

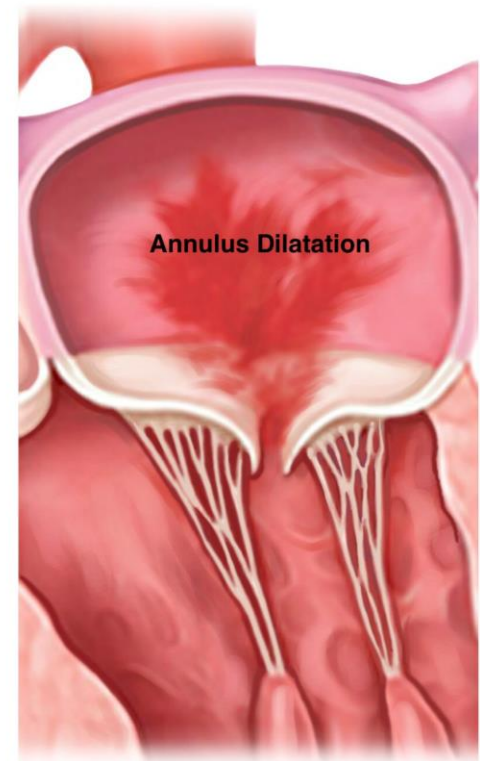
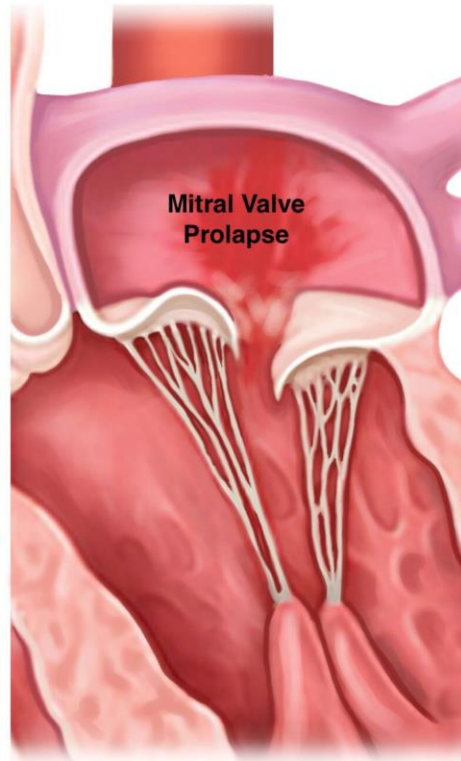
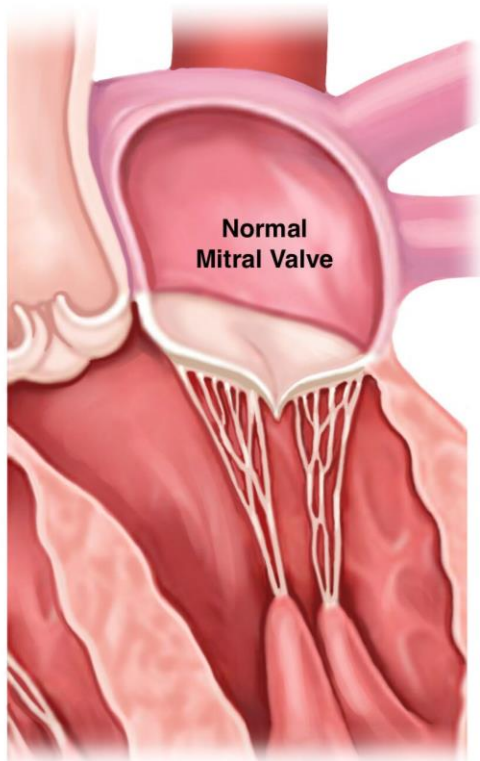


Pierfrancesco Agostoni, MD, PhD

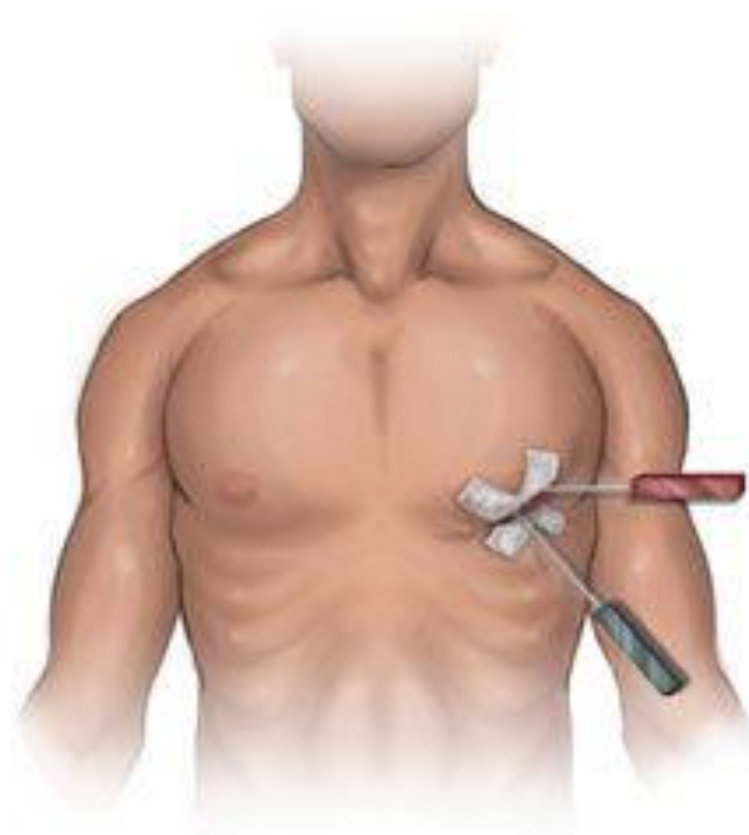
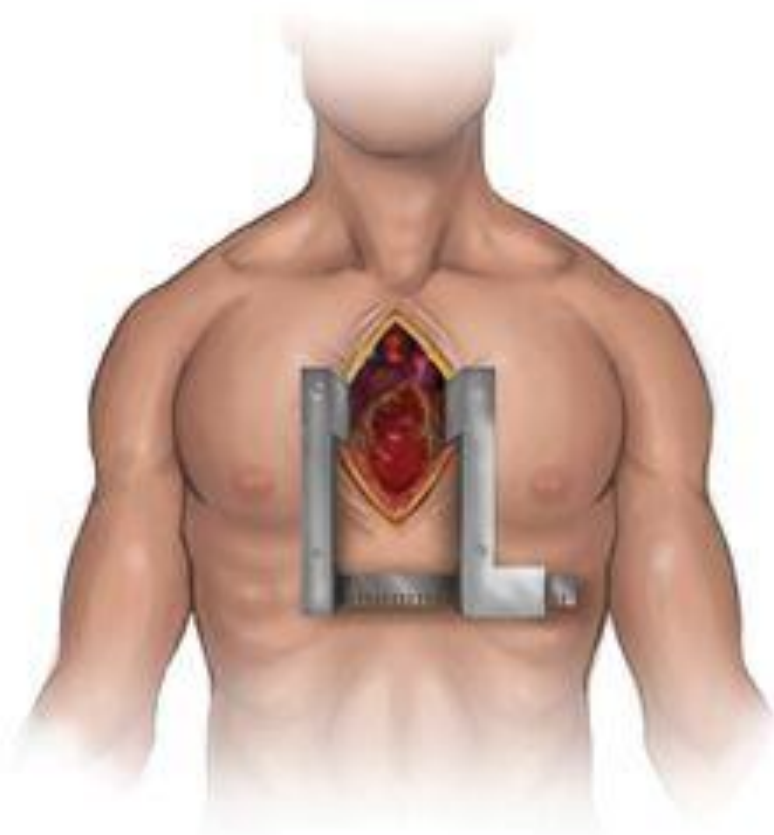
**Welcome to the future:  
volledig percutane behandeling  
van mitraliskleplijden**

