MR and TAVR.

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MR and TAVR

1. Does severe MR precluded the benefits of TAVR?
2. Does significant MR get better after TAVR?
3. Effect of MR on Survival

MR in AVR Patients

Barreiro, Baumgartner et al. Circulation 2005;112:i443-7

440 patients with AVR.

70 had Moderate/severe MR

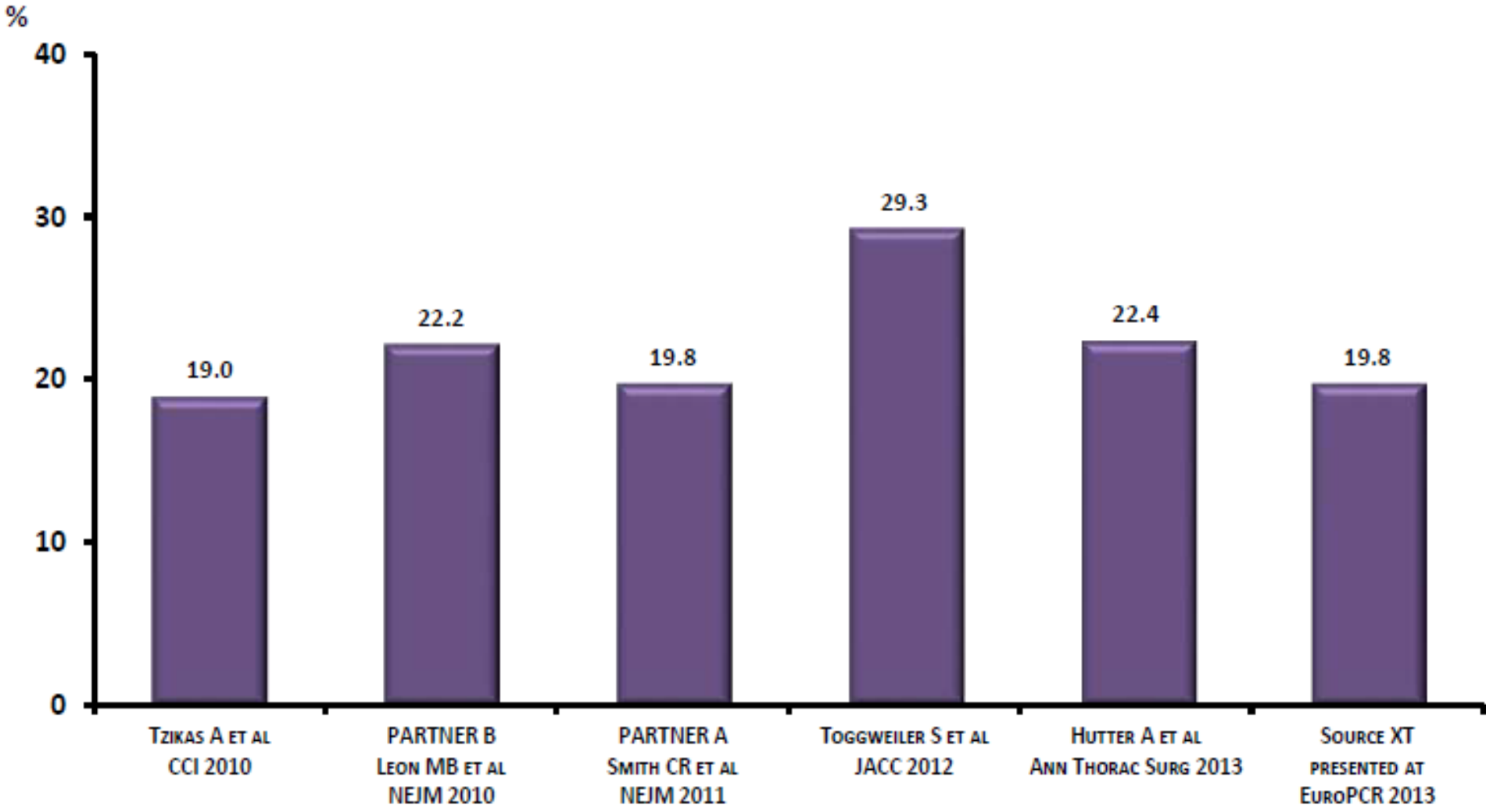
Etiology of MR	Group II (n=70)
Myxomatous MR	34.3% (24)
Calcific MR	28.5% (20)
Ischemic MR*	15.7% (11)
Functional MR†	21.4% (15)

