

# EUROVALVE

DEBATING  
CHAMBER



OCTOBER  
7&8, 2022



## Debates on Heart Valve Disease Diagnosis & Management

**That this House believes transcatheter edge-to-edge repair in ventricular-secondary mitral regurgitation can provide a bridge to transplantation**

### **Proposition:**

Mamta H Buch (Manchester, UK)

Felix Kreidel (Kiel, Germany)

Philippe Unger (Brussels, Belgium)

Saturday 7<sup>th</sup> October 2022

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## FACULTY DISCLOSURE

I have no financial relationships to disclose

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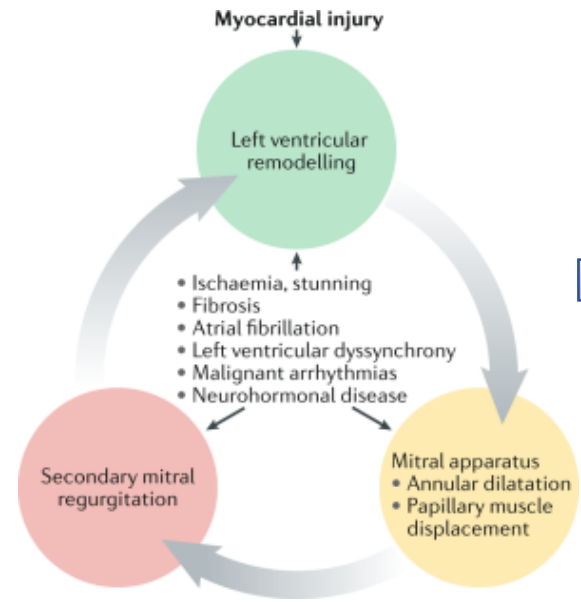
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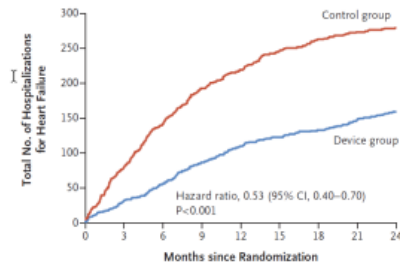
# TEER in SMR as a BTT: a bridge too far?



ORIGINAL ARTICLE

Transcatheter Mitral-Valve Repair in Patients with Heart Failure

G.W. Stone, J.A. Lindenfeld, W.T. Abraham, S. Kar, D.S. Lim, J.M. Mishell, B. Whisenant, P.A. Grayburn, M. Rinaldi, S.R. Kapadia, V. Rajagopal, I.J. Sarembock, A. Brieke, S.O. Marx, D.J. Cohen, N.J. Weissman, and M.J. Mack, for the COAPT Investigators\*

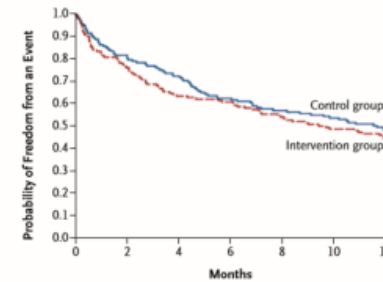


No. at Risk	312	294	271	245	219	176	145	121	88
Control group	312	294	271	245	219	176	145	121	88
Device group	302	286	269	253	236	191	178	161	124

ORIGINAL ARTICLE

Percutaneous Repair or Medical Treatment for Secondary Mitral Regurgitation

J.-F. Obadia, D. Messika-Zeitoun, G. Leurent, B. Iung, G. Bonnet, N. Piriou, T. Lefèvre, C. Ptot, F. Rouleau, D. Carrié, M. Nejari, P. Ohlmann, F. Leclercq, C. Saint Etienne, E. Teiger, L. Leroux, N. Karam, N. Michel, M. Gilard, E. Donal, J.-N. Trochu, B. Cormier, X. Armoiry, F. Boutitie, D. Maucort-Boulch, C. Barinel, G. Samson, P. Guerin, A. Vahanian, and N. Mewton, for the MITRA-FR Investigators\*



No. at Risk	152	123	109	94	86	80	73
Control group	152	123	109	94	86	80	73
Intervention group	151	114	95	91	81	73	67