ZIEKENHUIS *aan*  
*de* STROOM

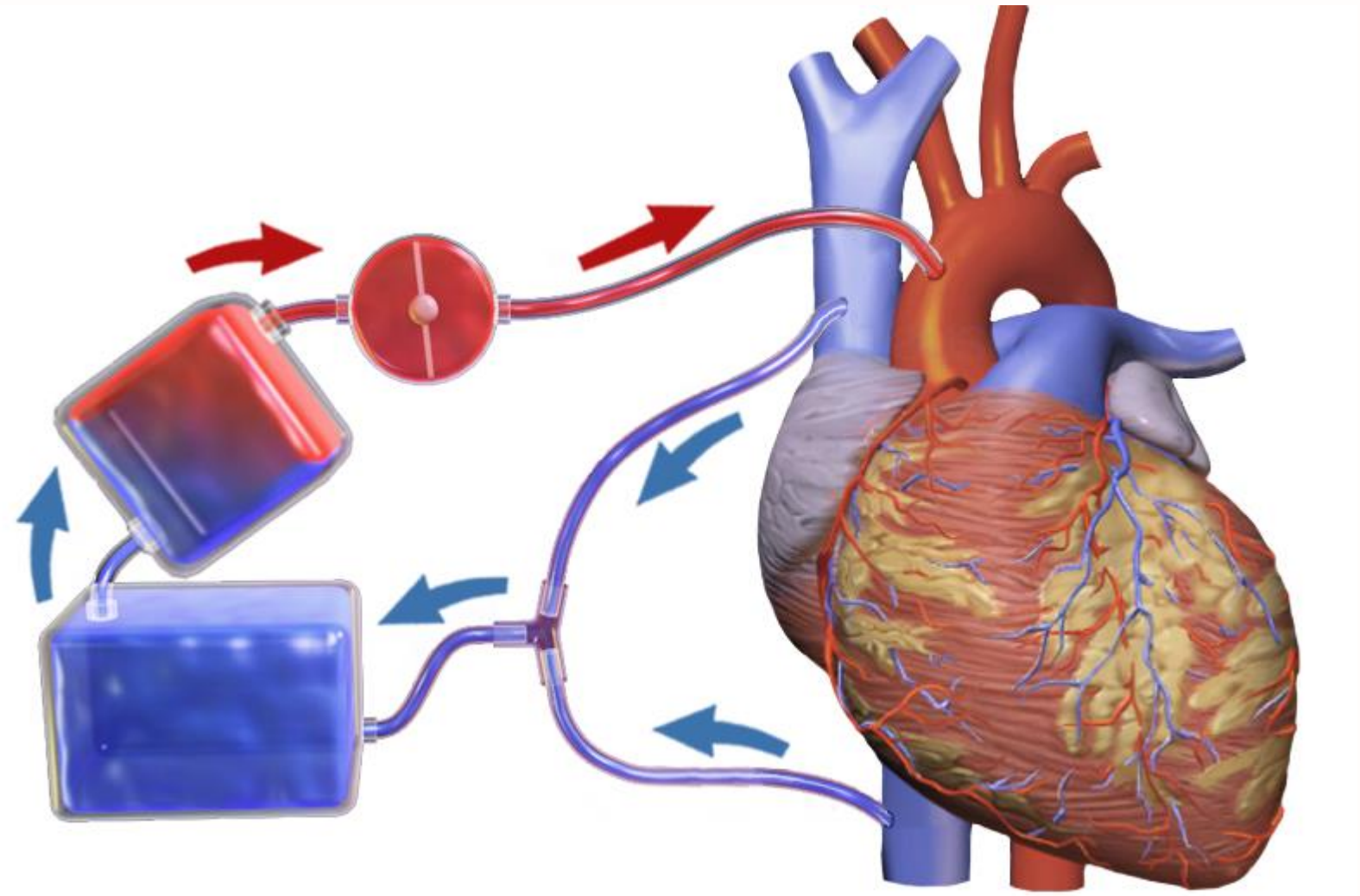
# Mitral valve regurgitation



# Gold standard

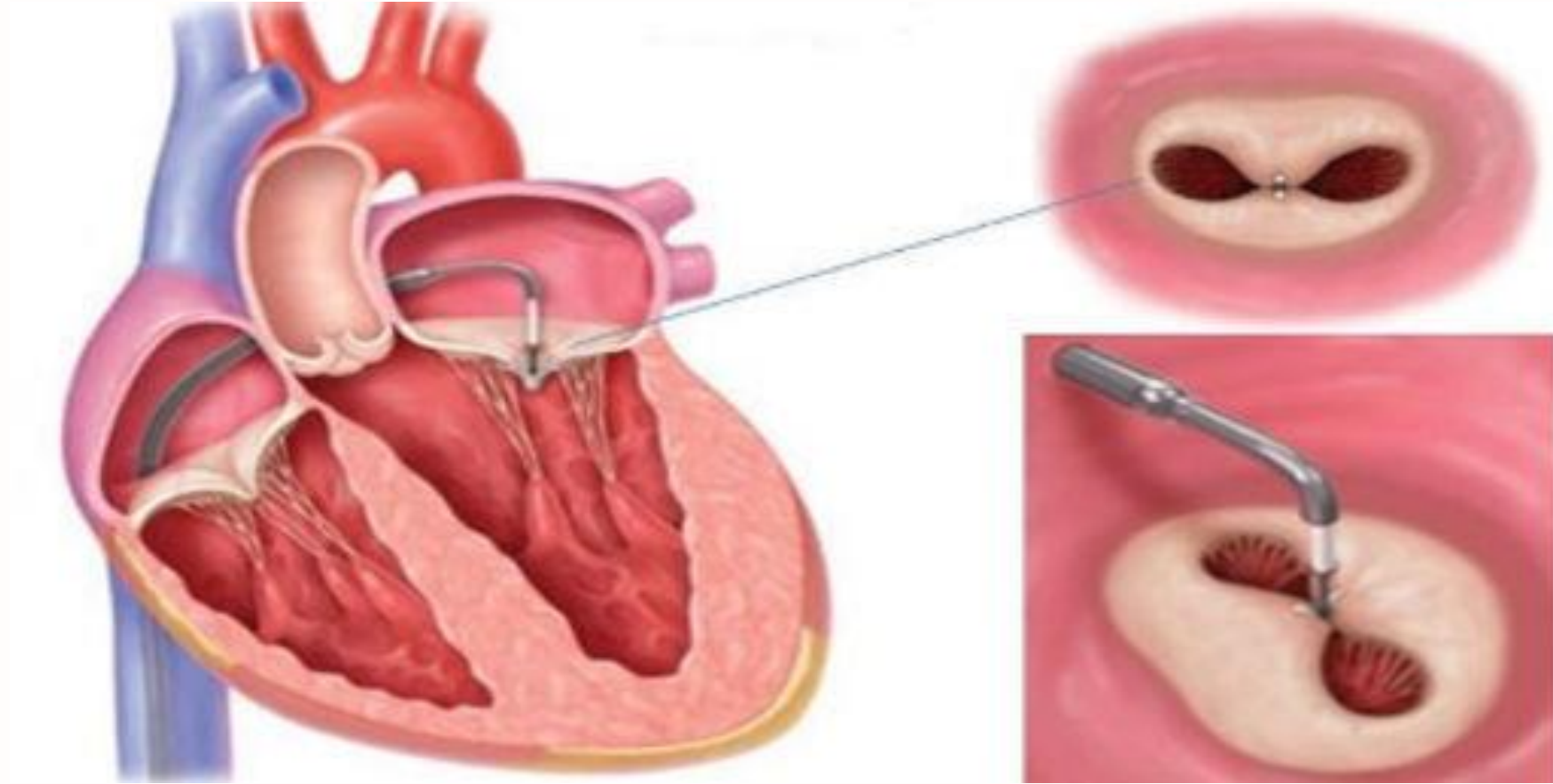


# Gold standard

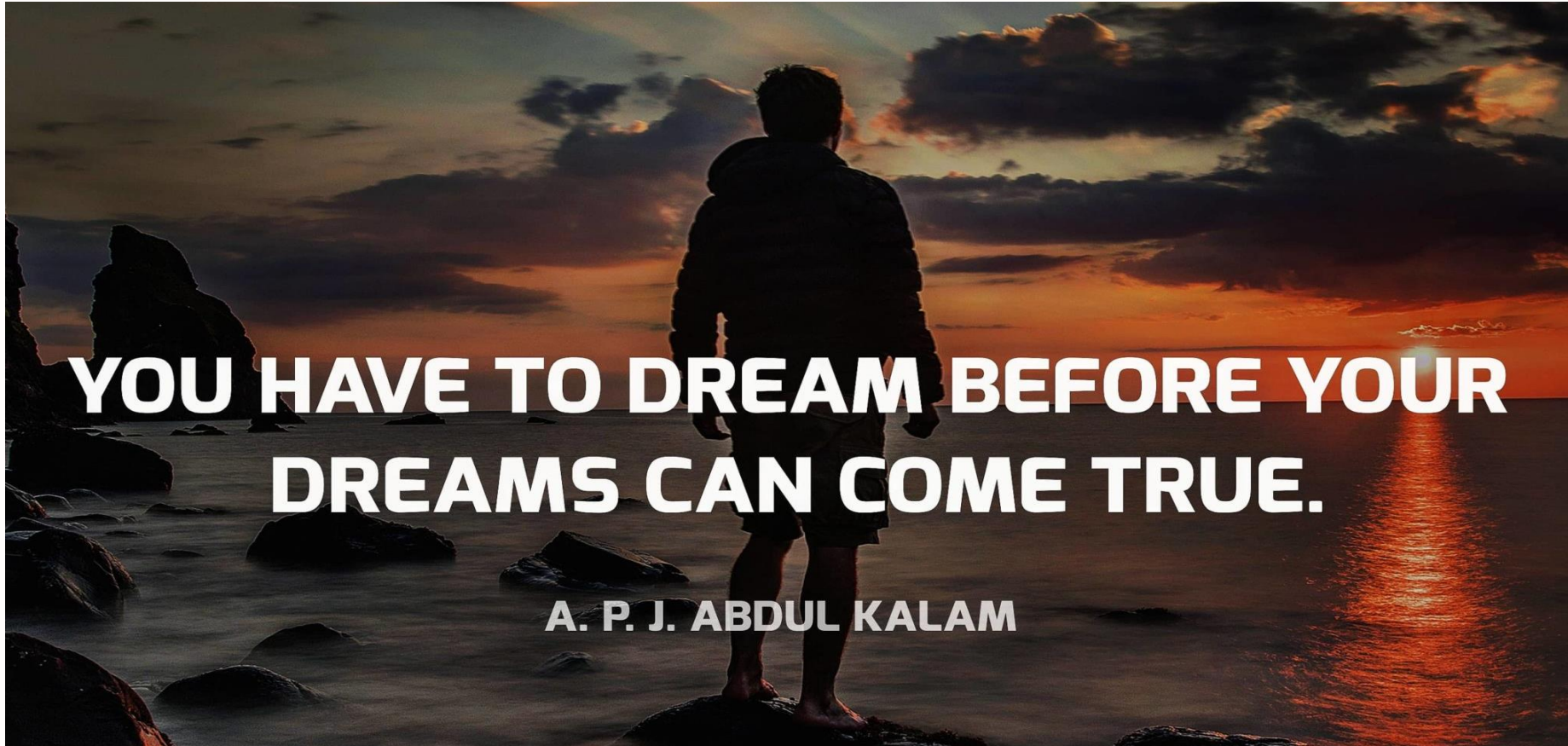




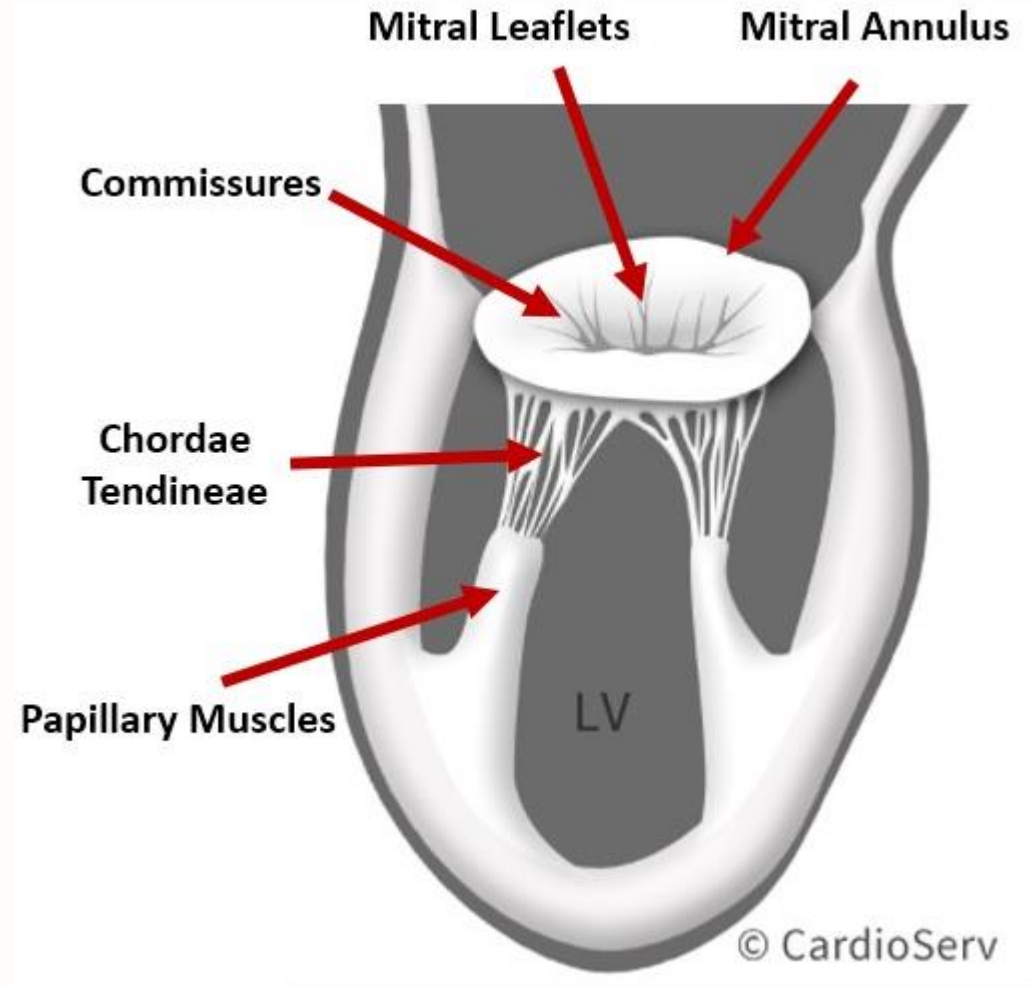
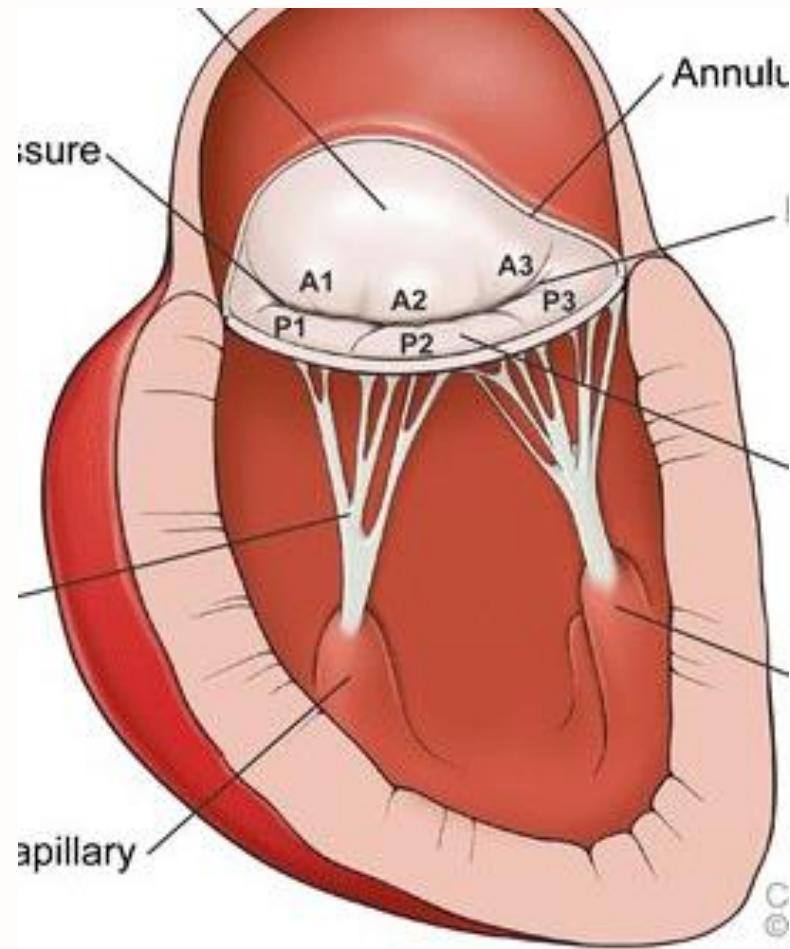
# Mitraclip



# Real dream... Percutaneous Mitral Valve Replacement!

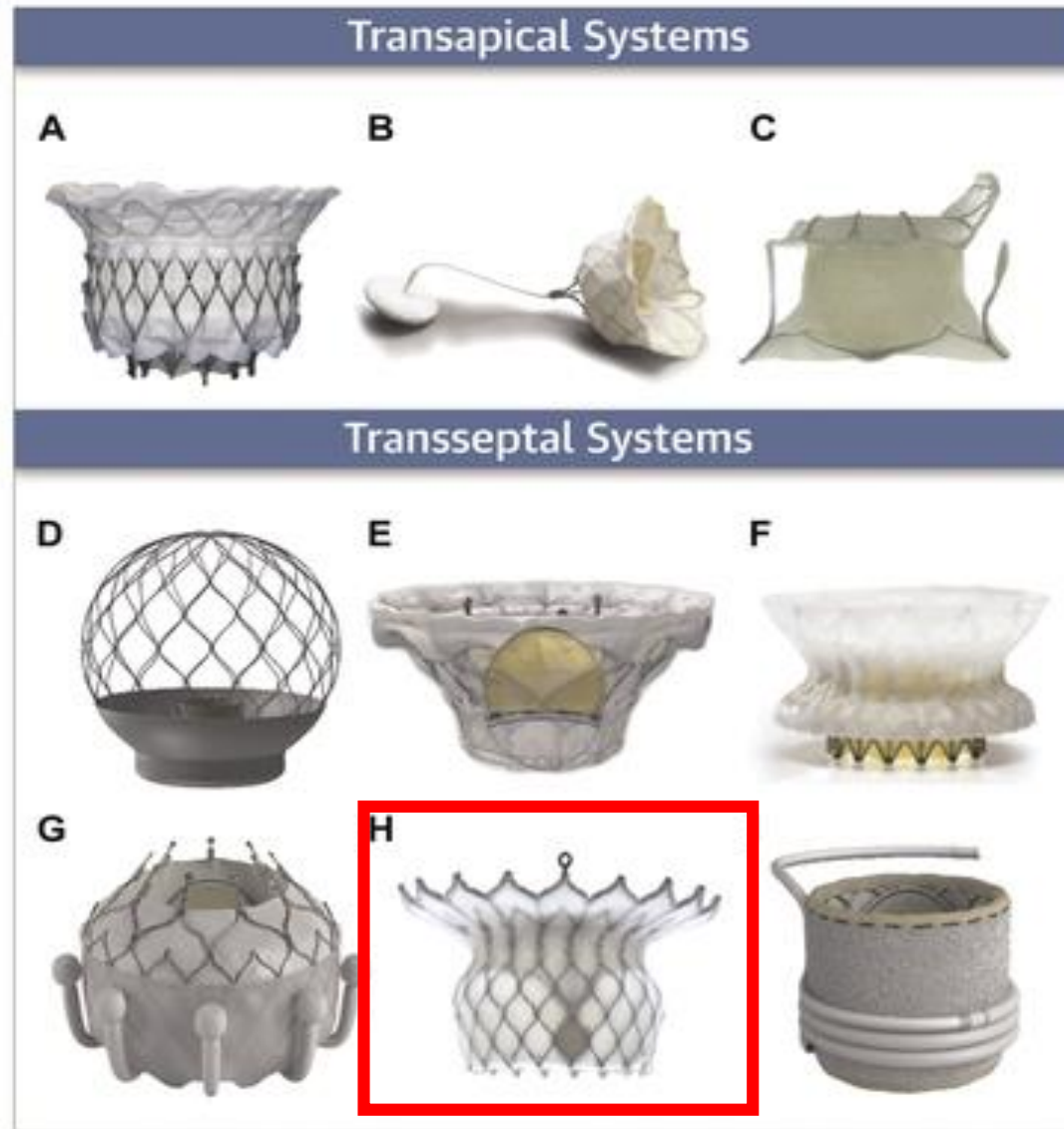


# Mitral $\neq$ Aorta





**CENTRAL ILLUSTRATION:** Transcatheter Mitral Valve Replacement Systems With Available Clinical Data



Hensey, M. et al. J Am Coll Cardiol Interv. 2021;14(5):489-500.



