

# Mitral valve repair: where we are and what we would expect for LATAM in the near future

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## There is a unmet need for a less invasive alternative

- Medically treated patients with severe MR have a 50% 5 year mortality

Mehta Ann thorac Surg 2002

- Surgery are denied 50% of the patients with severe symptomatic MR.

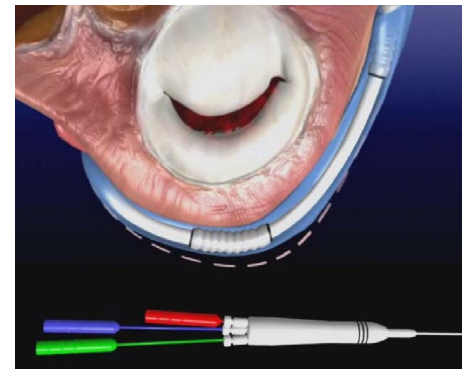
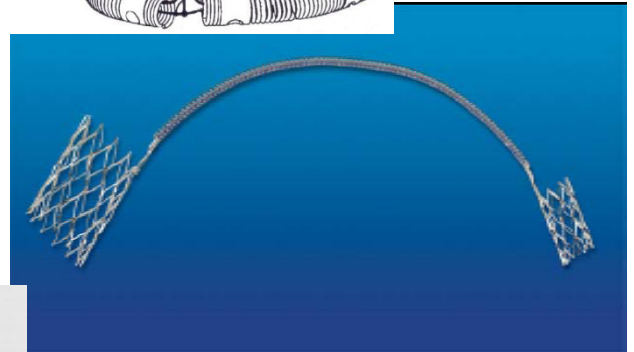
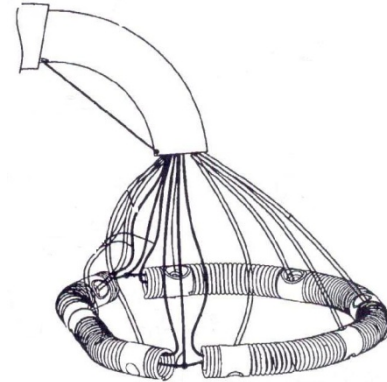
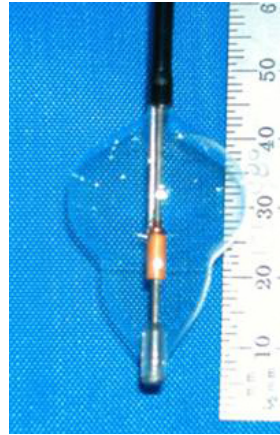
Mirabel European Heart J. 2007

- 20% of the patients with increased risk for surgery experience severe complications.

Goodney et al Ann Surg 2003

- AHA/ACC+ ESC guidelines: Surgery for Functional MR without additional need for CABG *II B indication*

# What alternatives do we have?



# Transcatheter mitral valve interventions

## Edge-to-edge

MitraClip

## Coronary Sinus

Carillion

Monarc

Viacor

## Direct annuloplasty

Mitralign

Cardioband

GDS Accucinch

ReCor

Quantum Cor

## Chordae

Neochord

Mitra-Spacer

## Valve

CardiAQ

Tiara

EndoValve

Valtech Cardiovalve

# Coming soon to LATAM...



# Who do we treat?

## **EVEREST II patients**

- Age: 67±13 y
- STS score: 5±4
- NYHA III-IV: 50%
- Functional MR: 27%
- EF<40%: 6%
- "Good surgical candidates"
- "Strict anatomical requirements"

## **"European Patients"**

- Age: 74±10 y
- Euroscore: 23±18
- NYHA III-IV: 85%
- Functional MR: 77%
- EF<40%: 53%
- "Non-surgical candidates"
- "Complex valve anatomies"





# What are the evidence?

- Heart failure patients
  - Non surgical candidates
  - Elderly patients
  - Complex valve pathologies
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# Heart failure and MR