82% of Functional MR improved

65% of Degenerative MR improved

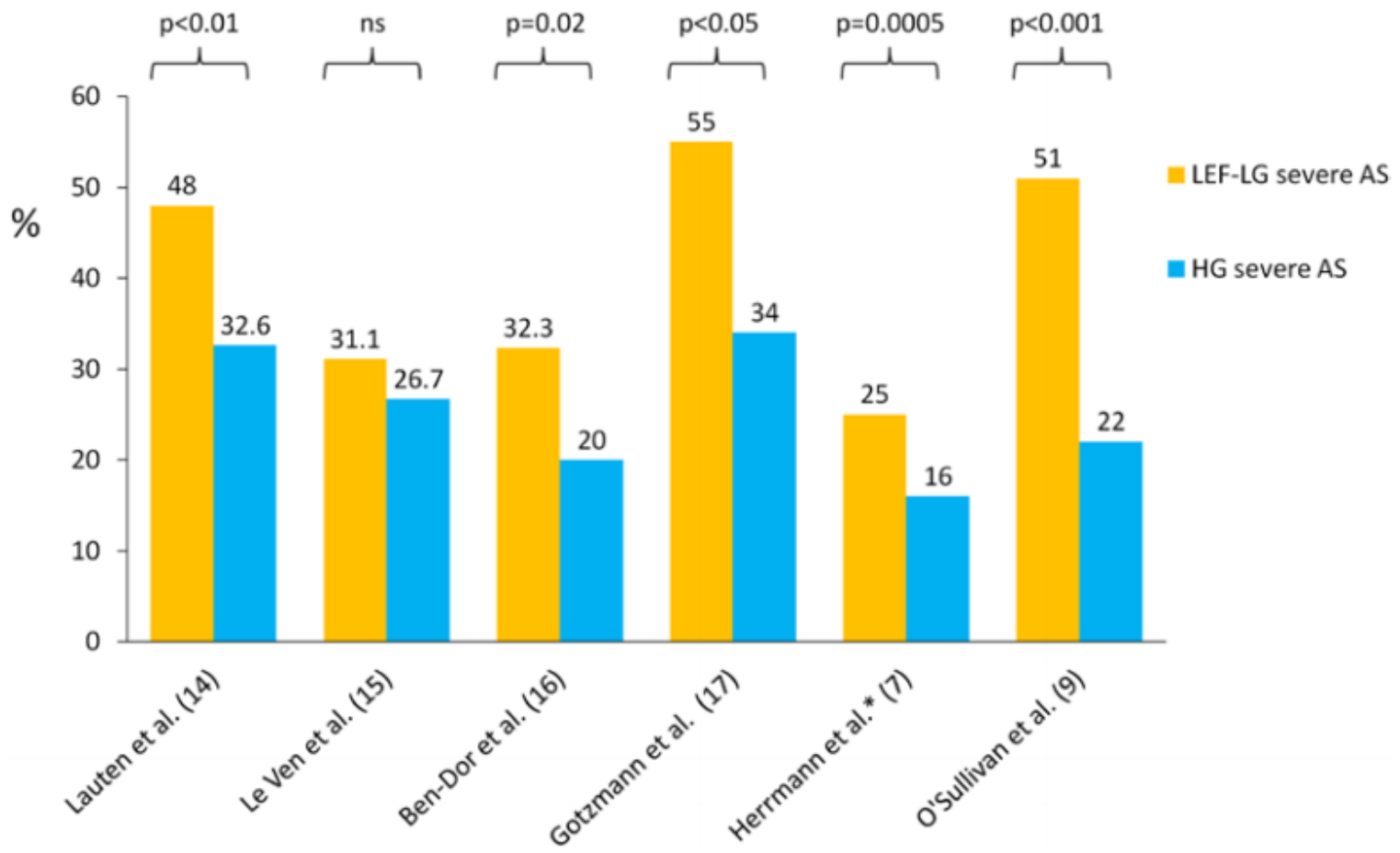
euro PCR 2013

Prevalence of Moderate / Severe MR In Patients undergoing TAVI



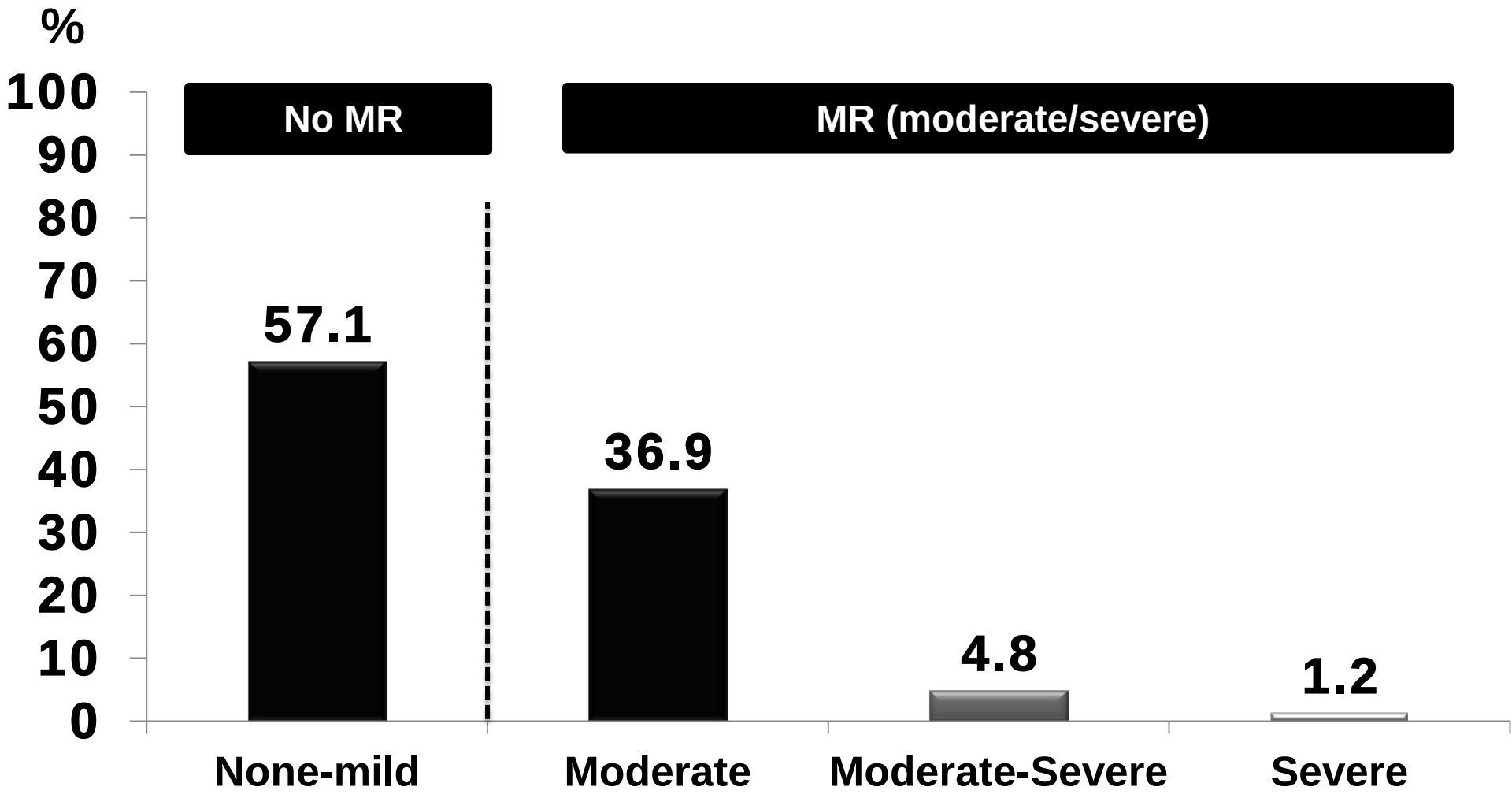
Prevalence of >Moderate MR in LFLG and High Gradient AS

O'Sullivan et al. Circ Cardiovasc Interv. 2015;8:e001895.