# HighLife transseptal PMVR

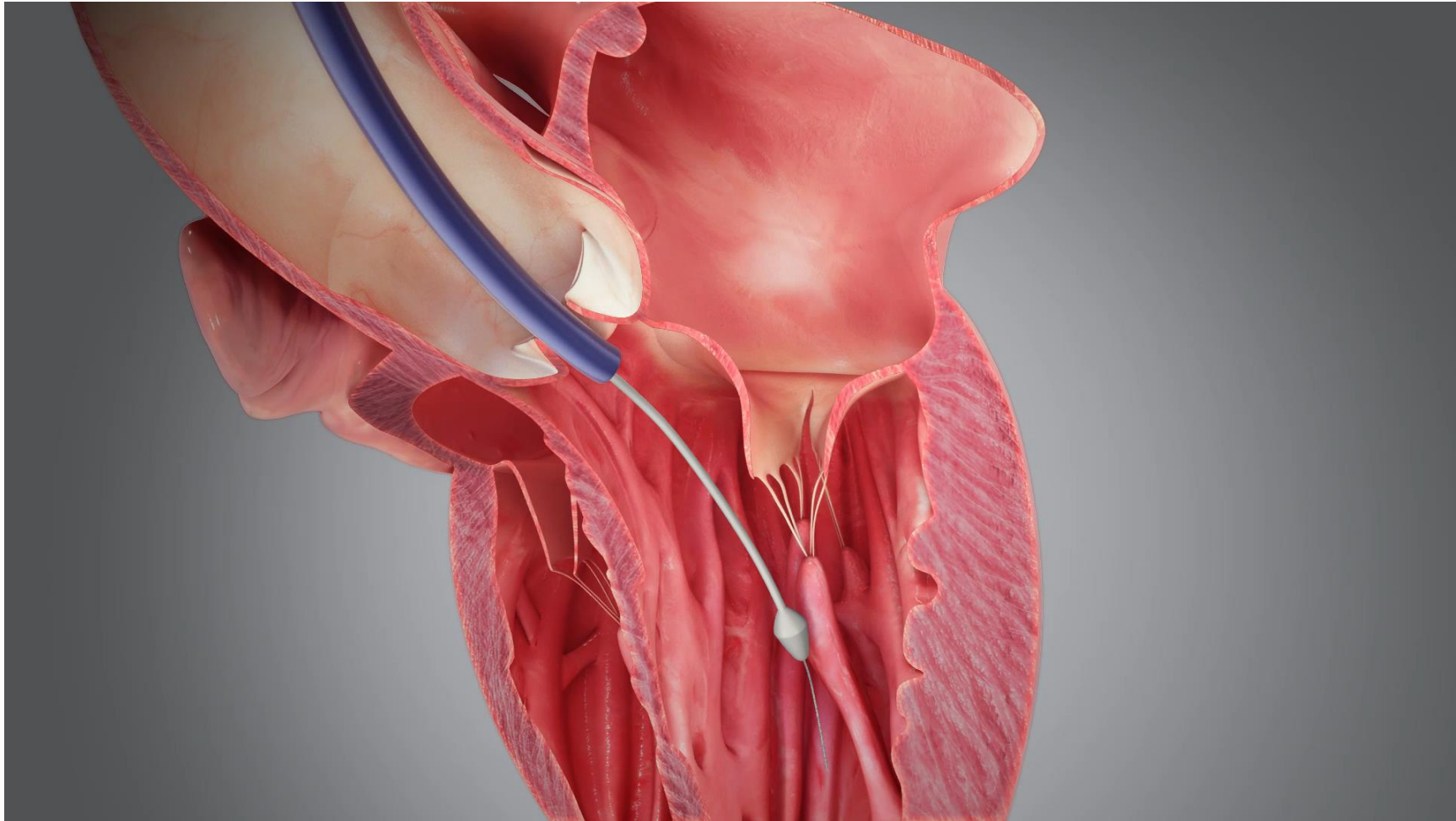
Mitral bioprosthesis



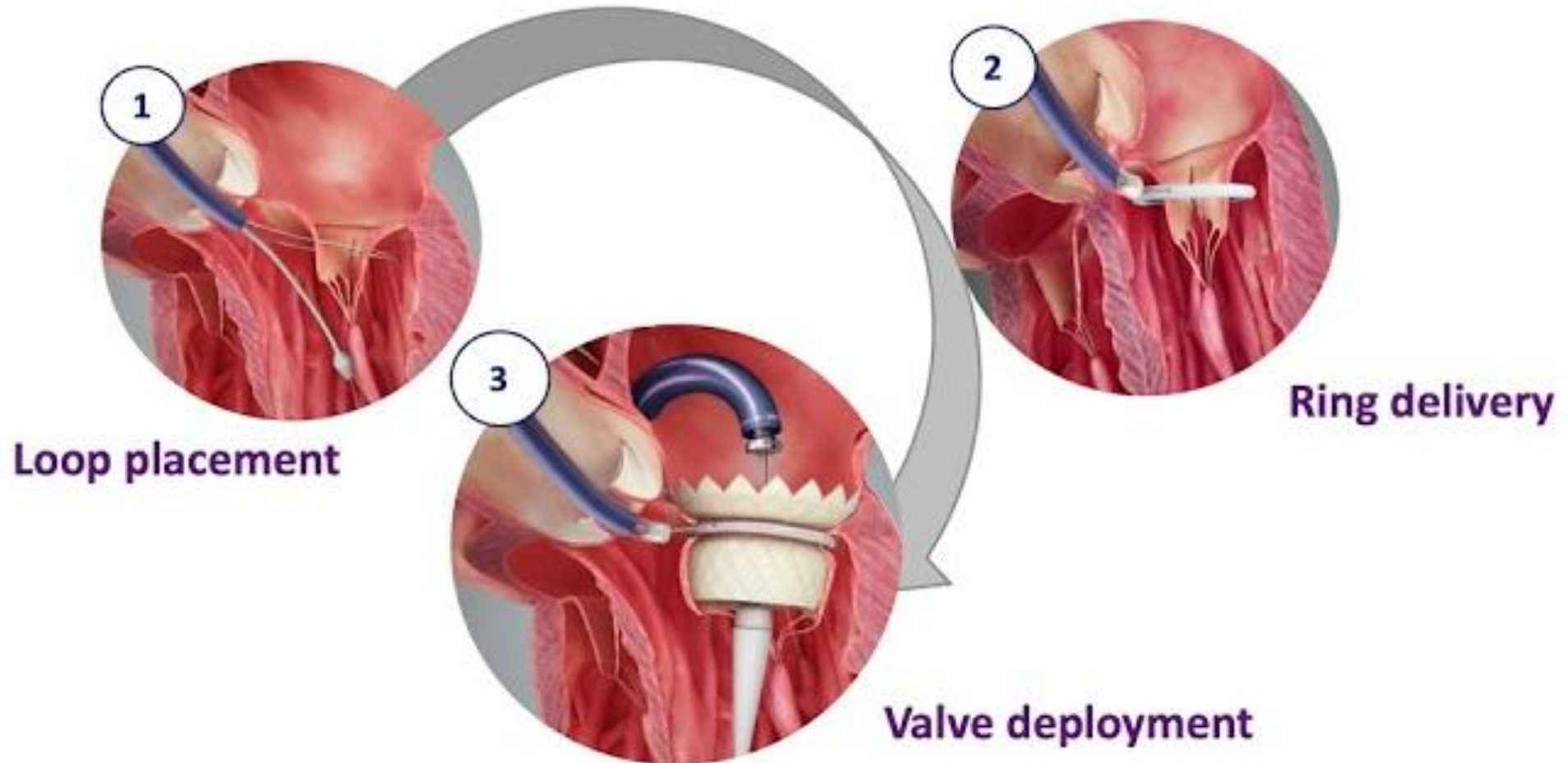
Subannular Implant (SAI)



# HighLife transseptal PMVR



# HighLife transseptal PMVR



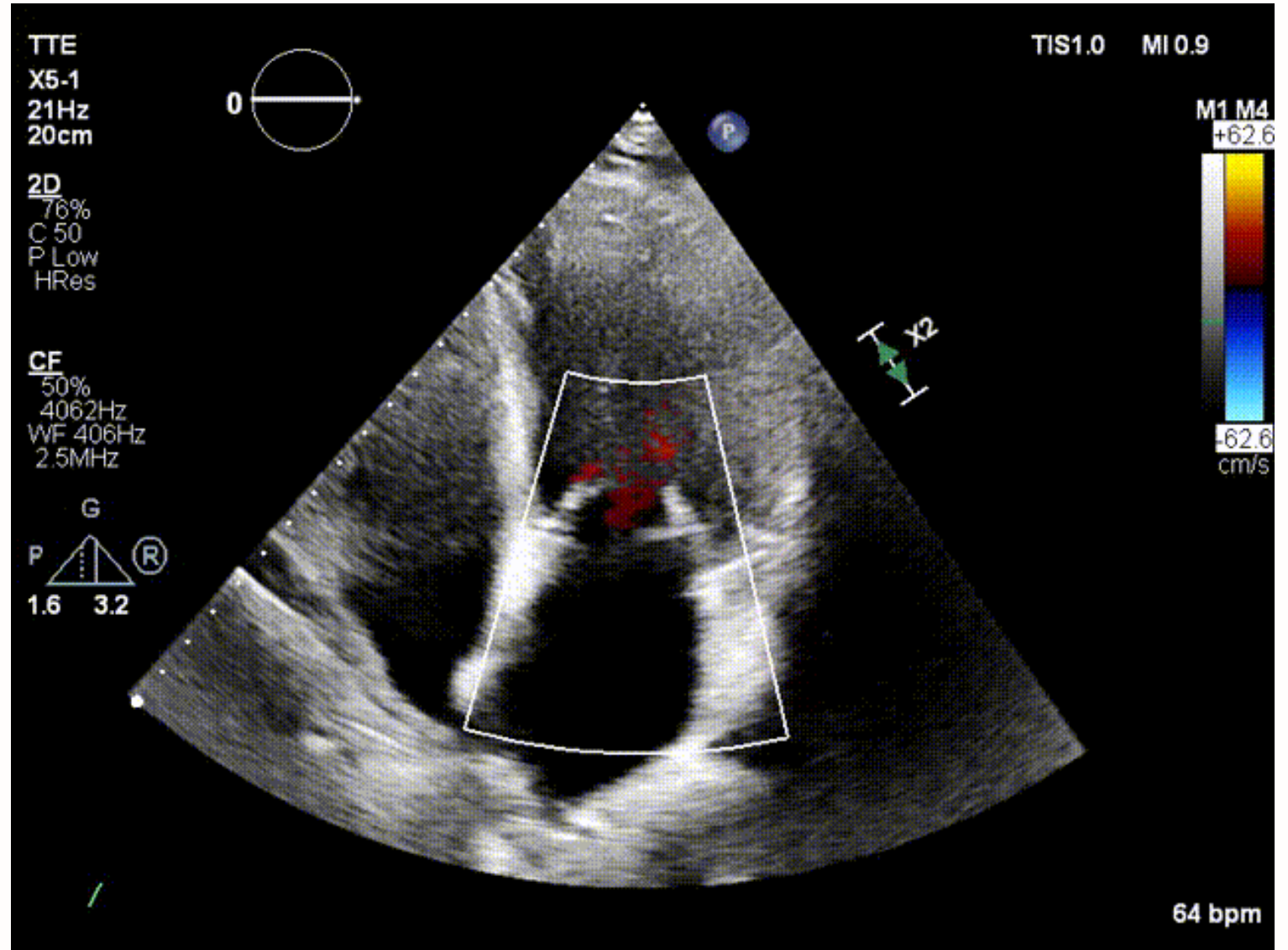
# Man, 78 y.o.

Post-CABG

Moderate LV  
function

GFR ~40

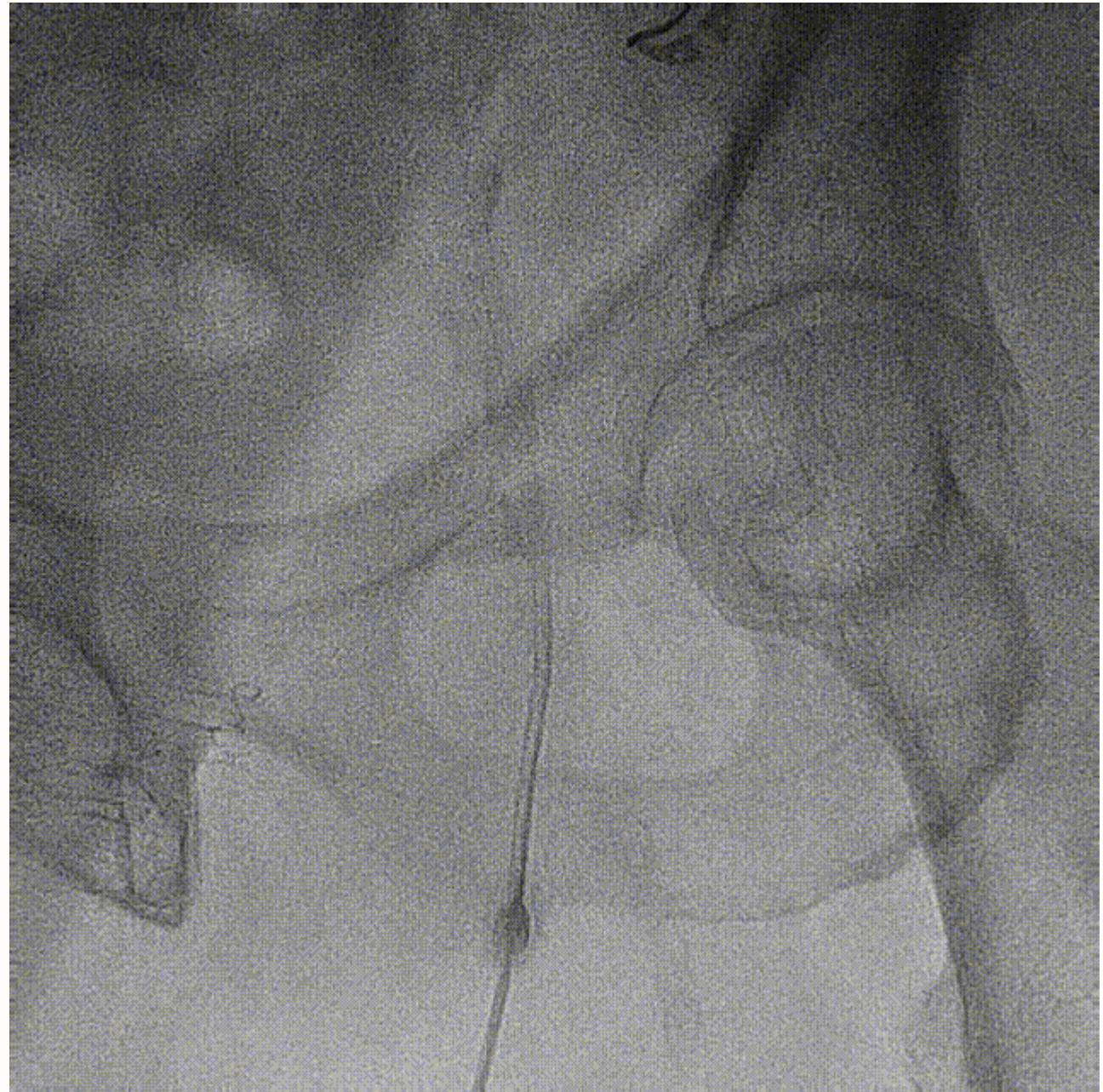
Progressive heart  
failure due to severe  
MR