- Prevalence >50% in heart failure patients

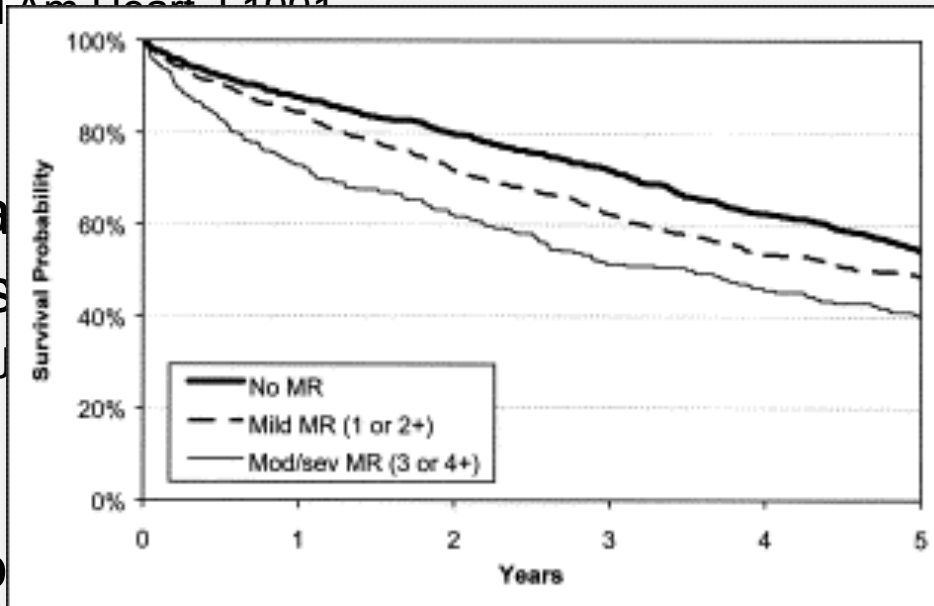
Blondheim et al *Am Heart J* 1994

- Heart failure prognosis

Cioffi et al *Eur J*

- Common

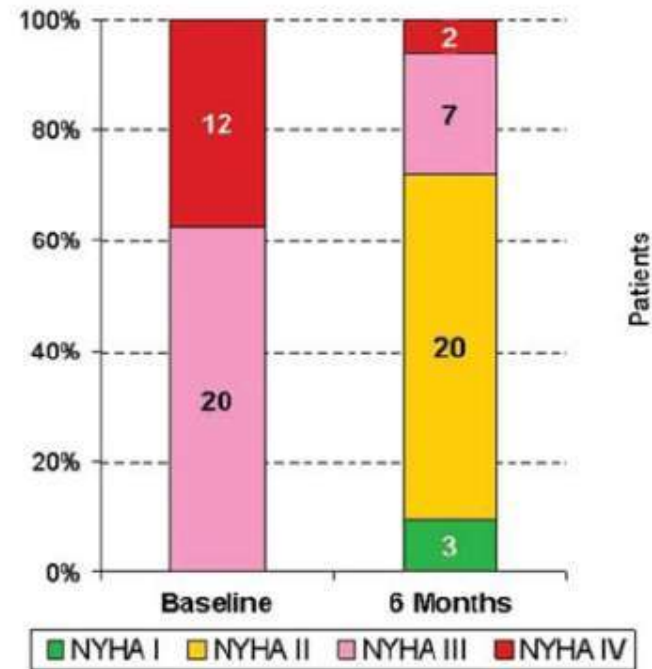
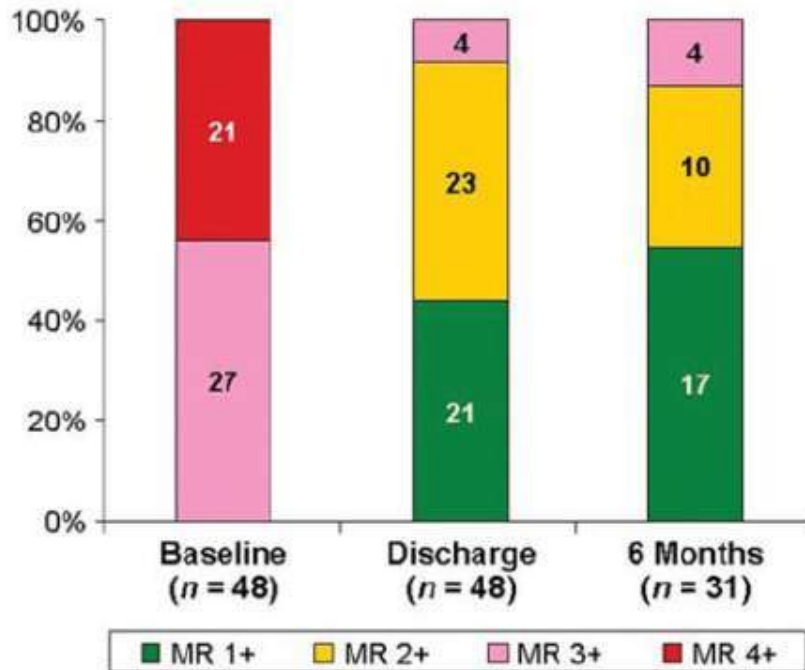
Lancellotti et al *Eur Heart J* 2005