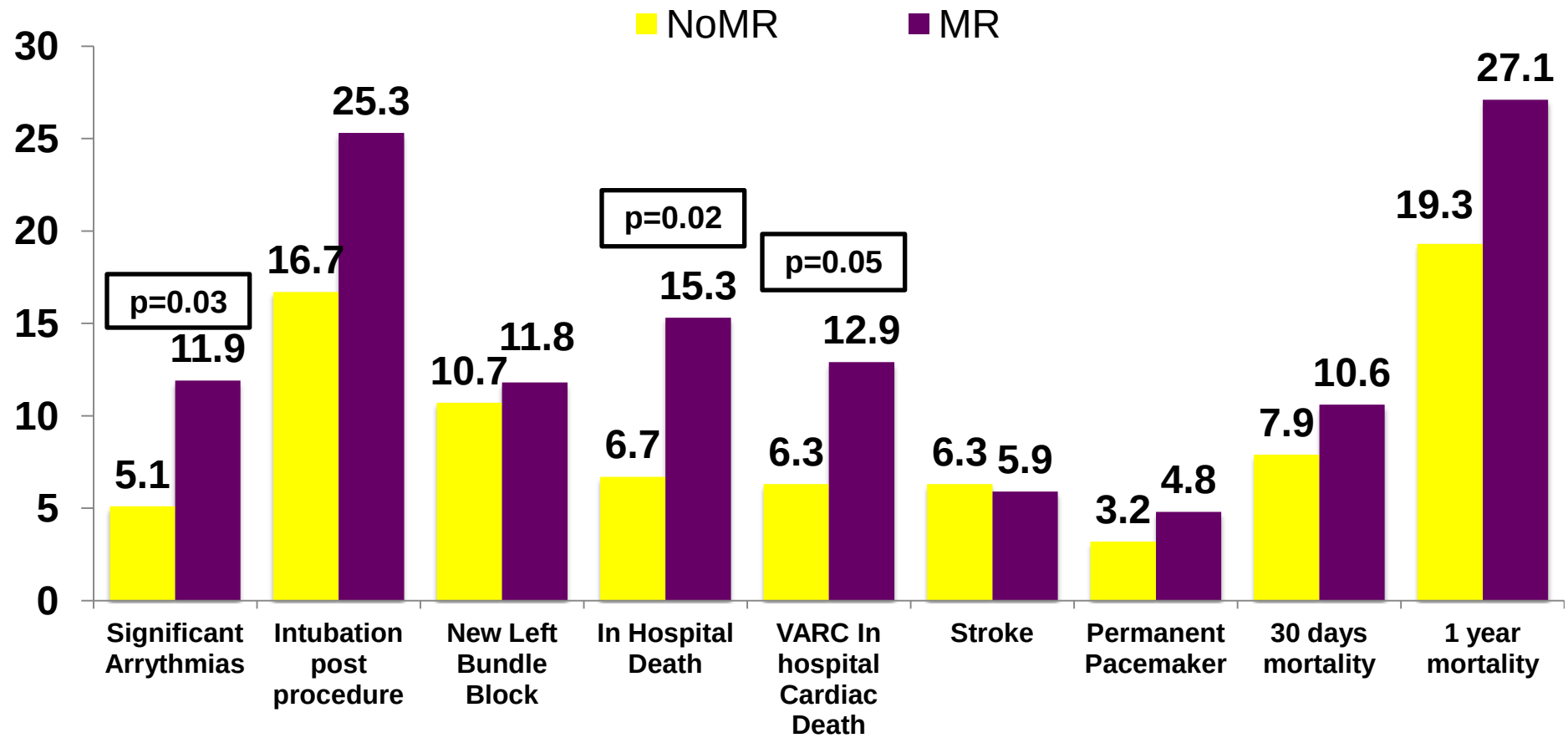


Mitral Regurgitation and TAVI.