# Femoral arterial access

Large bore 18F (~6 mm)



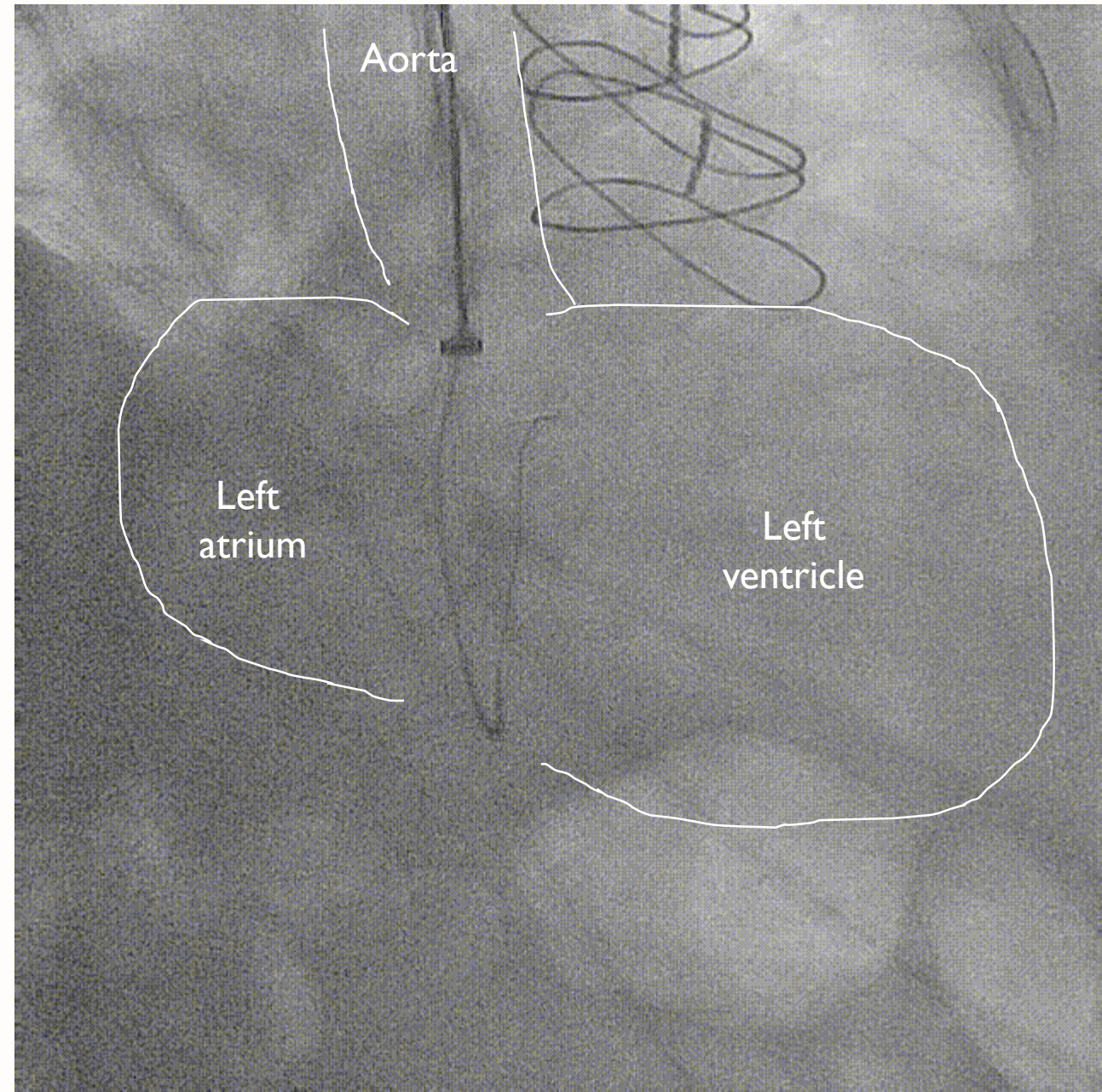


# Loop in the left ventricle

Under the mitral valve

Keeping all the chordae of the mitral valve inside the loop

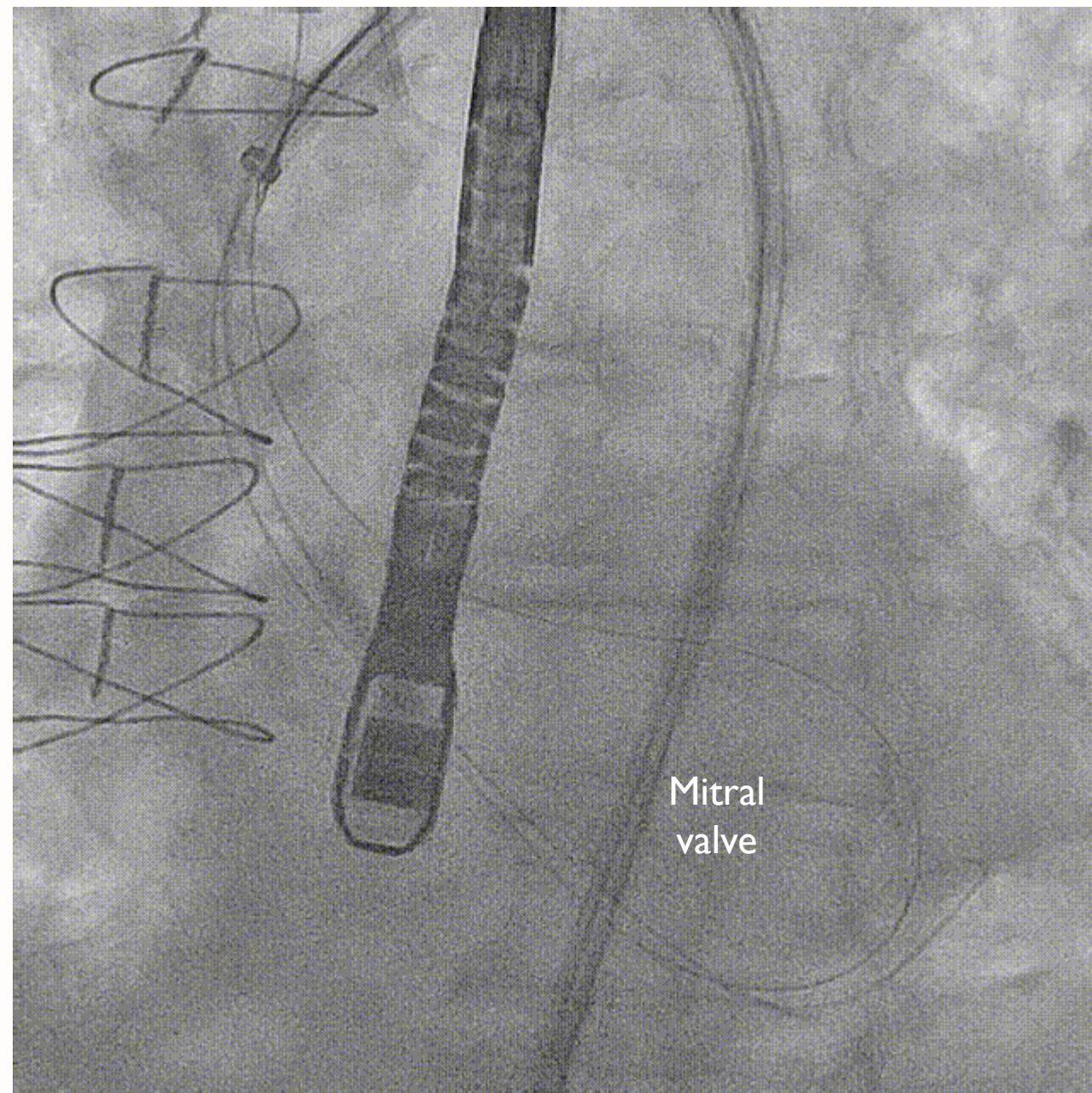
Procedure guided by  
angiographic and  
transesophageal echographic  
imaging





