuspid cardioband for severe TR

LVEF:	50
LVEDD (mm):	34
RVEDD (mm) Base:	46
RVEDD Mid (mm):	40
RV length (mm):	62
TAPSE (cm):	18
Jet Orientation:	central

- annulus 93mm
- c-size implant
- 14 anchors



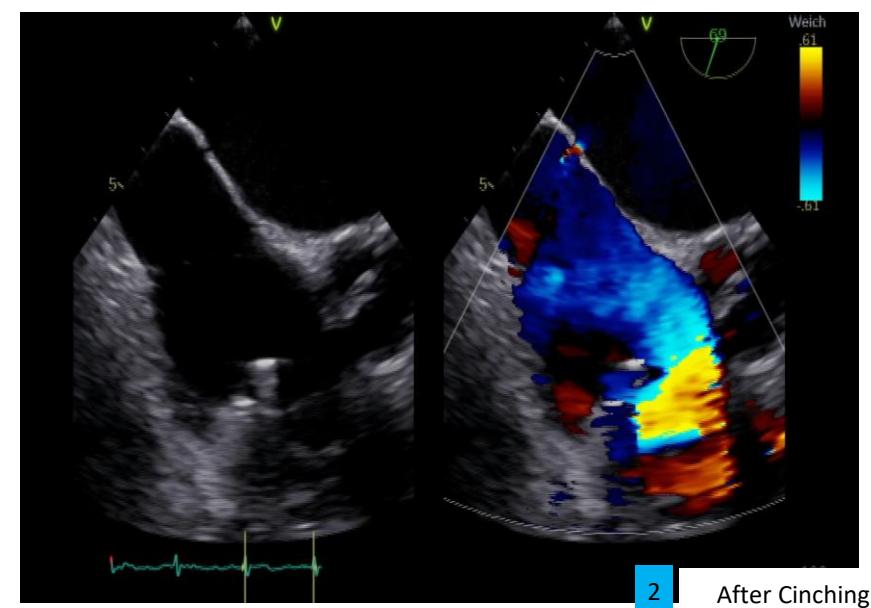
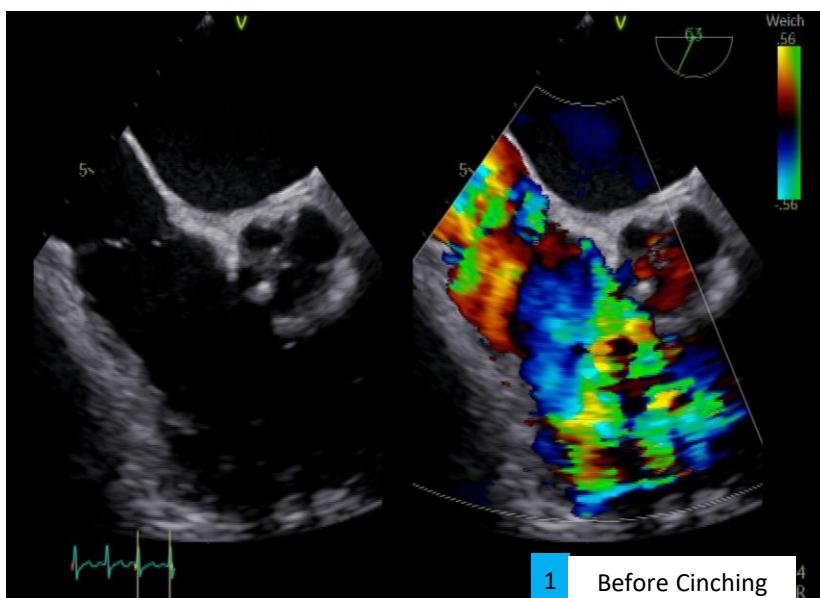
Intervention 2: *tricuspid cardioband for severe TR*