COAPT  
&  
MITRA-FR

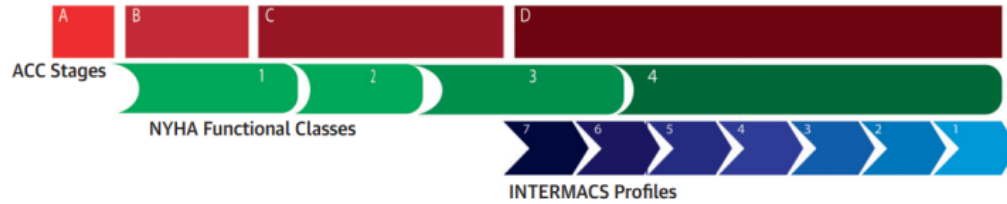


BTT



# Cardiac Transplantation: status

## Advanced HF classification



### ACC Stages

A: Patient is at high risk for developing heart failure but has no functional or structural heart disorder

B: Structural heart disorder without symptoms

C: Past or current symptoms or heart failure associated with structural disorder

D: Advanced heart disease requiring hospital-based support, transplant, or palliative care

### NYHA Functional Classes

I: No limitation in normal physical activity

II: Mild symptoms with normal activity

III: Markedly symptomatic during daily activities, asymptomatic only at rest

IV: Severe limitations, symptoms even at rest

### INTERMACS Profiles

Profile 1: Critical Cardiogenic Shock

Profile 2: Progressive Decline

Profile 3: Stable, But Inotrope Dependent

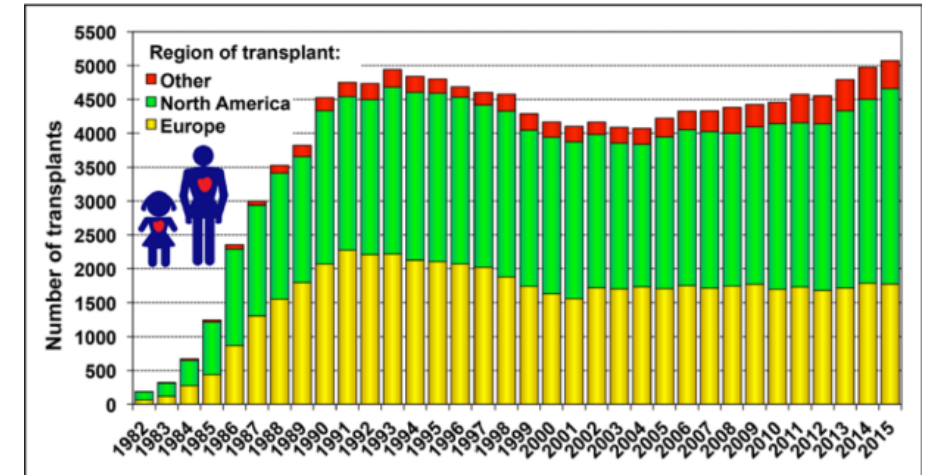
Profile 4: Resting Symptoms

Profile 5: Exertion Intolerant

Profile 6: Exertion Limited

Profile 7: Advanced NYHA Class III

## Number of heart transplants per year



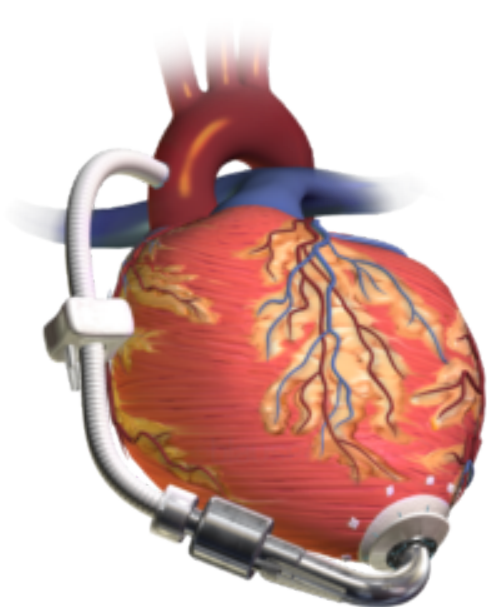
Stehlik J et al, Circulation. 2018;137:71-87

Truby, L.K. et al. J Am Coll Cardiol HF. 2020;8(7):523-36.