# Snaring of the loop

Chinching

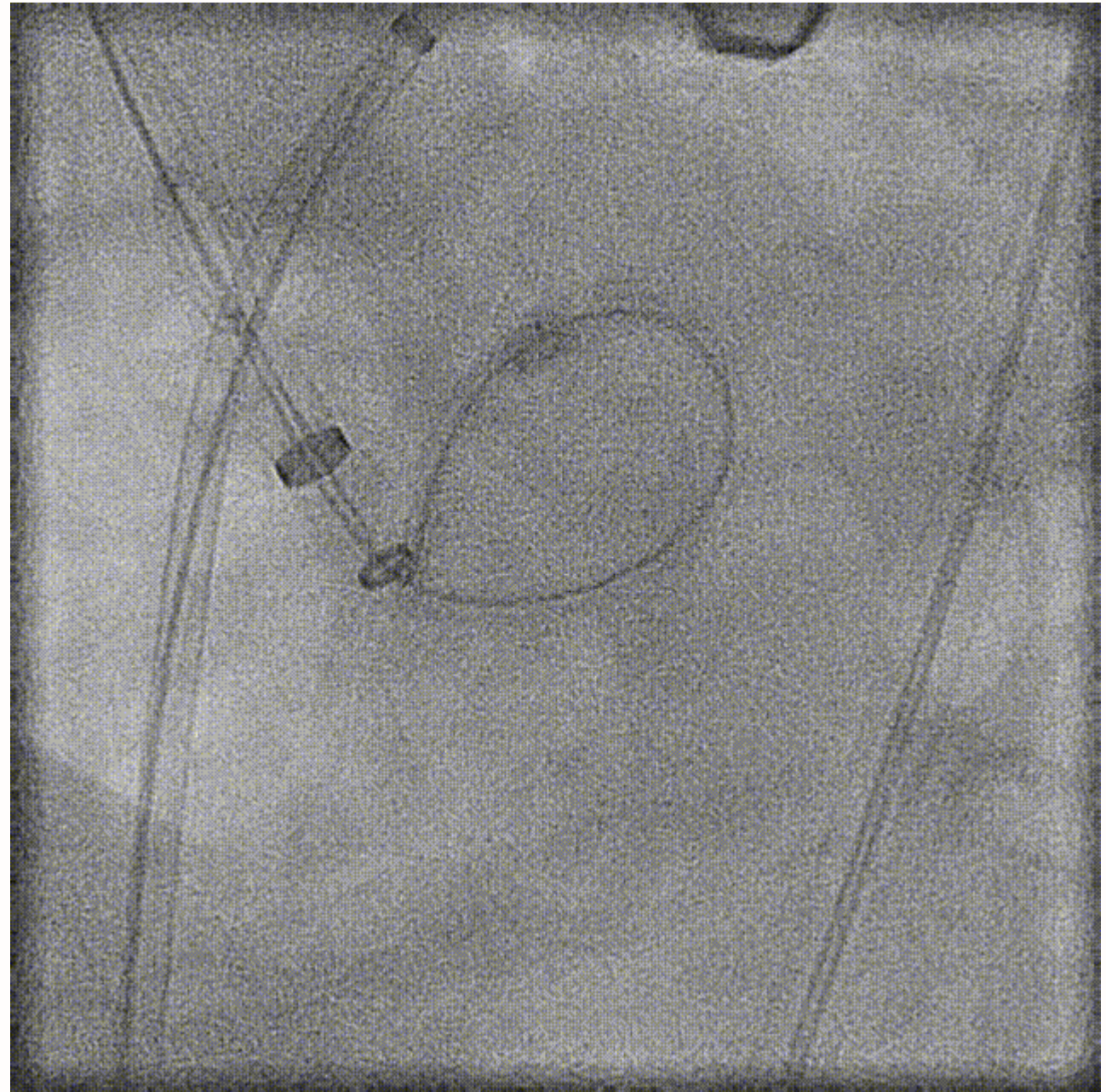




# Ring delivery

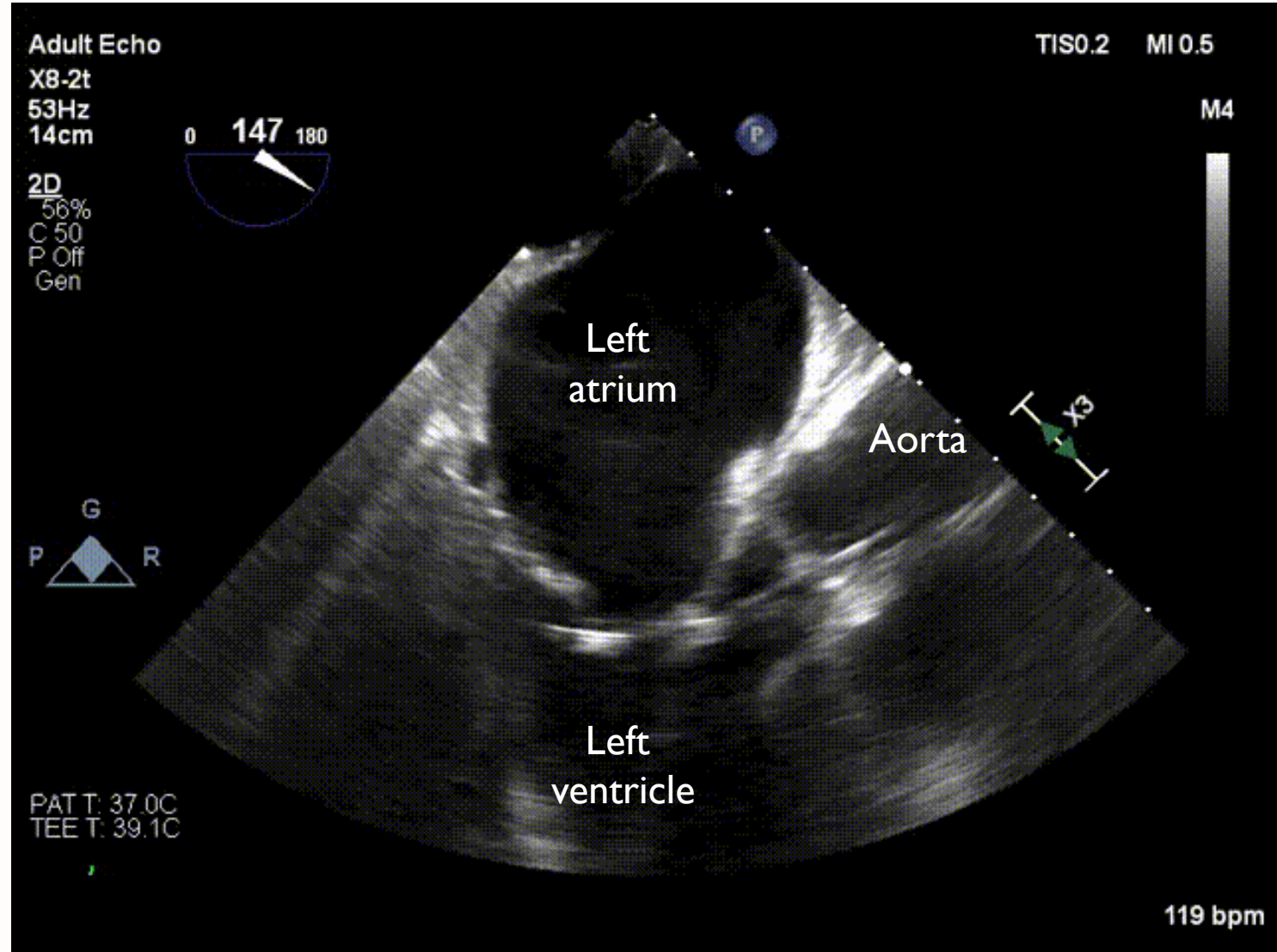
Ring in the left ventricle

Brought in over the looped wire





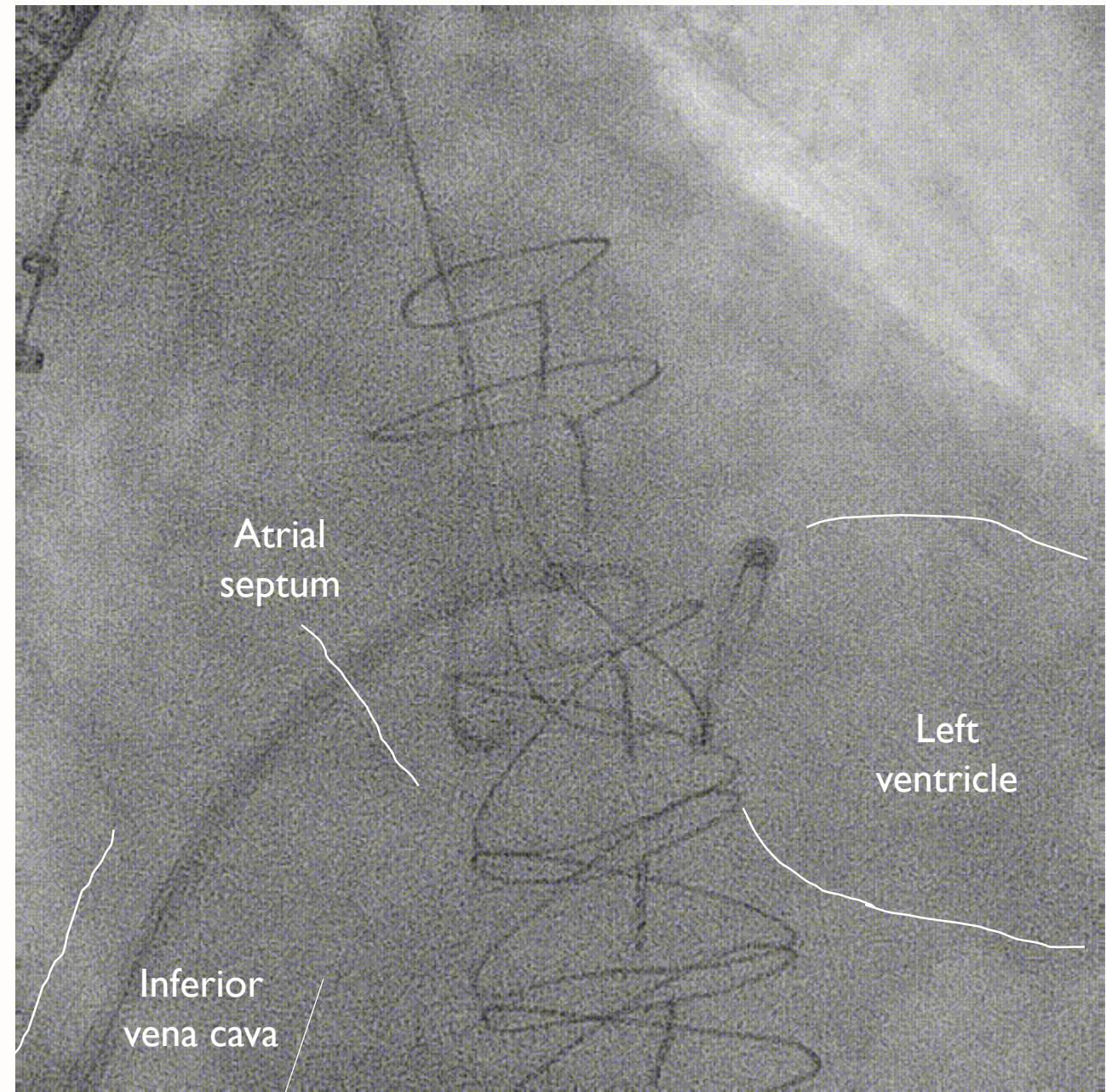
# Ring under the mitral valve



# Femoral venous access Transeptal puncture

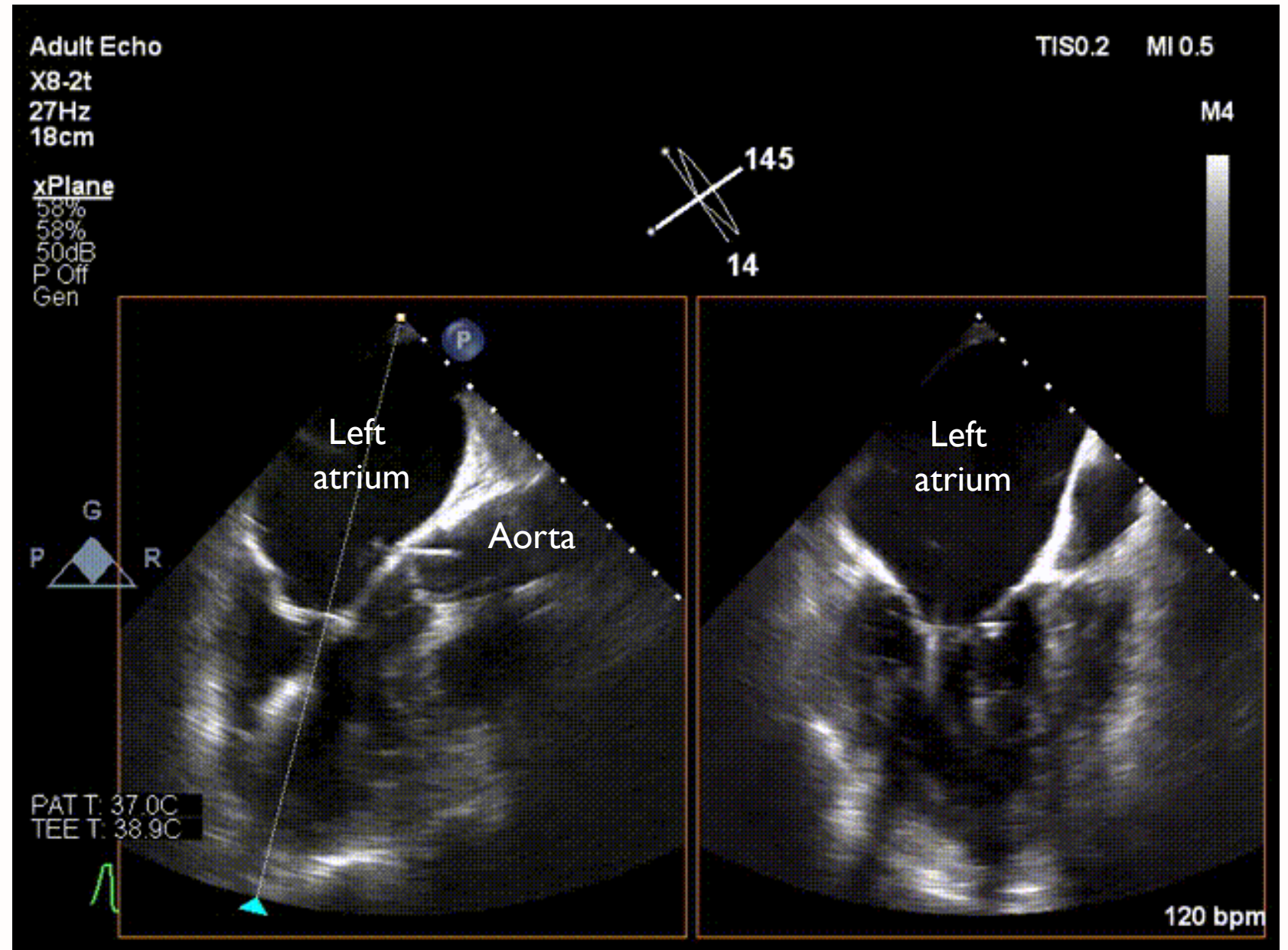
30F venous access

Passage of a catheter from the left atrium to the left ventricle through the ring





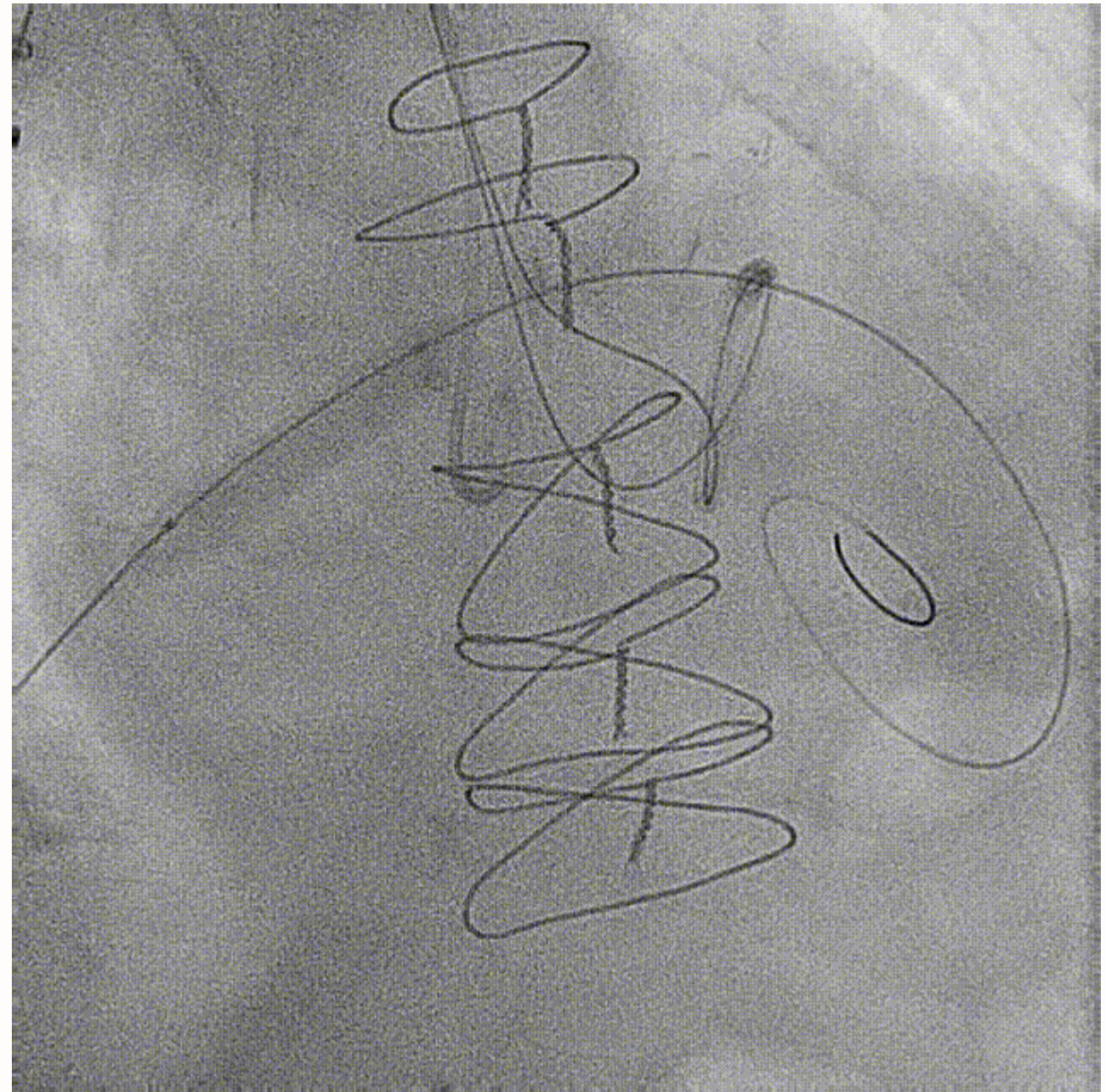
Passage of a catheter from the left atrium to the left ventricle through the ring