worse

# Severe heart failure

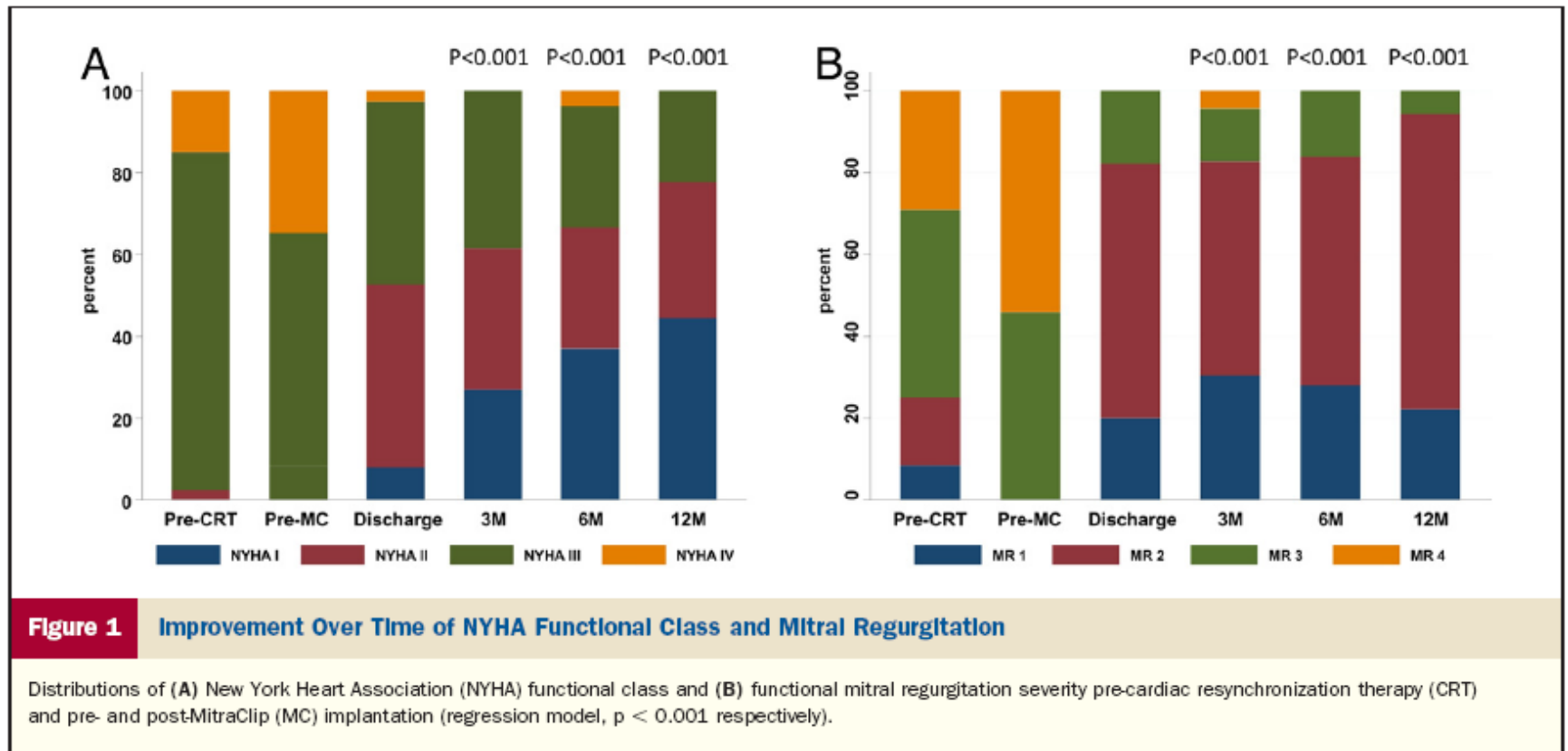
- 50 patients,  $70 \pm 11$  y
- LV EF < 25%
- Logistic EuroSCORE 34%