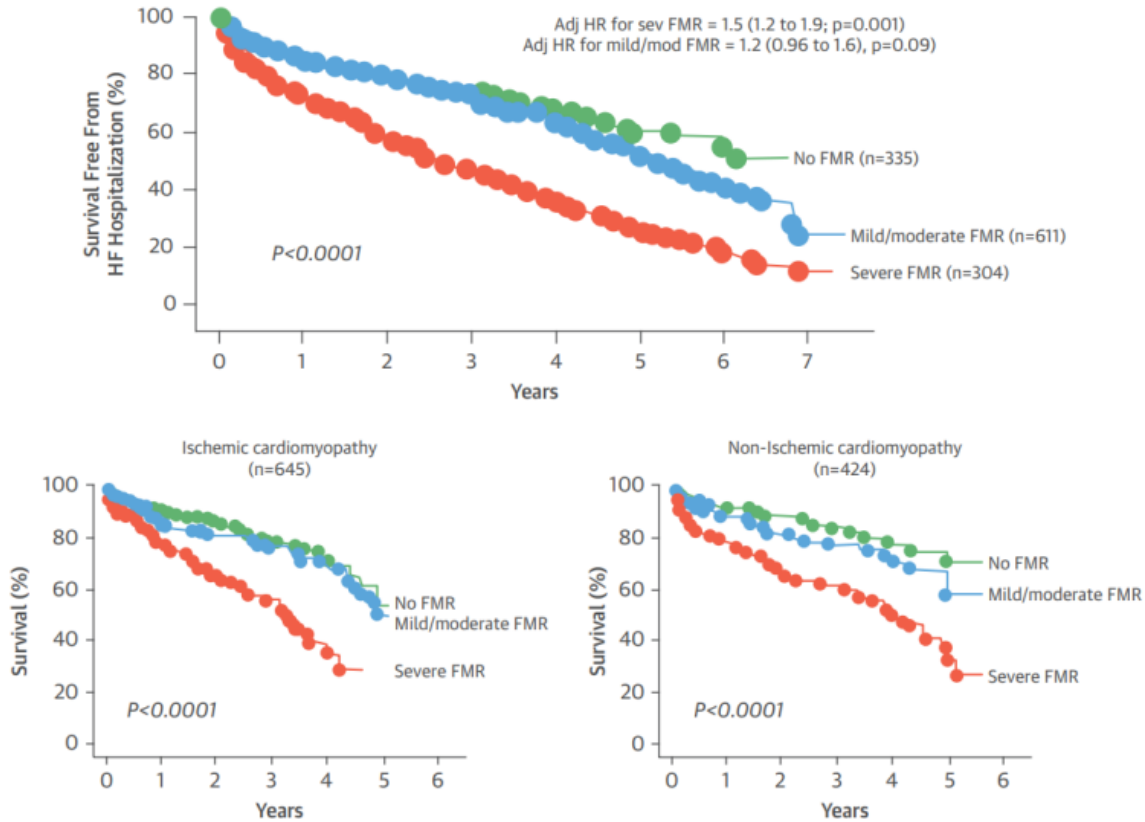
## A scarce resource

# LVADs: a challenging bridge to cross



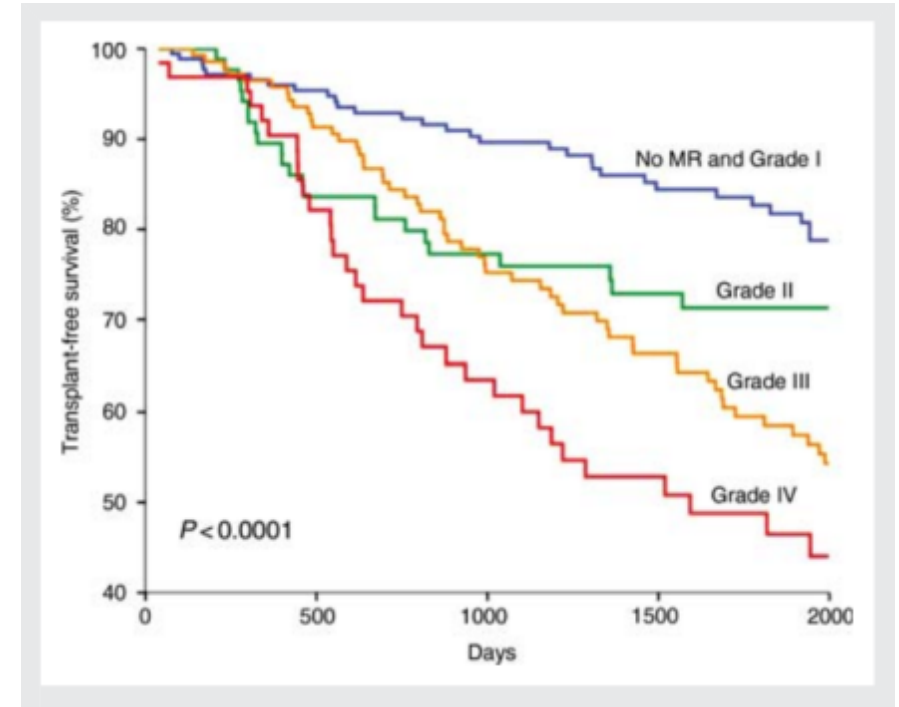
- Effective temporary device to replace the function of the failing heart
- Expensive
- Complications
- We need an additional “intermediate bridge”