# Atrial septum dilatation

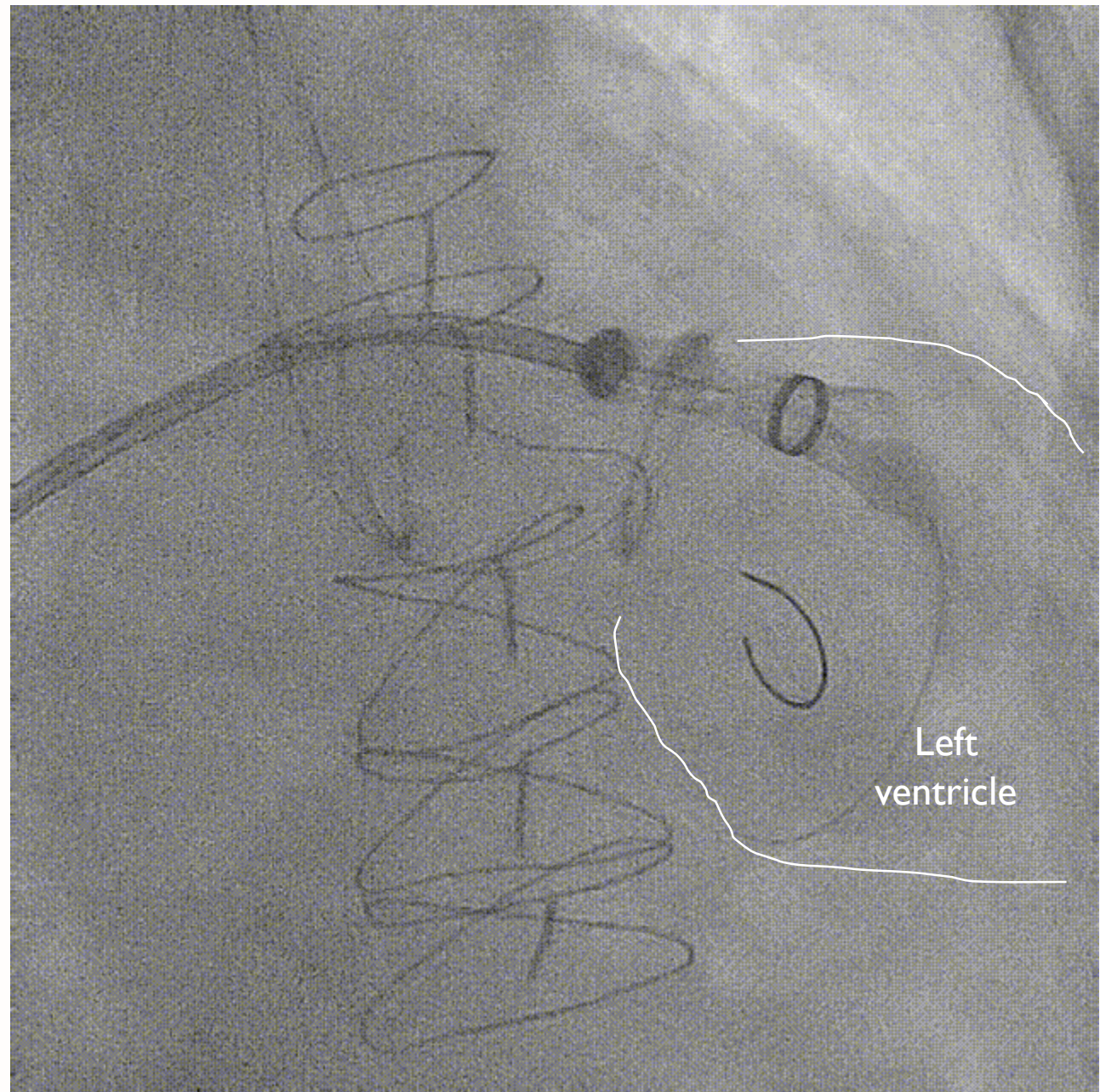
8 mm balloon





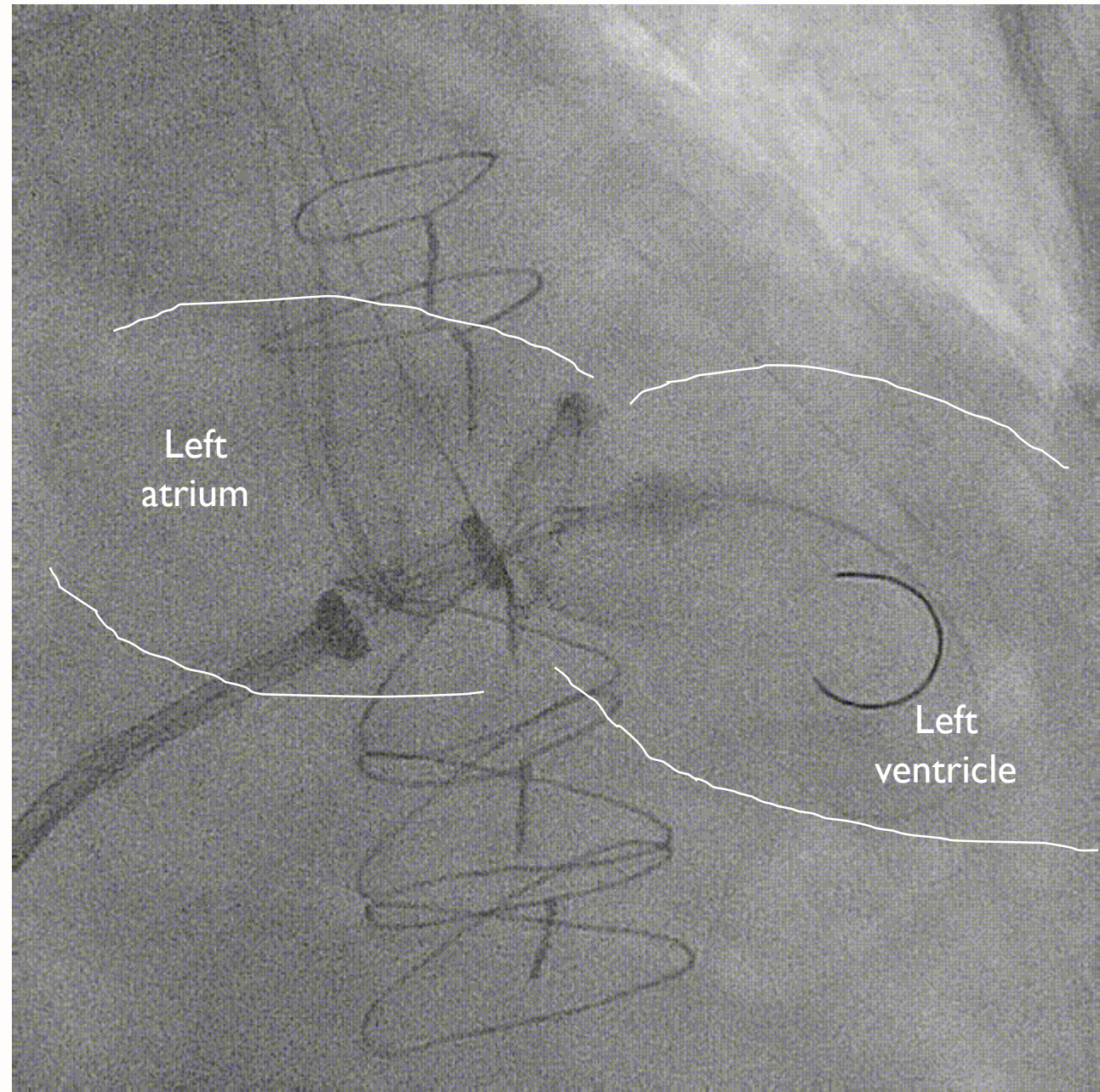
# Valve positioning

Valve opening in the left ventricle  
Under the ring



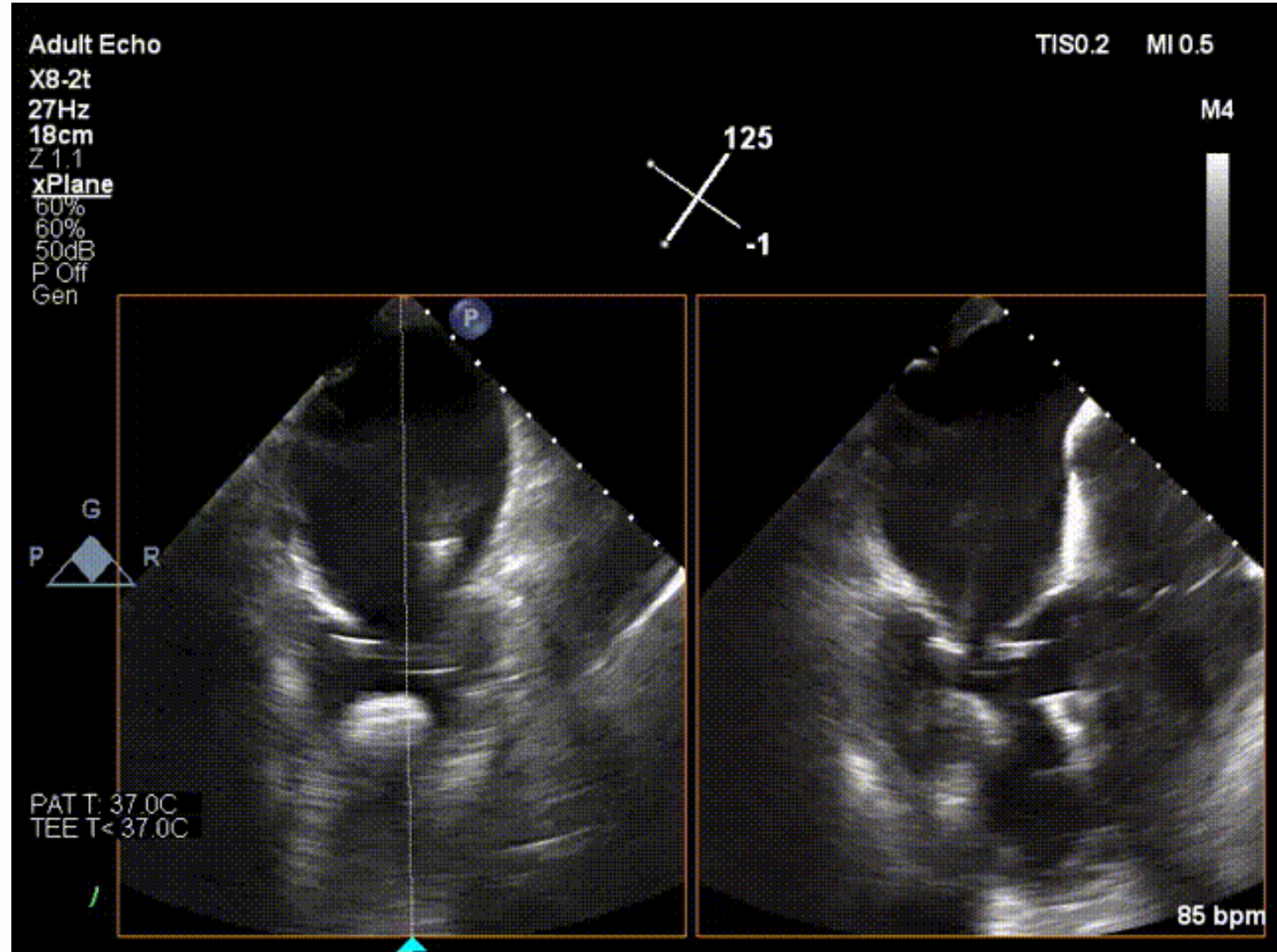


# Valve release



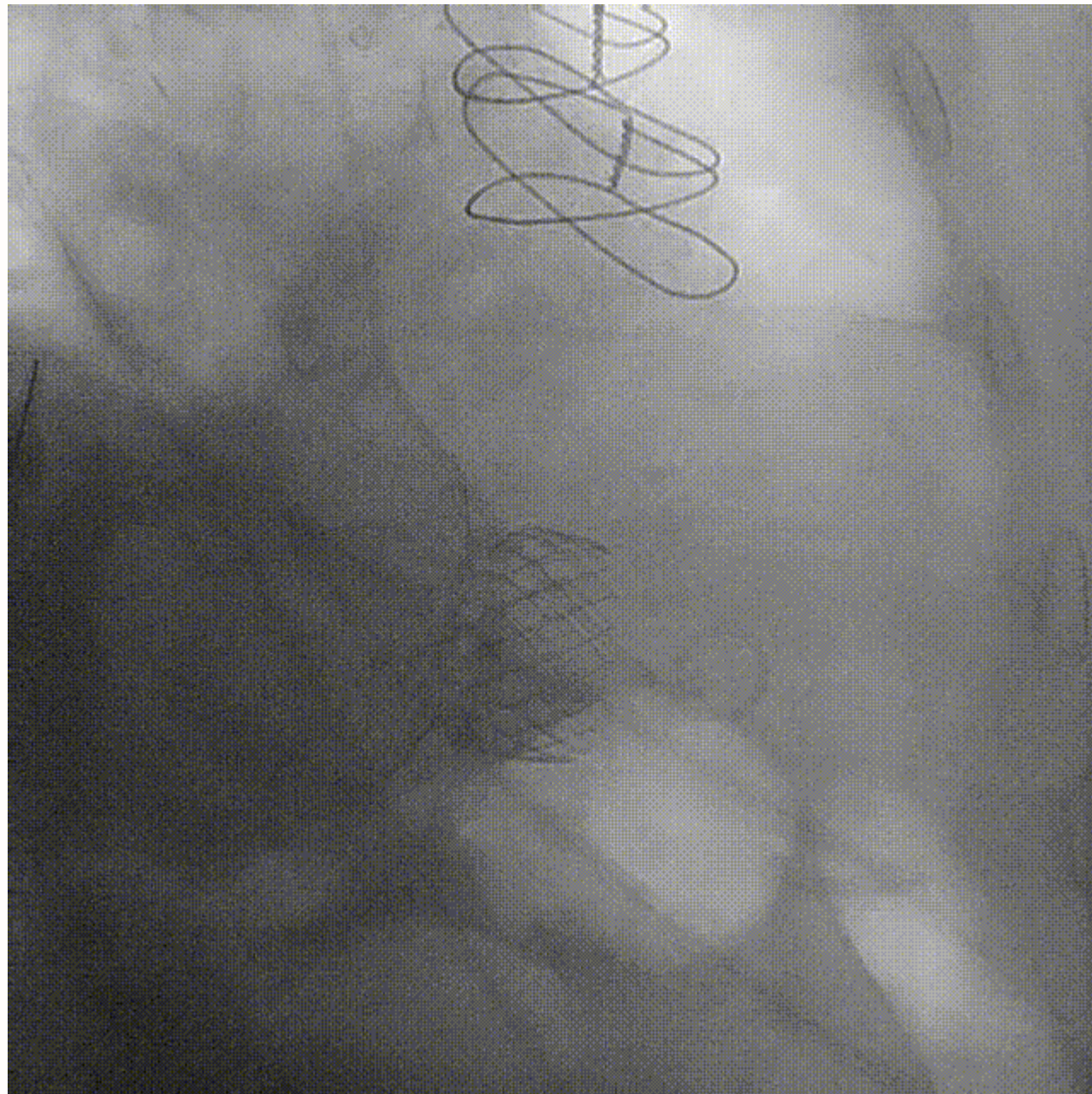


# Valve release



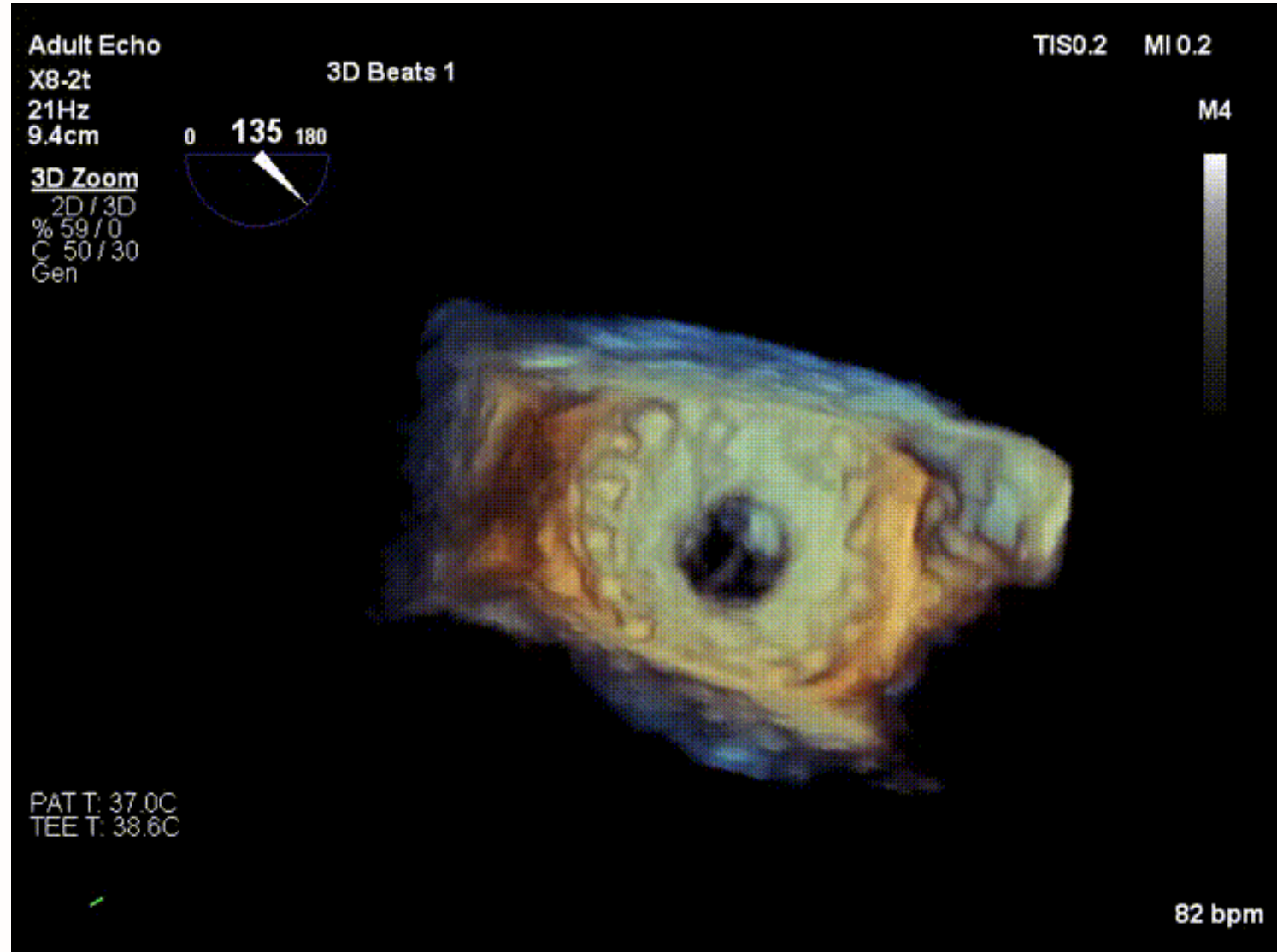


# Final result



HART  
CENTRUM

# Final result







PHILIPS