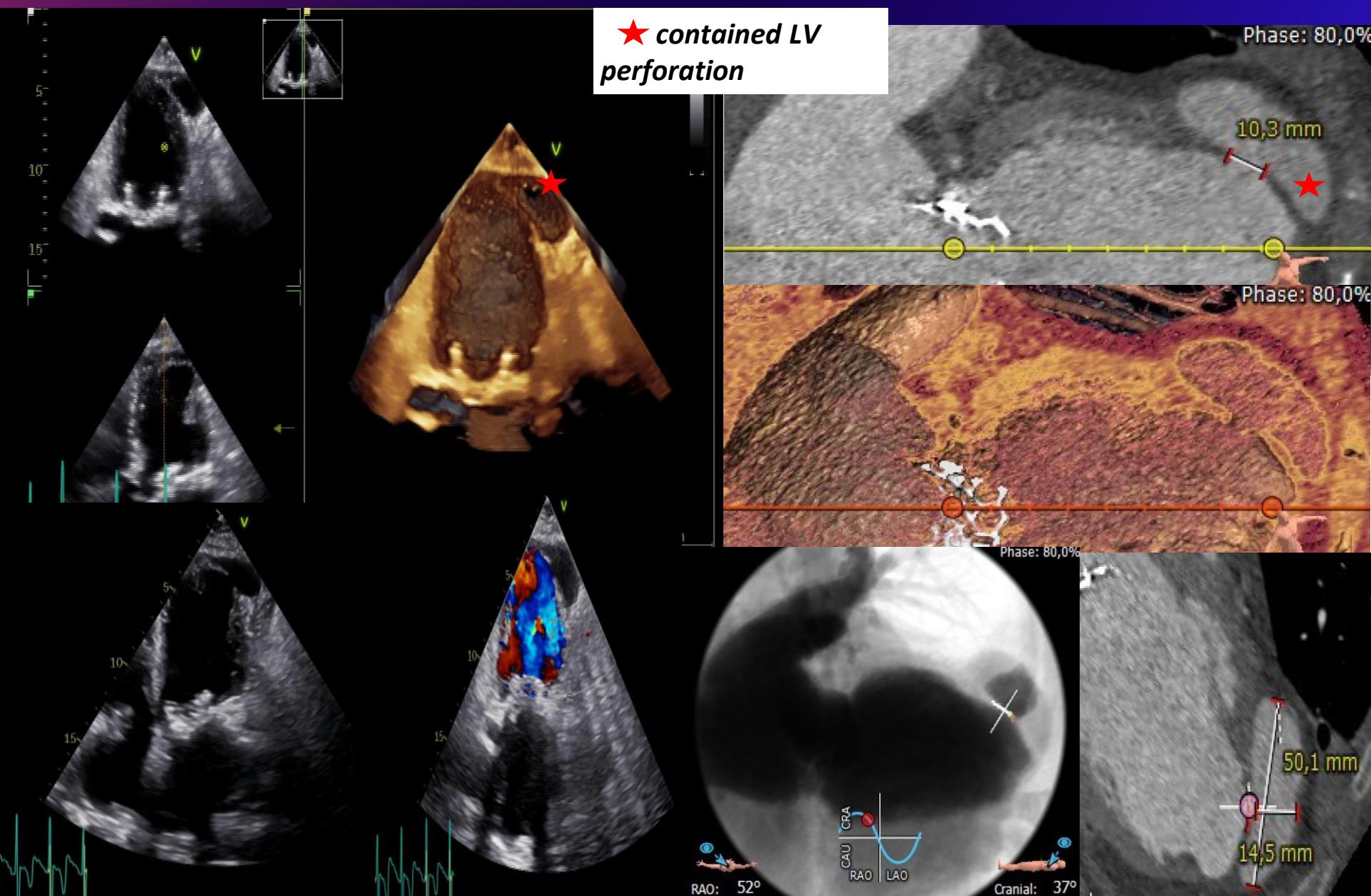
(mmHg)	PAP	PCWP	RV	RA	CO	HR (min)
pre	51/30/38	27	51/11	12(23)	5,6	65 (SR)
post	49/27/36	24	49/12	14(16)	5,8	70 (SR)