# Advanced HF and ventricular-secondary MR: a target population for BTT



Prognosis of SMR in patients with ischaemic and non-ischaemic cardiomyopathy

Asgar A et al, JACC 2015



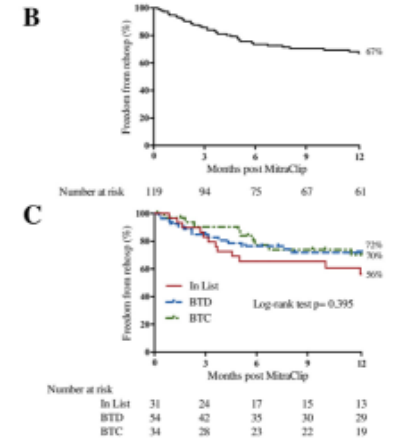
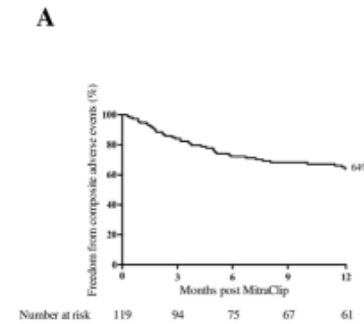
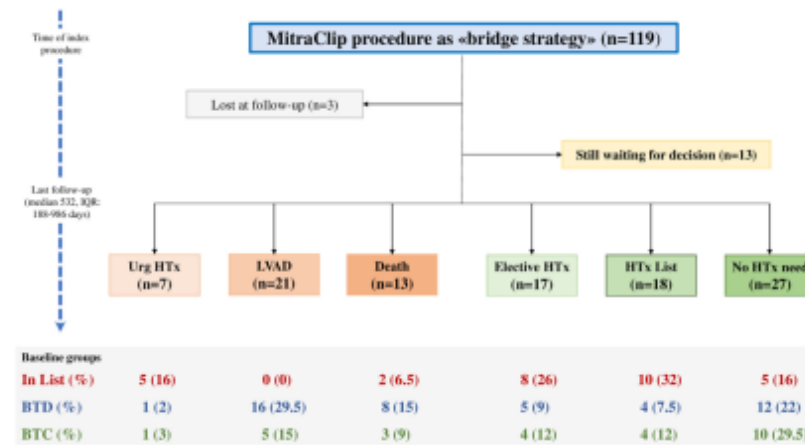
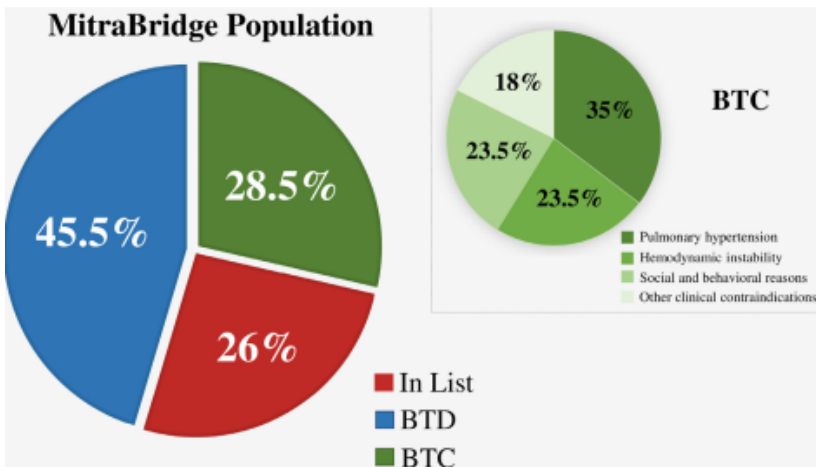
Event free survival according to presence and degree of FMR

Bursi F et al, EHJ 2010

# TEER and cardiac transplantation

International MitraBridge Registry  
Godino C et al, JHLT, 2020

119 patients, Median follow up: 18 months



- Safe and feasible
- 87.5% procedural success
- No 30-day mortality

- 40% died, LVAD or high urgent HT
- 25% improved to no longer require HT
- Many overcame relative CI – increased PVR, renal insufficiency