Live X-ray

120 7.0

RAO 25°

CRAN 40°

STD 120

FD 27

-18 -33 3

Left ventricle

15

Low

Time Left 20

K 1.137

K Rate 43.0

Total K 5,293

DAP 501

Total Fluoro 1:16:24

Adult Echo

X8-2t

27Hz

18cm

Z 1.1

xPlane

80%

80%

50dB

P Off

Gen

TISO.2 MI 0.5

125

PAT T: 37.0C

TEE T: 39.1C

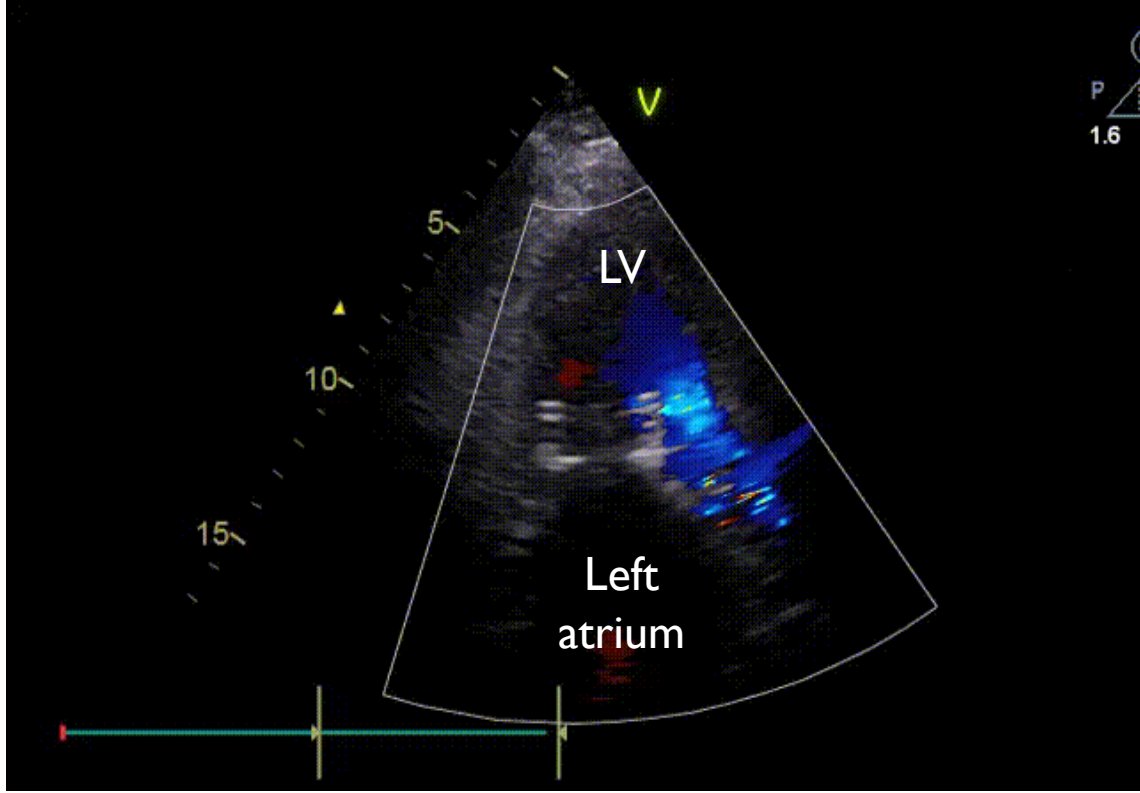
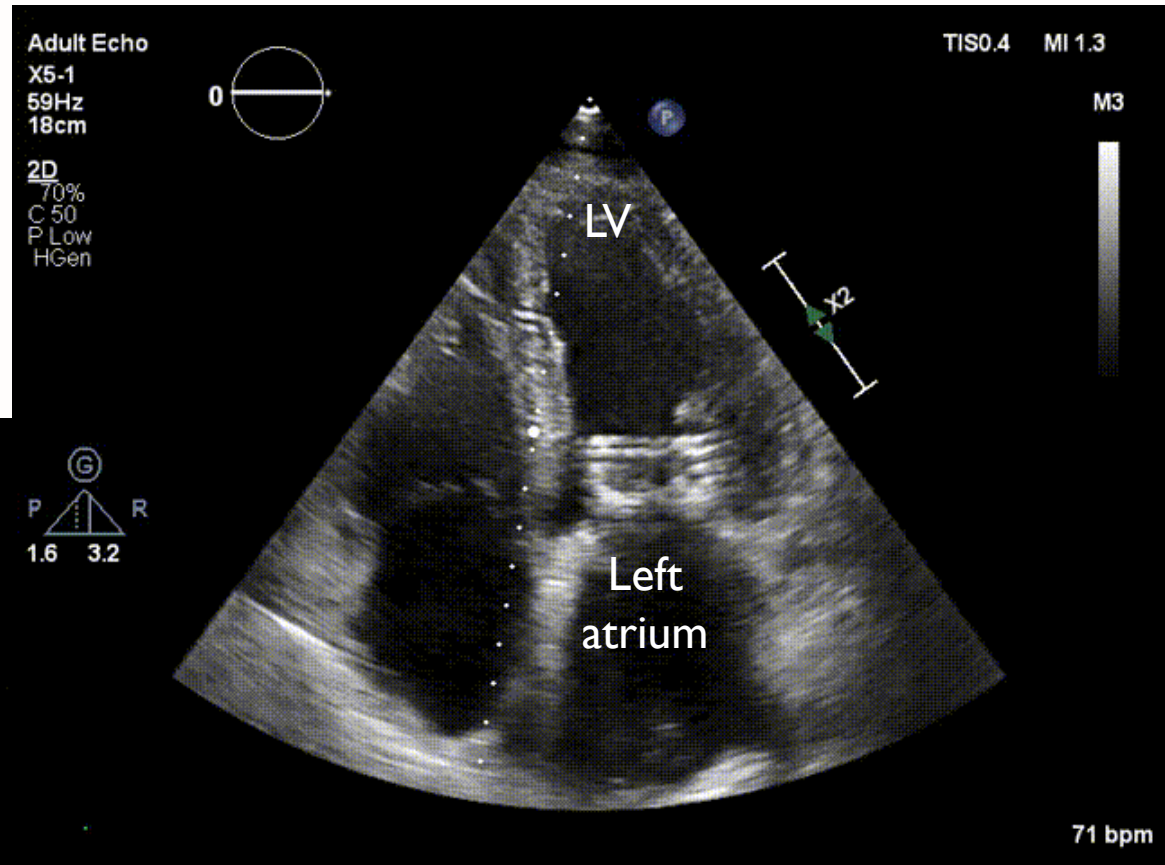
84bpm

Hemoc Live (view only)