WHC: Magalhaes et al. CRT 2014

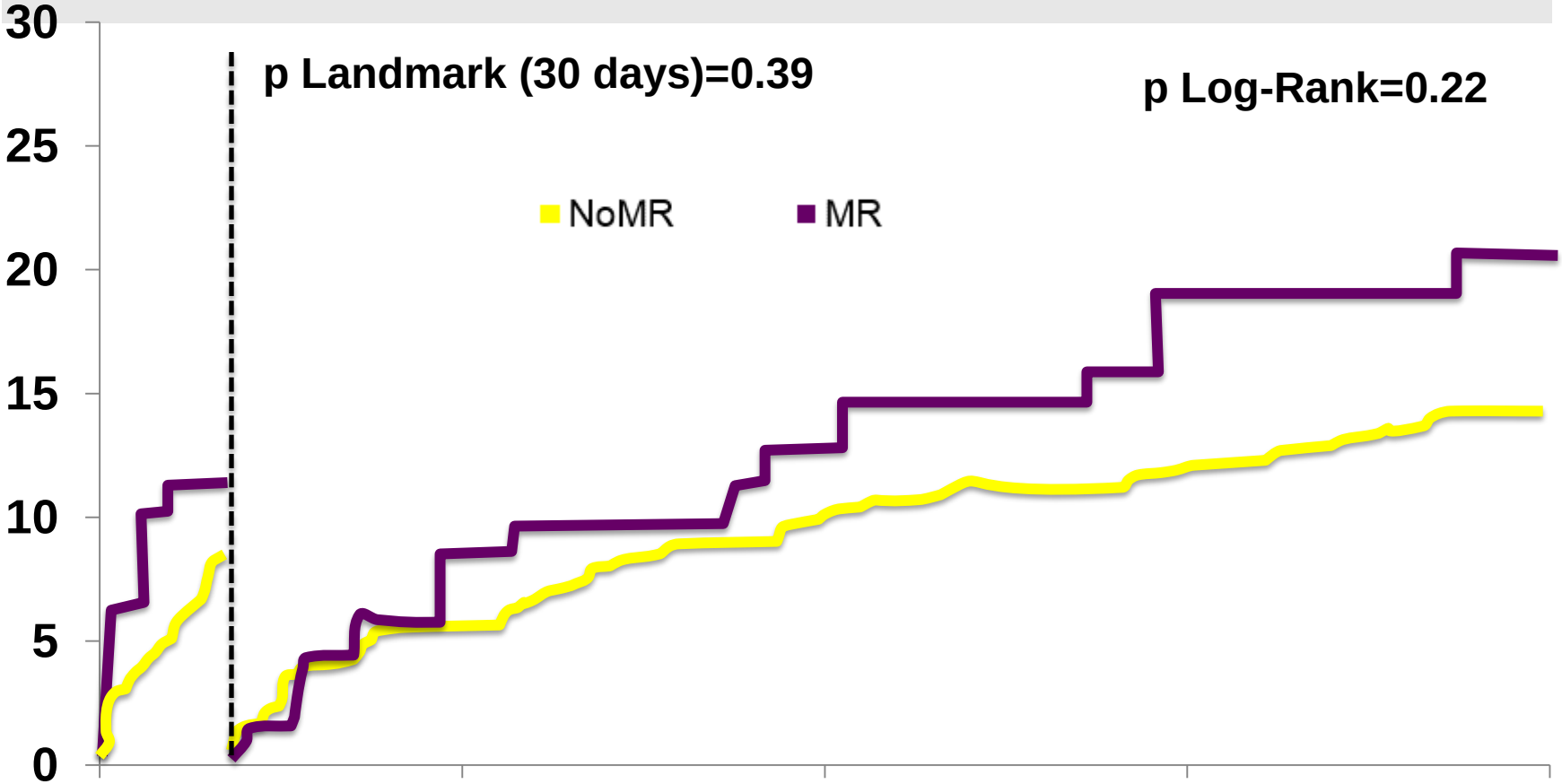


Moderate/Severe MR and TAVR Outcomes.
WHC: Magalhaes et al. CRT 2014



p > 0.05 unless indicated

30-day & 1-year Unadjusted Mortality



n at risk					
MR (>mild)	85	66	60	53	48
No MR	254	215	194	174	144

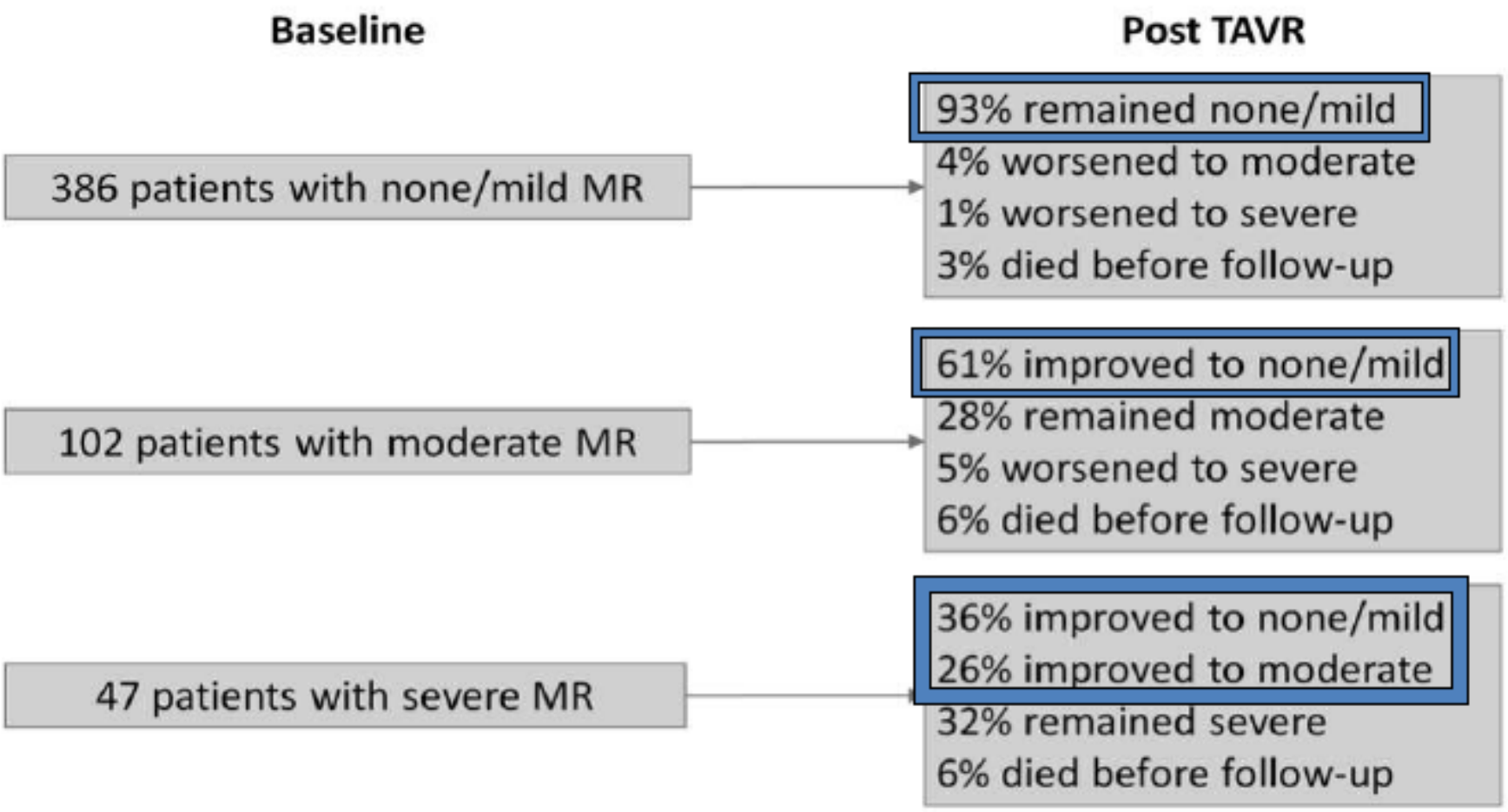
Metanalysis of MR and TAVR.