# CRT non-responders

- MR frequently contributes to no response to CRT
- Multicenter study of 51 patients
- non-responders to CRT and with moderate to severe functional MR.
- NYHA III-IV

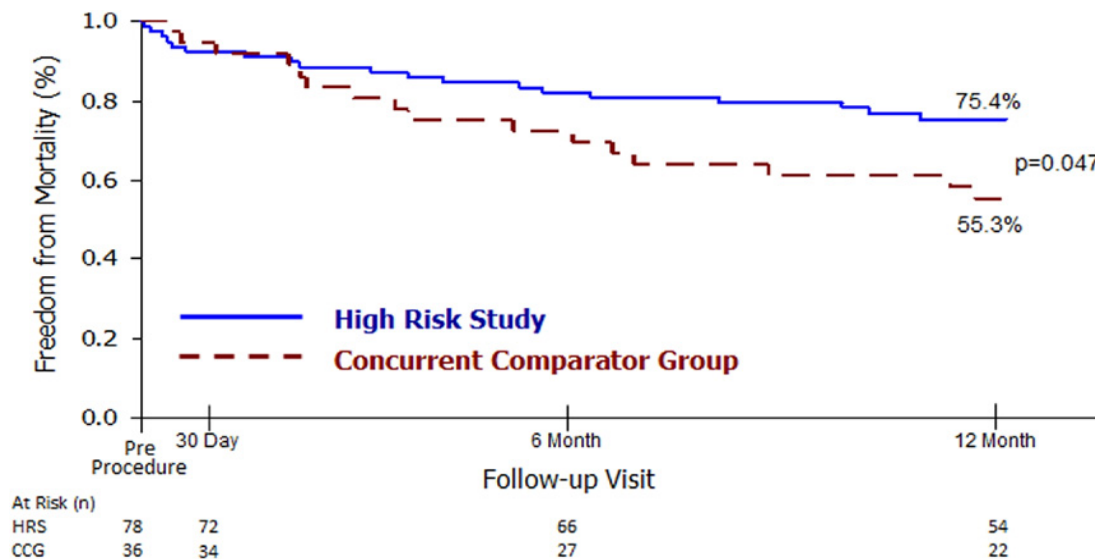
# NYHA and MR following MitraClip



# Non-surgical candidates

## High Risk Registry

- 78 patients denied surgery treated with MitraClip vs medical therapy



**Figure 3** Kaplan-Meier Curve for Survival: All Patients

CCG = concurrent comparator group; HRS = High Risk Study.