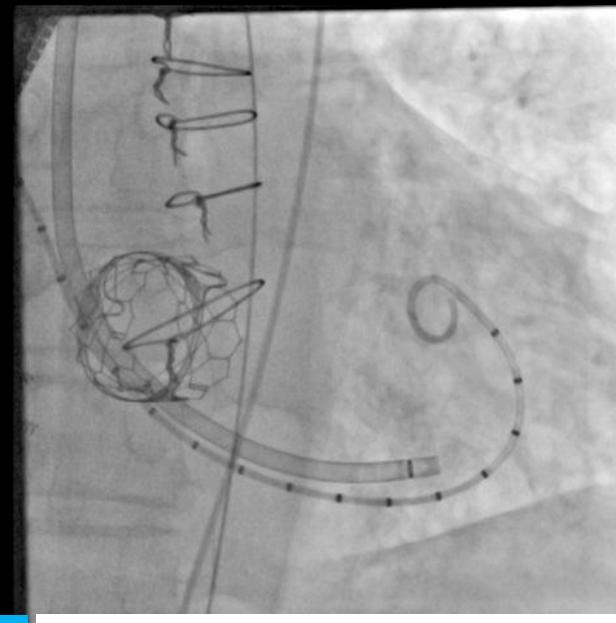
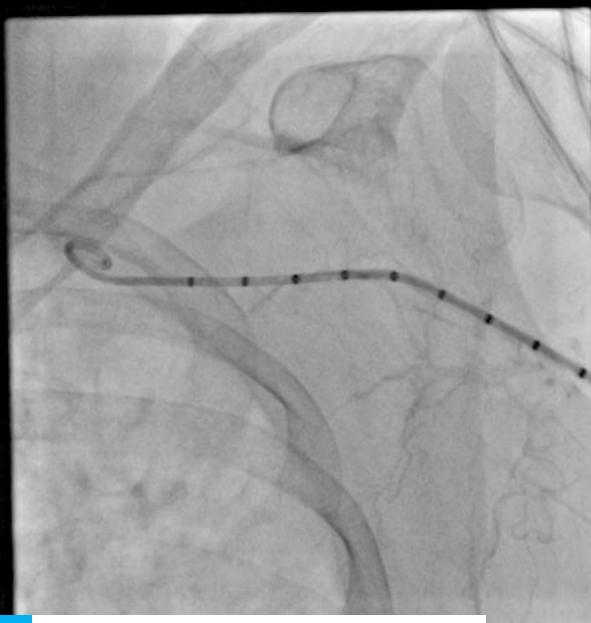
Result: TR grade III-IV+ => I+

Procedural time 190min, 14 anchors, cinch 4.5, 120 ml contrast



Complication: contained LV-Perforation



Intervention 3: *Closure of a contained LV-Perforation (percutaneous transaxillary access)*

1 subclavian artery angio before puncture

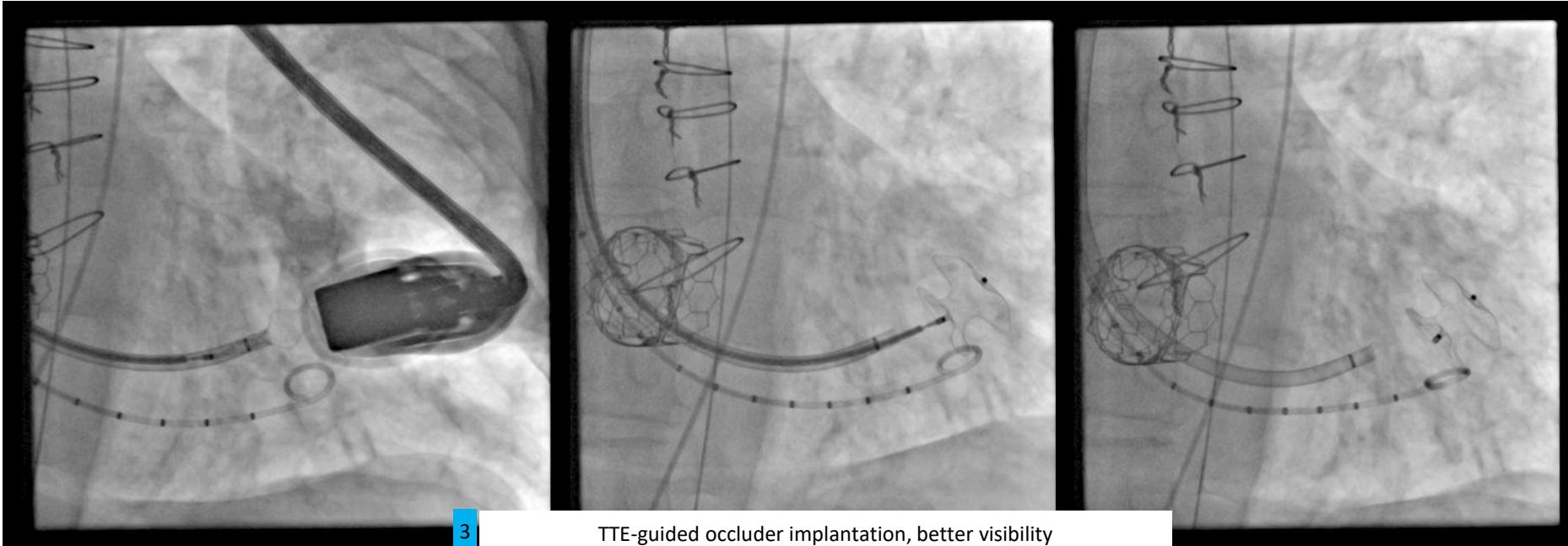
2 transaxillary steerable sheath insertion + LV Angiogram