ESC 2014. 8919 patients

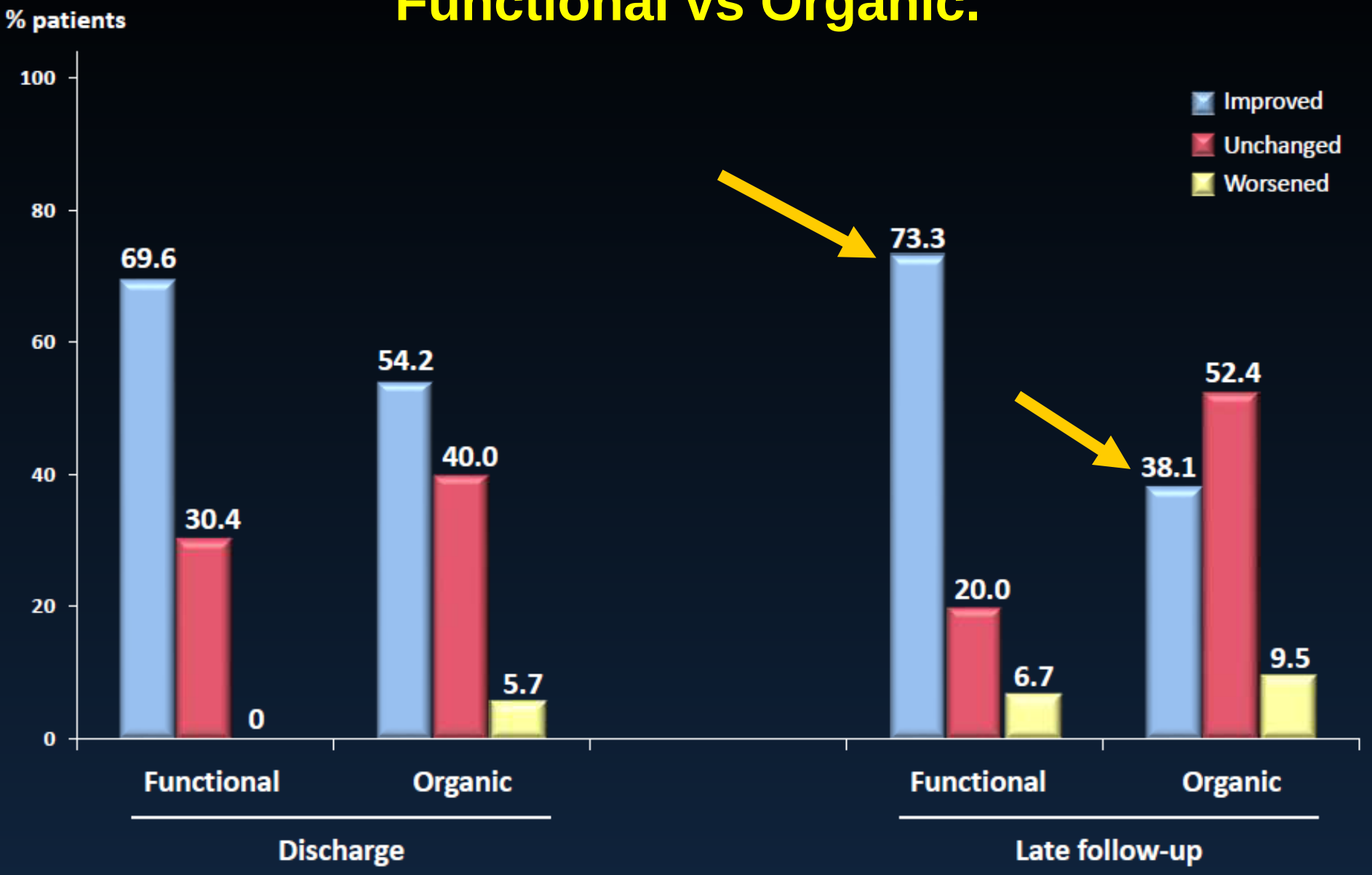
- **22.2% had mod-severe MR**
  - **Increased 30 d mortality (RR 1.24).**
  - **Increased 1 yr mortality (RR 1.41).**
- **No difference between functional or degenerative MR for mortality.**
- **MR improved in 61%**

VANCOUVER/QUEBEC CITY REGISTRY

535 PATIENTS WITH MATCHED ECHOS



Changes in Mitral Regurgitation Following AVR Functional vs Organic.



Takeda et al., Eur J Cardio-thoracic Surg 37 (2010)