# Elderly patients

- Age is the most common cause for denying surgery

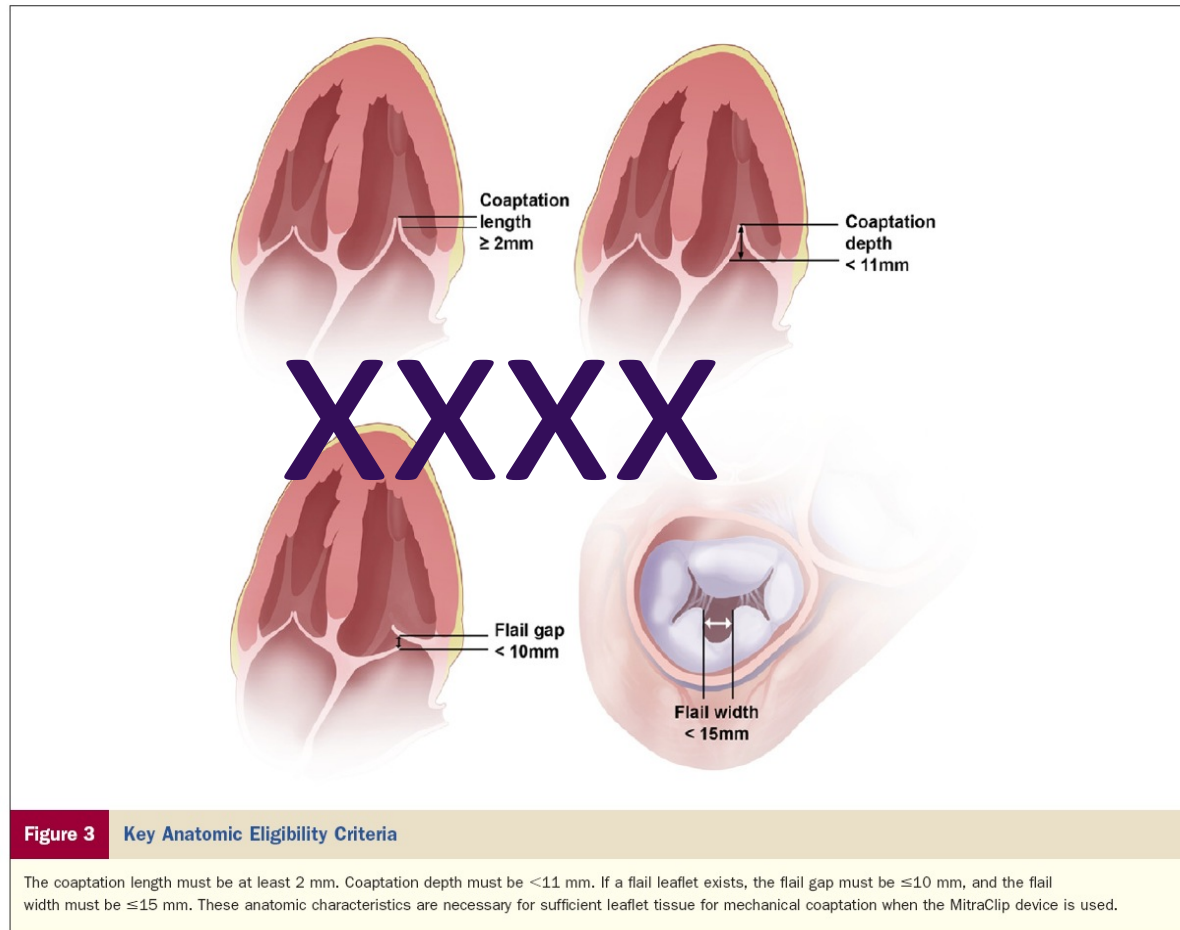
1064 patients from the TRAMI registry

- Stratified by age < and >76y
- The “elderly” were likely to have degenerative MR and preserved EF and had higher logisticEuroscore

## Results

- The intrahospital MACCE (death, myocardial infarction, stroke) was low in both groups (3.5% vs. 3.4%,  $p=0.93$ )
- the proportion of non-severe mitral regurgitation at discharge was similar (95.8% vs. 96.4%,  $p=0.73$ )