3 TTE-guided occluder implantation, better visibility

Set up:

- Bi-femoral puncture, brachial left, safety wire rail, puncture axillary artery
- Steerable Agilis Sheath, Pigtail LV
- transthoracic echo
- AGA ASD Disc occluder 12mm

Intervention 3: *Closure of a contained LV-Perforation (percutaneous transaxillary access)*



Set up continued:

- transthoracic echo
- AGA ASD Disc occluder 12mm
- Subclavian artery Closure with 2 Proglides, 8Fr AngioSeal + 6 Fr AngioSeal



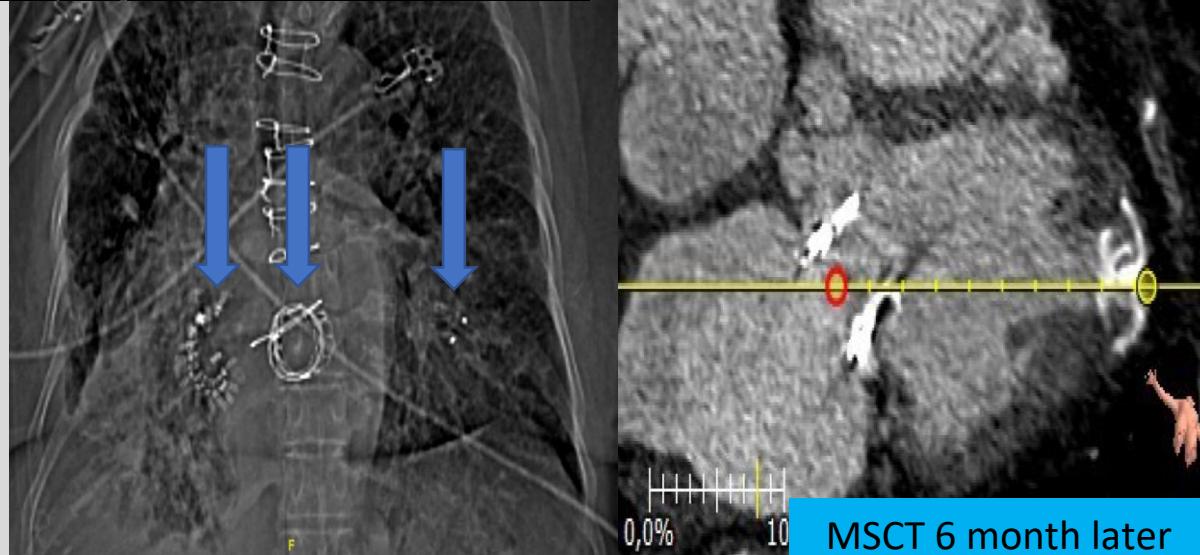
subclavian artery angio after 2 proglides

Intervention 3: *Closure of a contained LV-Perforation (percutaneous transaxillary access) and Follow Up***Acute Result:**

very controlled closure of the contained LV perforation, discharge home 3 days later

6 months FU:

Patient in NYHA functional class II, complete closure of the perforation, with no residual MR and mild TR



MSCT 6 month later