euro PCR 2013

FUNCTIONAL MR AND AS

CHANGES AFTER ISOLATED AVR

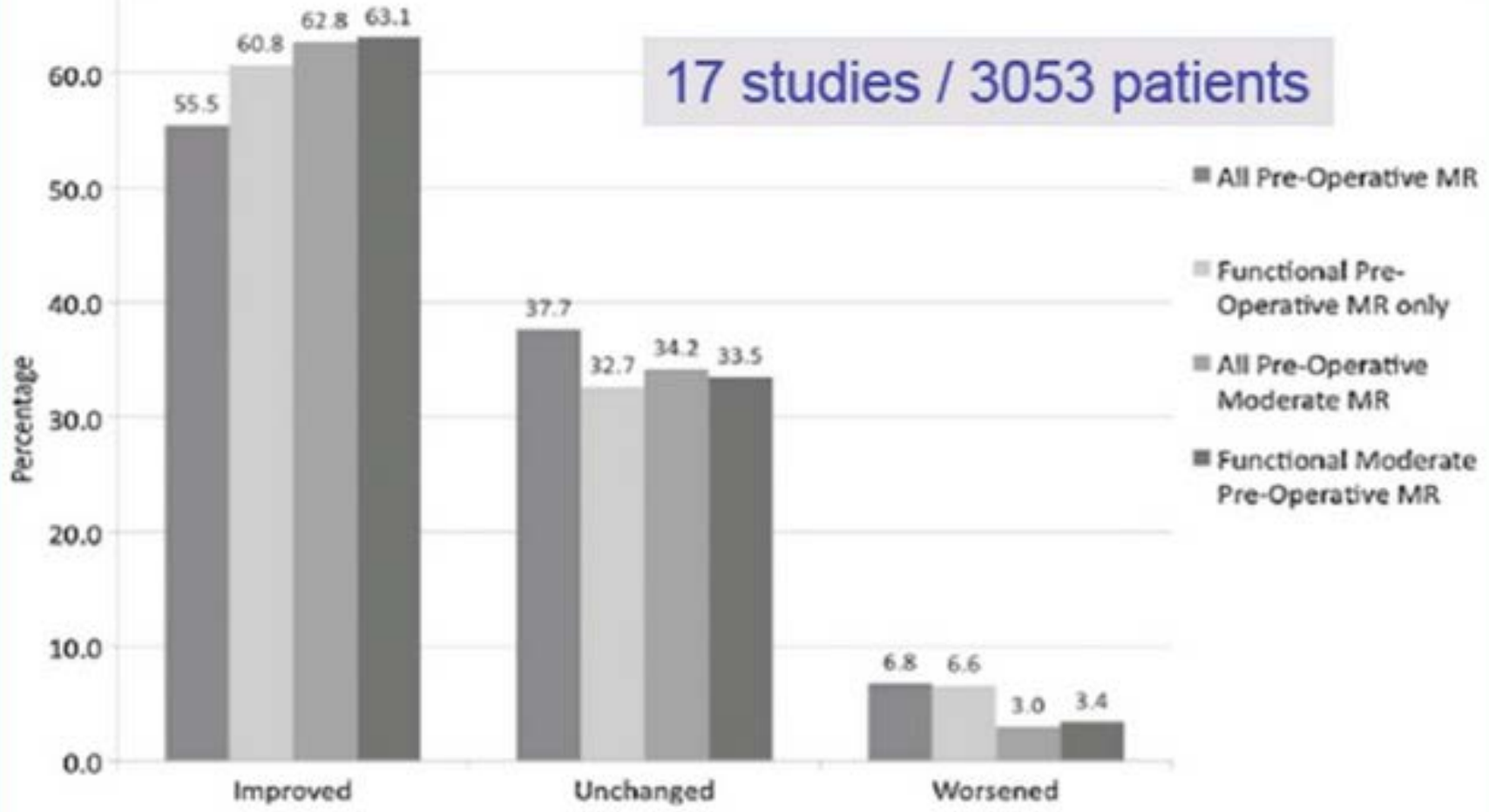


Fig. 1. Changes in preoperative MR following AVR for aortic stenosis.

Harling L et al Eur J Cardio-thorac Surg 2011;40:1087-1096

MR in AVR Patients

Barreiro, Baumgartner et al. Circulation 2005;112:i443-7

440 patients > 70 years old with AVR.

70 had Moderate/severe MR

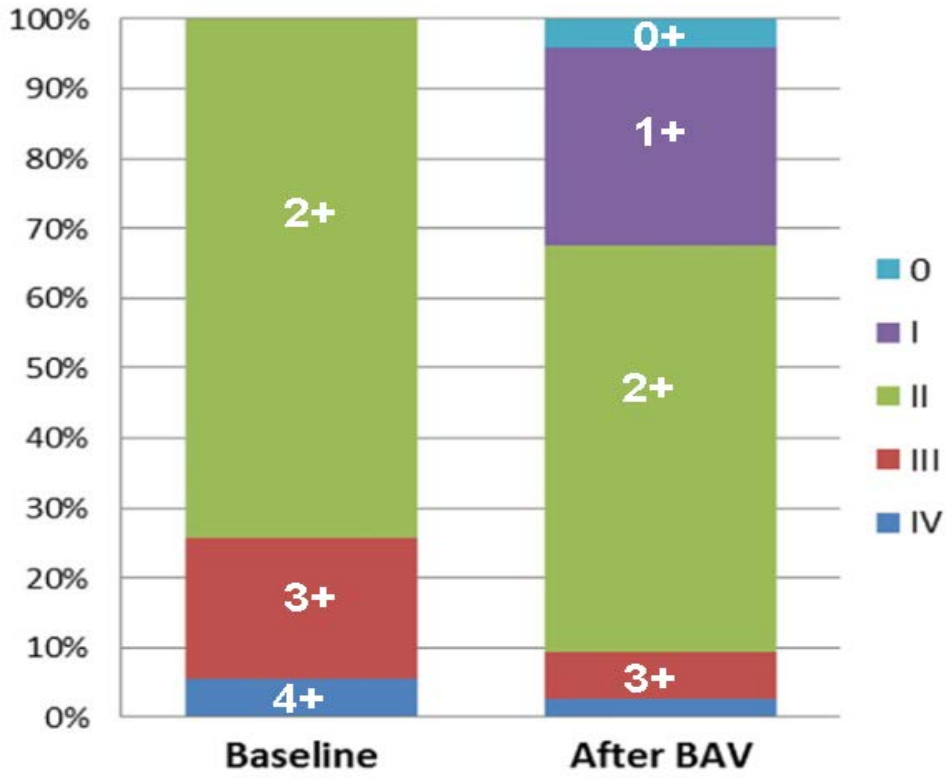
Conclusion

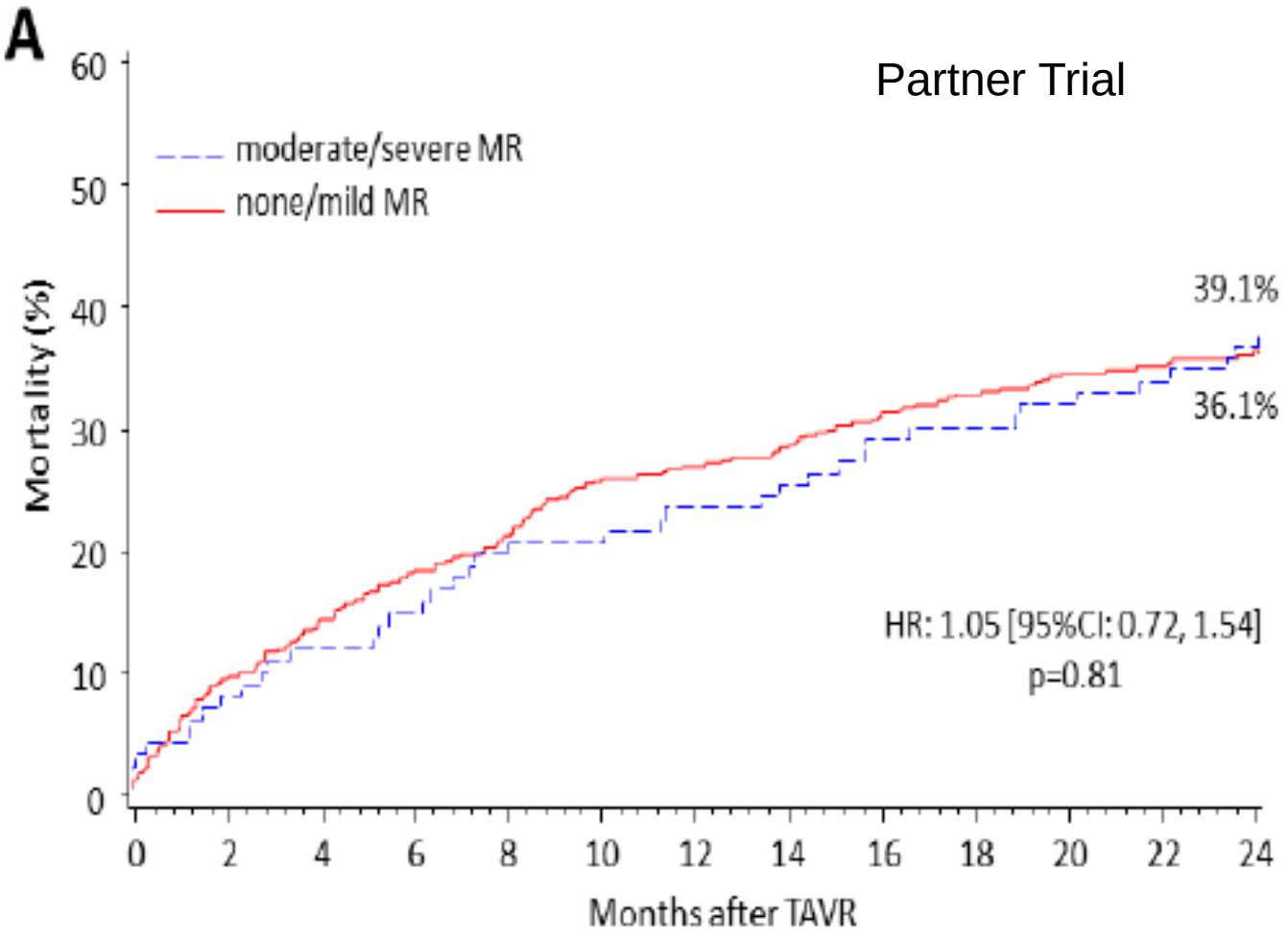
- **Moderate MR is an independent risk factor impacting long-term survival in elderly patients undergoing AVR.**
- **Therefore, patients with intrinsic mitral valve disease should be considered for concomitant MV surgery**