Release 1

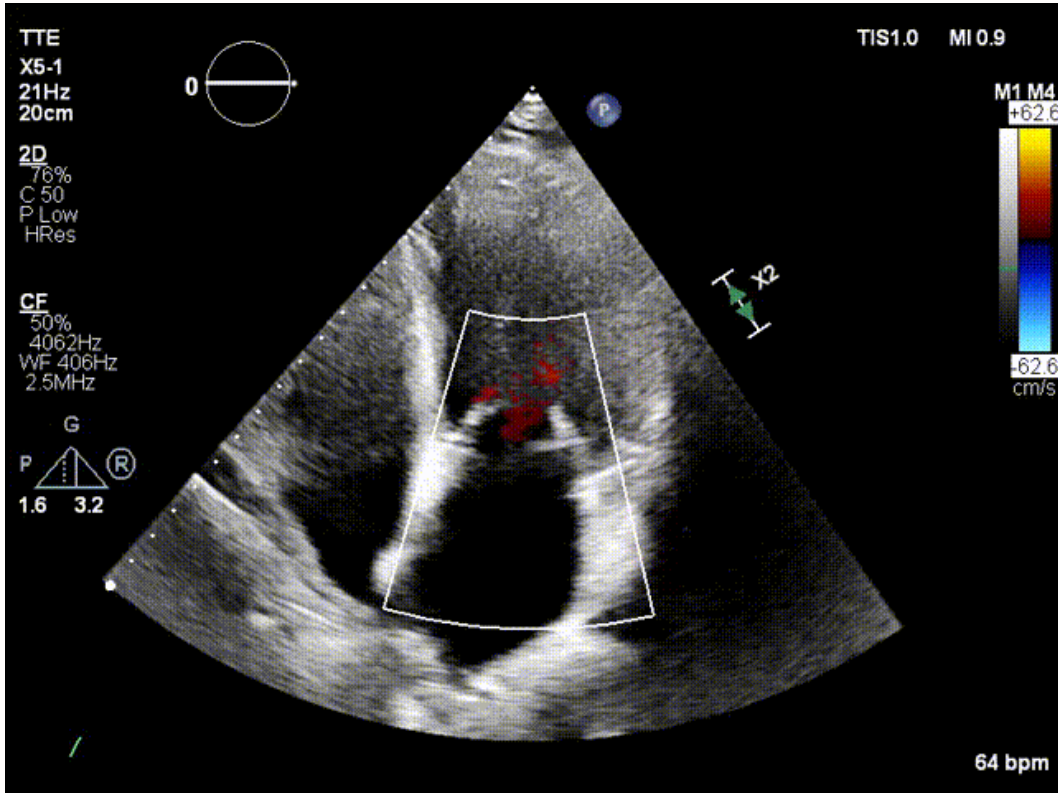
Hemoc Data

# Day after... Still good!

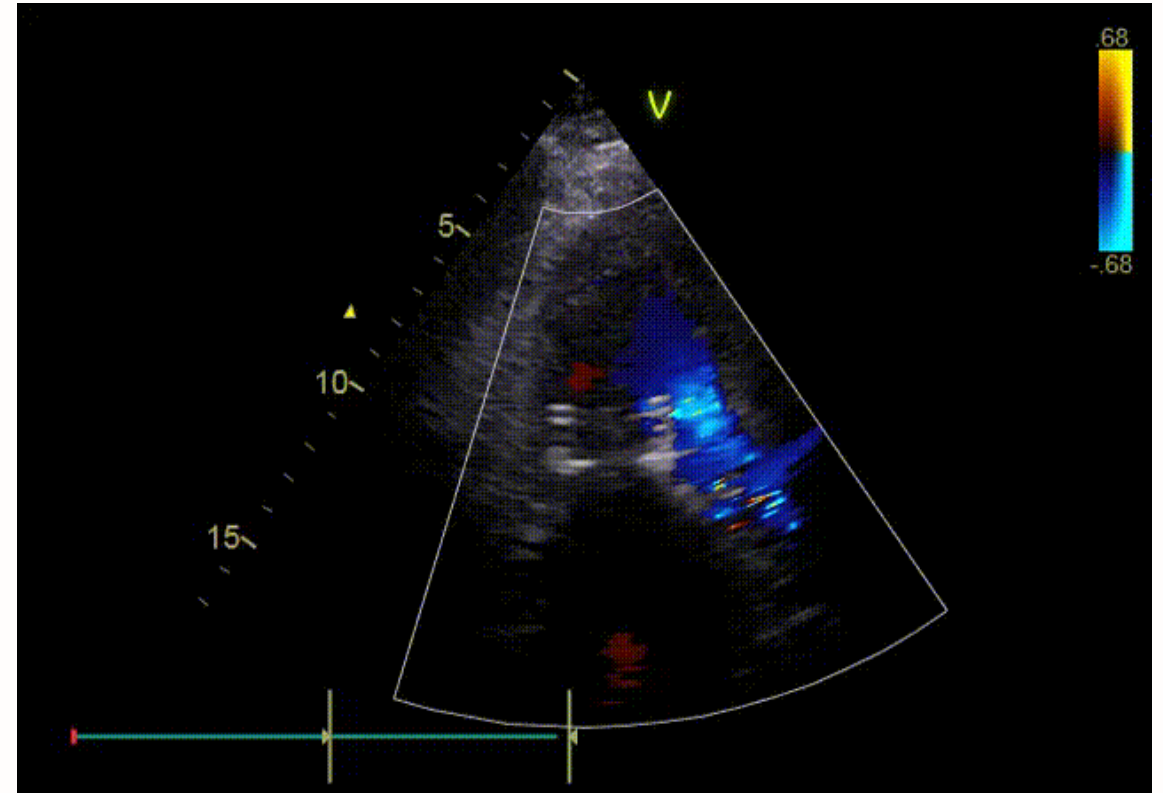




# Pre

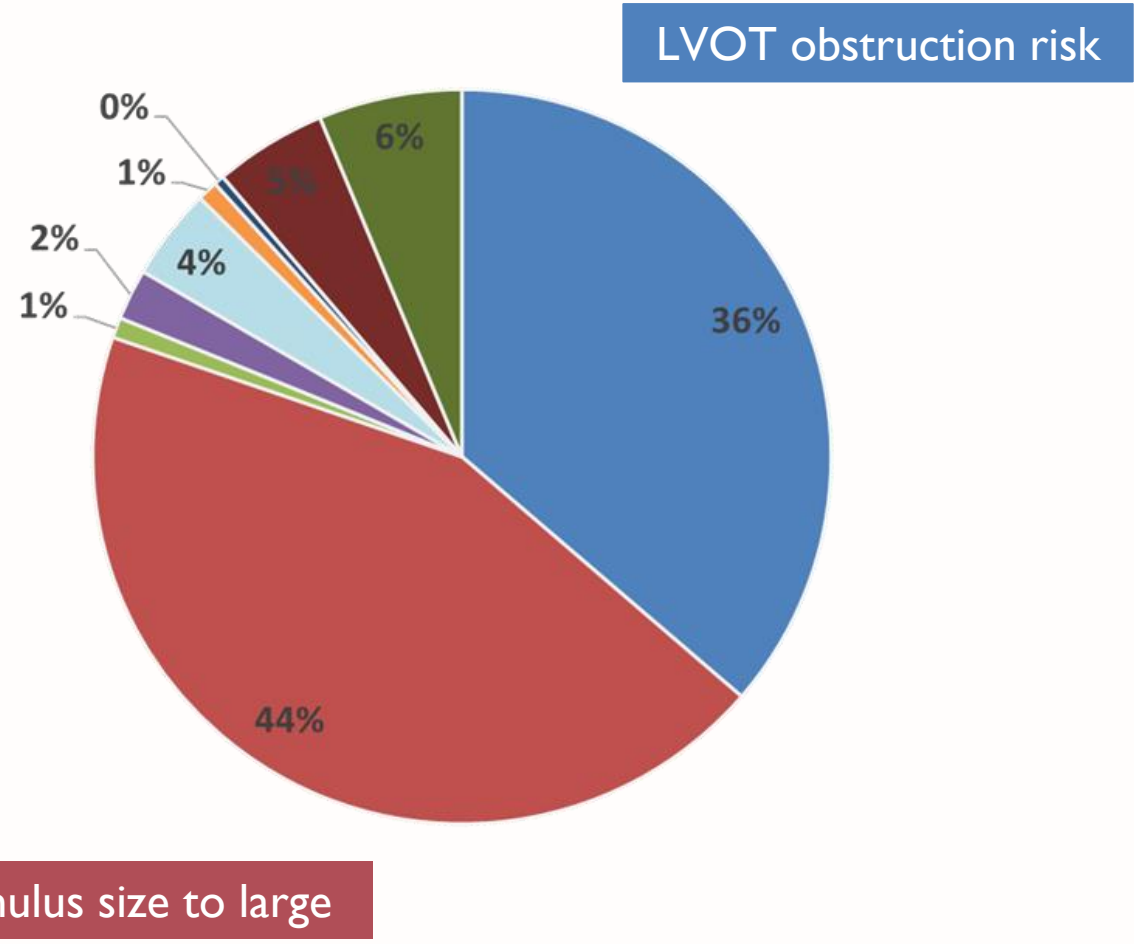


# Post

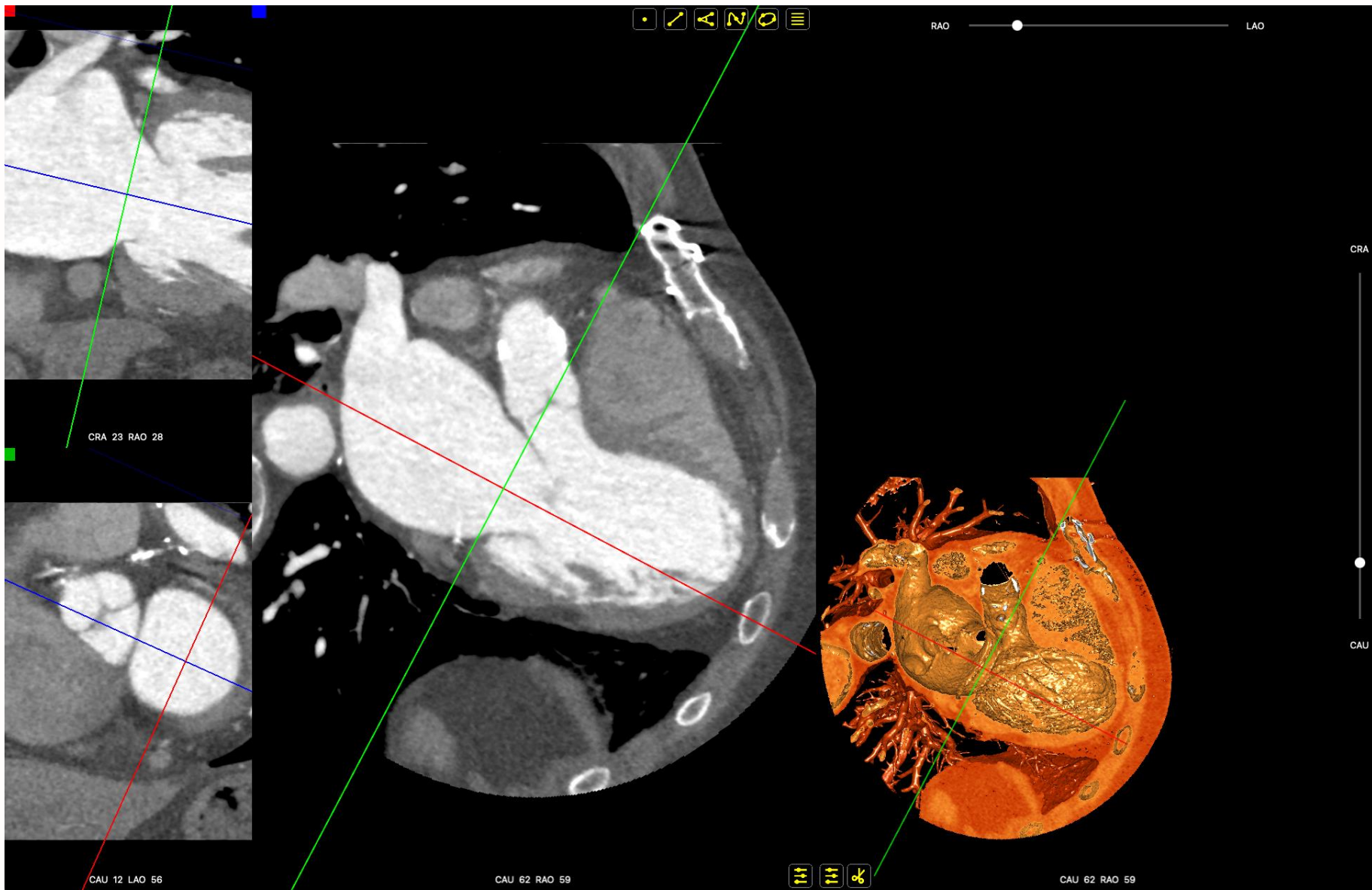




■ Patients Enrolled  
■ Patients Eligible  
■ Patients Treated  
■ Patients in screening



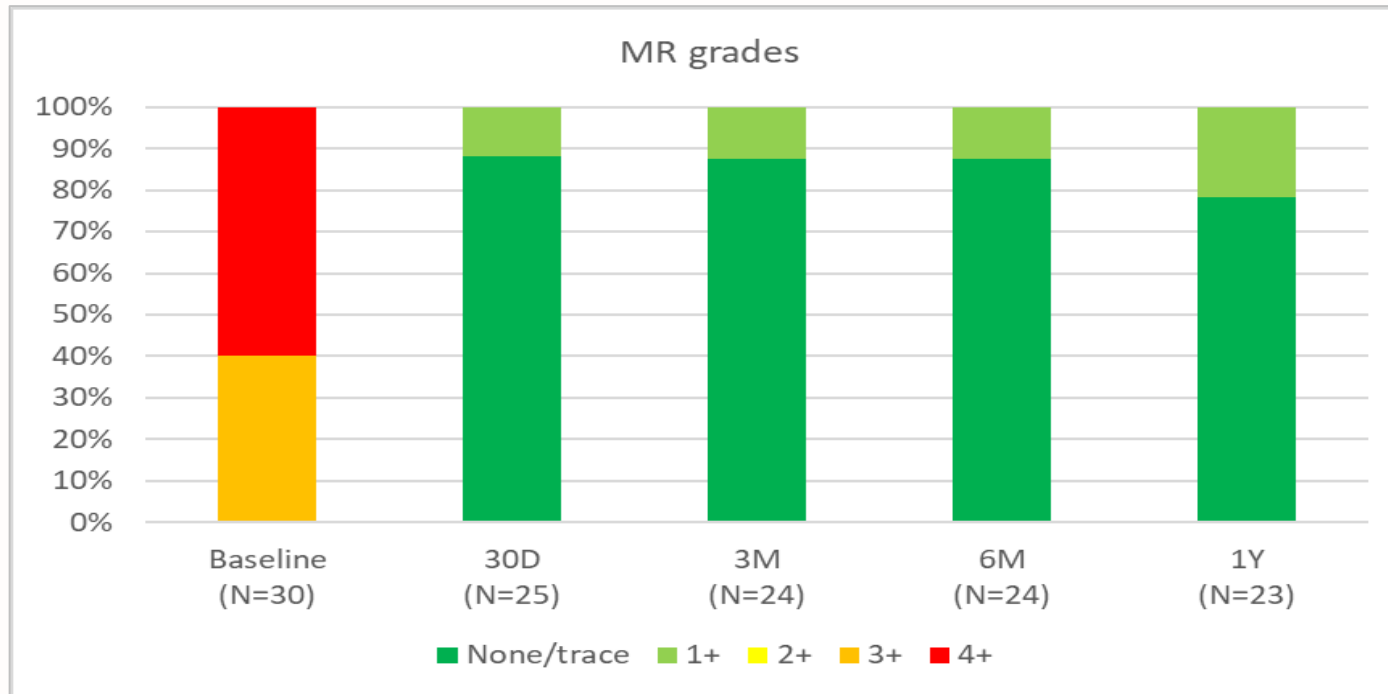




As Treated Population (N=30)	n/N	
<b>Technical success</b>	27/30	90%
- Successful access, delivery, retrieval of delivery systems	28/30*	93%
- Freedom from emergent surgery or re-intervention	29/30**	97%
- Leaving the Cathlab/OR alive	30/30	100%

\* In two patients, guidewire looping could not be completed due to anatomical or patient condition, and thus mitral ring and valve could not be implanted

\*\* The HighLife study valve was properly implanted but due to anatomical structures moved immediately into the Left Ventricle and patients was converted to surgery





**WELCOME**  
**TO THE FUTURE**



HART  
CENTRUM



Ziekenhuis aan de Stroom  
[ZAS] is het netwerk van  
ZNA en GZA Ziekenhuizen