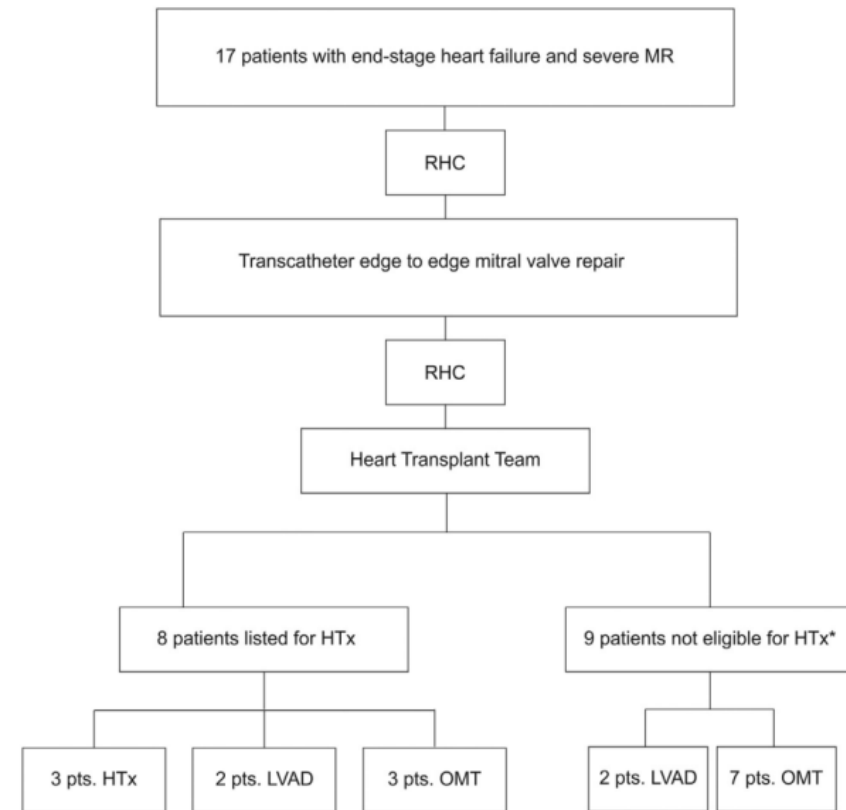
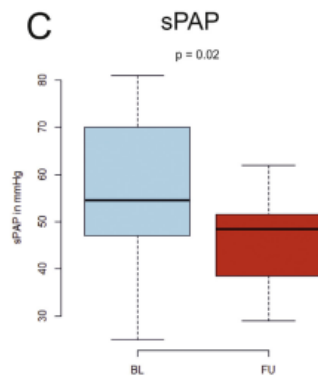
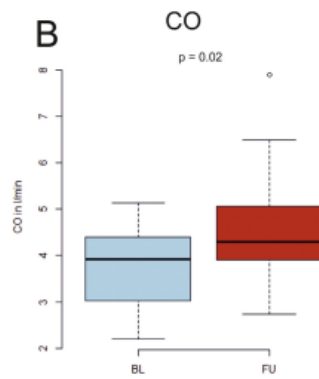
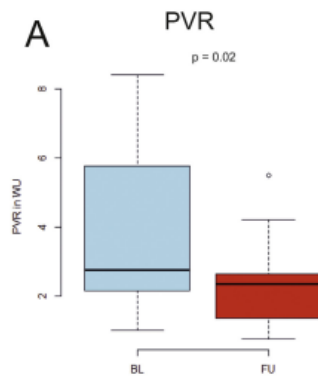
# Haemodynamic effect of TEER in AHF

Doldi PM et al, IJC 2021

Retrospective, observational analysis of haemodynamic parameters

Pre- and post- TEER in patients with HFrEF and SMR

17 patients (2011-2019)



Mean follow up 36 months

Survival 86% at 1 year, 71% at 3yrs

# Risk Stratifying AHF patients with severe SMR



Secondary analysis of MOMENTUM 3 (Multicenter Study of MagLev Technology in Patients Undergoing Mechanical Circulatory Support with HeartMate 3)

JAMA 2020

- AHF refractory to medical Rx + mod-sev SMR: 2-year survival of 80% with an LVAD
  - Most patients had IV inotropes at baseline
  - Following LVAD, residual MR (<5% patients, 1 month after LVAD) did not modify late outcome in an adverse manner

# TEER as BTT: A Different Roadmap



- Goal: Sufficient benefits to maintain AHF ambulatory stage or stabilise to discharge
- TEER as a “triage point”
  - Younger patients
  - No IV inotrope requirement
  - Suitable anatomy
- Safe

# TEER for BTT: not a bridge too far

- Unwise to reject TEER as a therapeutic option
  - There is a need for alternative options
  - There is a target population that can be identified
  - There are data to support favourable benefits vs risks
  - There is a need to ensure continued evidence pipeline through collaboration
- 
- There is no debate!!!

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## Thank You!

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