MR after BAV

WHC: Maluenda et al. AJC 2011;108:1777-82

- **74 BAV patients with >moderate MR.**
- **Age 84, all with severe AS. STS 15%.**





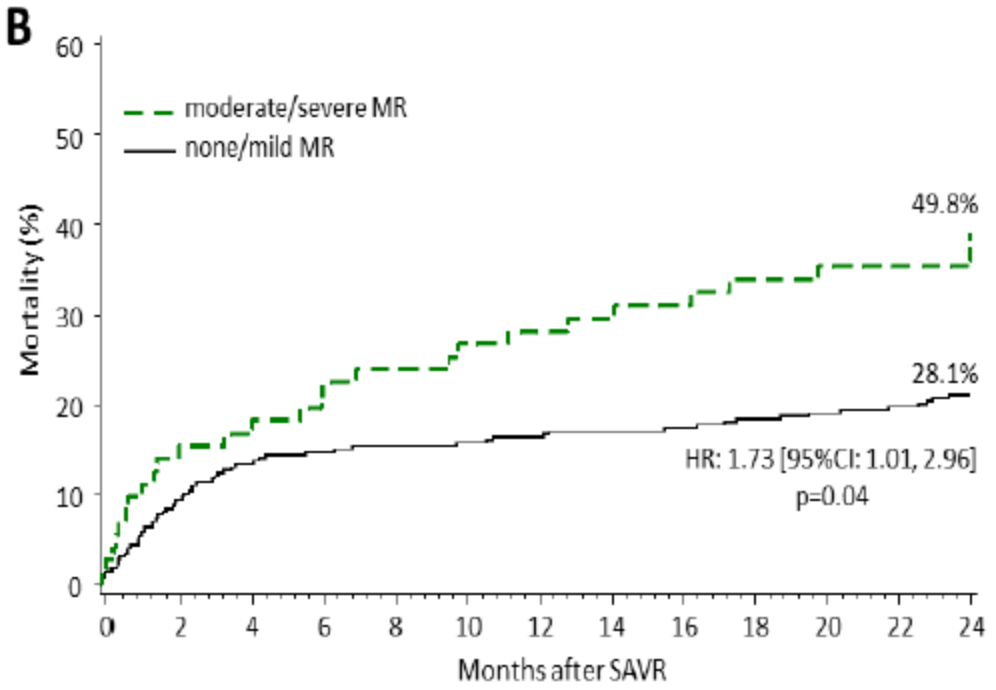
Number At Risk:

Moderate/severe MR	103	95	88	79	72	63
None/mild MR	396	358	322	287	260	237

Barbanti et al. Circulation. 2013;128:2776-2784.

PARTNER TRIAL

Kaplan-Meier Survival / SAVR



Number At Risk:						
Moderate/severe MR	59	45	41	35	30	24
None/mild MR	240	207	189	184	177	161

Barbanti et al. Circulation. 2013;128:2776-2784.

TAVI in patients with Mod-Sev. MR

Baungartner et al. Circulation 2013;128:2776-84

519 patients with moderate-severe MR in the Source XT Registry (20% of 2615 patients).

At 1 year: 25% no/trace MR

45% mild MR

24% moderate MR

6% severe MR

MR improvement: 65% at 30 days, 72.9% at 1 year

TR was 37% at baseline and 24.7% at 1 year

NYHA FC 1-2: 90% (from 18.8%)