# Complex valve pathologies



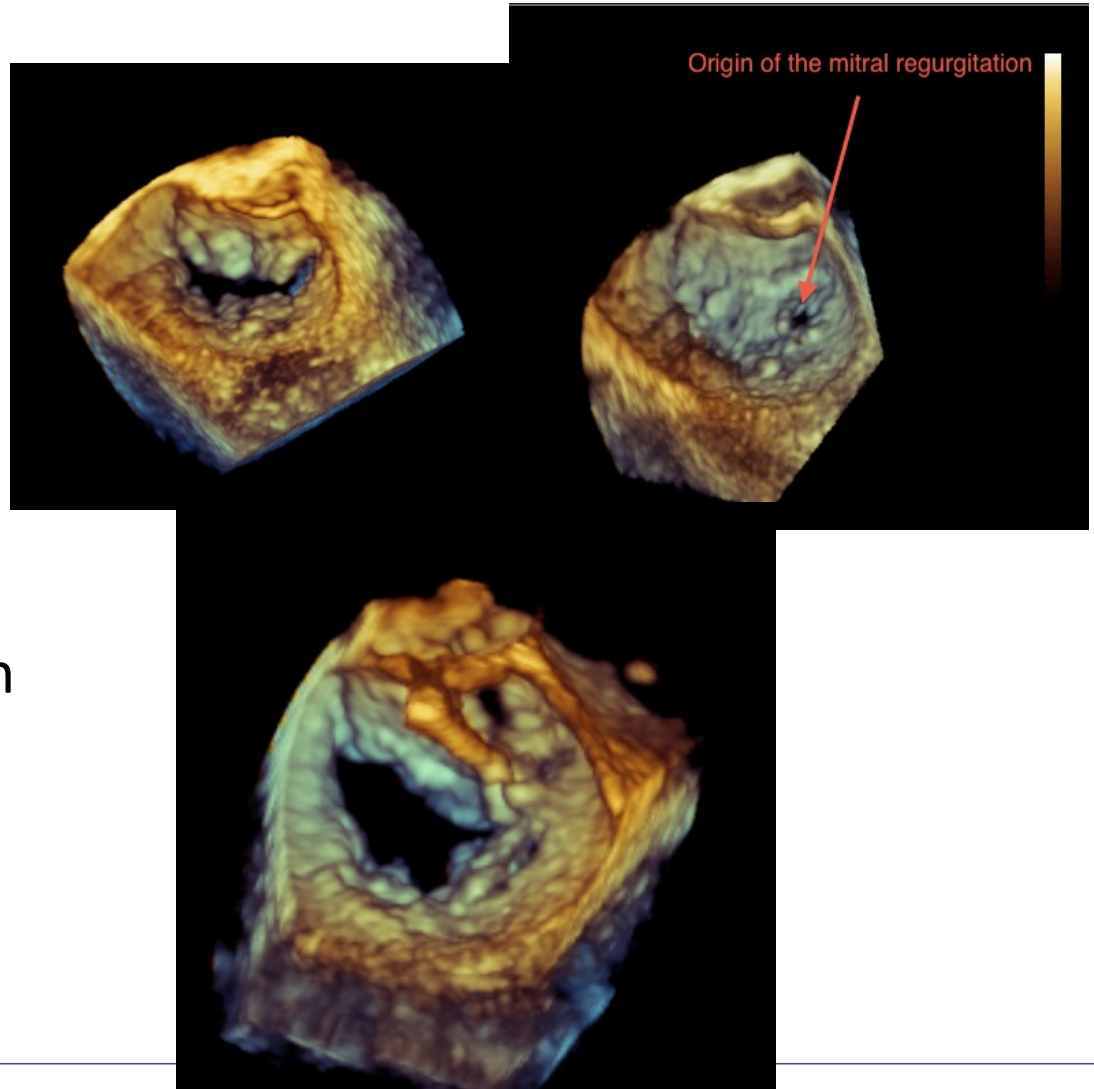


# Made possible by

- 3D TEE!

Tips and trix as:

- Adenosin
- Holding of respiration
- Multiple clips



# Intervention outside the A2/P2 region

- Multicenter registry, *Royal Brompton, Copenhagen, Karolinska*
- 179 patients
- 79 patients with degenerative MR
- 49 central and 30 non central MR

## Results:

- Procedural success was the same in both groups (95.5% central vs. 96.7% non-central,  $p=0.866$ )
- Post-procedural MR and NYHA class at 1 month (MR $\leq$ 2 96.0% vs. 96.6%,  $p=0.866$  and NYHA  $\leq$ II 81.6% vs 90.0%,  $p=0.335$ )
- No difference in procedural or post procedural AE

# conclusion

MitraClip intervention seems to be safe and clinical effective also in:

- High surgical risk patients
  - elderly patients
  - heart failure patients
  - patients with complex valve anatomy
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