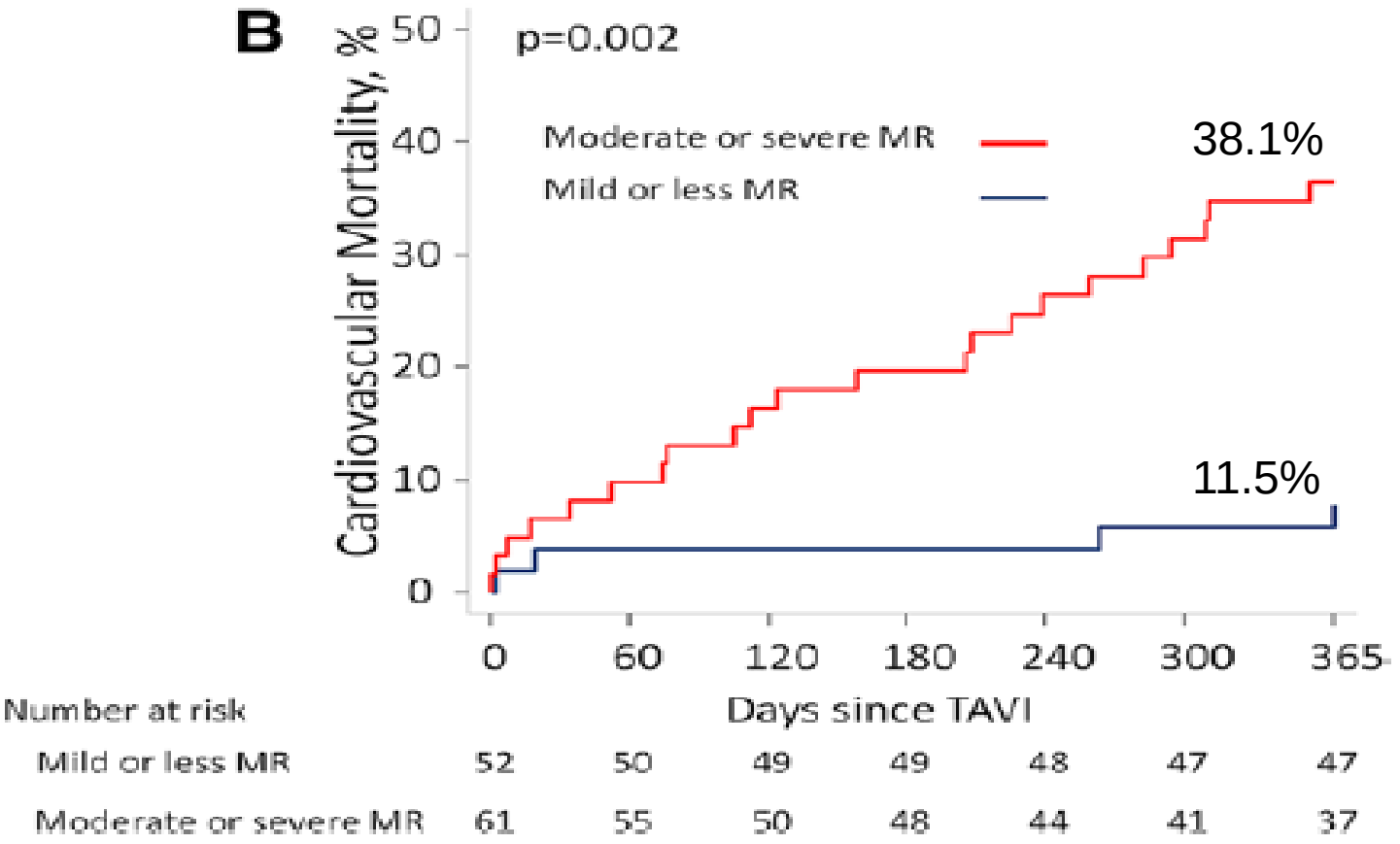
Mortality 18.4% without MR vs 23.1% with MR. Baseline MR did not change mortality, but residual MR did.

Patients with MR had worse risk profile.

MR and TAVR in LFLG AS

O'Sullivan et al. Circ Cardiovasc Interv. 2015;8:e001895.

19% of 606 TAVIs. mGrad <40mmHg, AVA <1.0cm2, EF <50%



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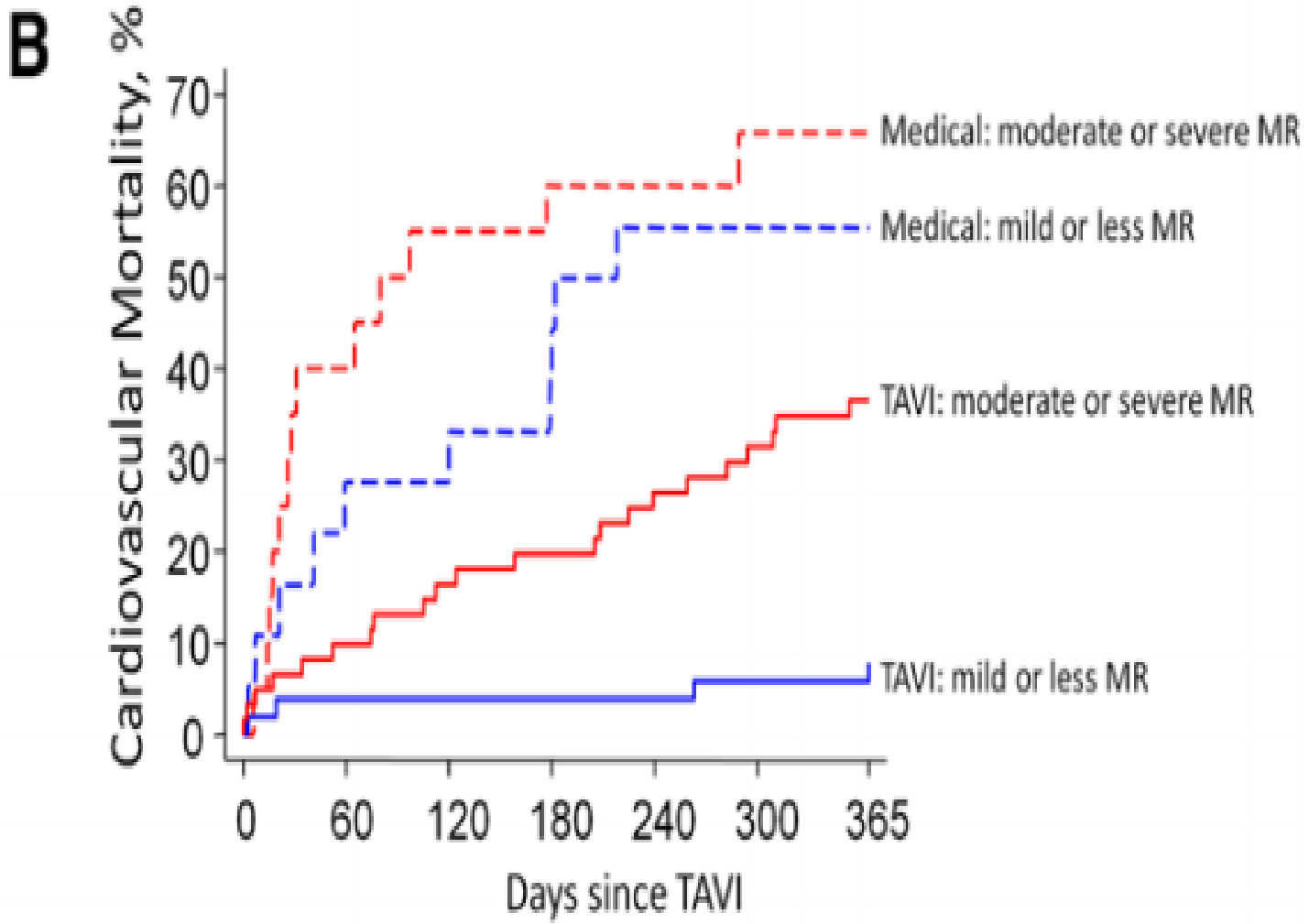

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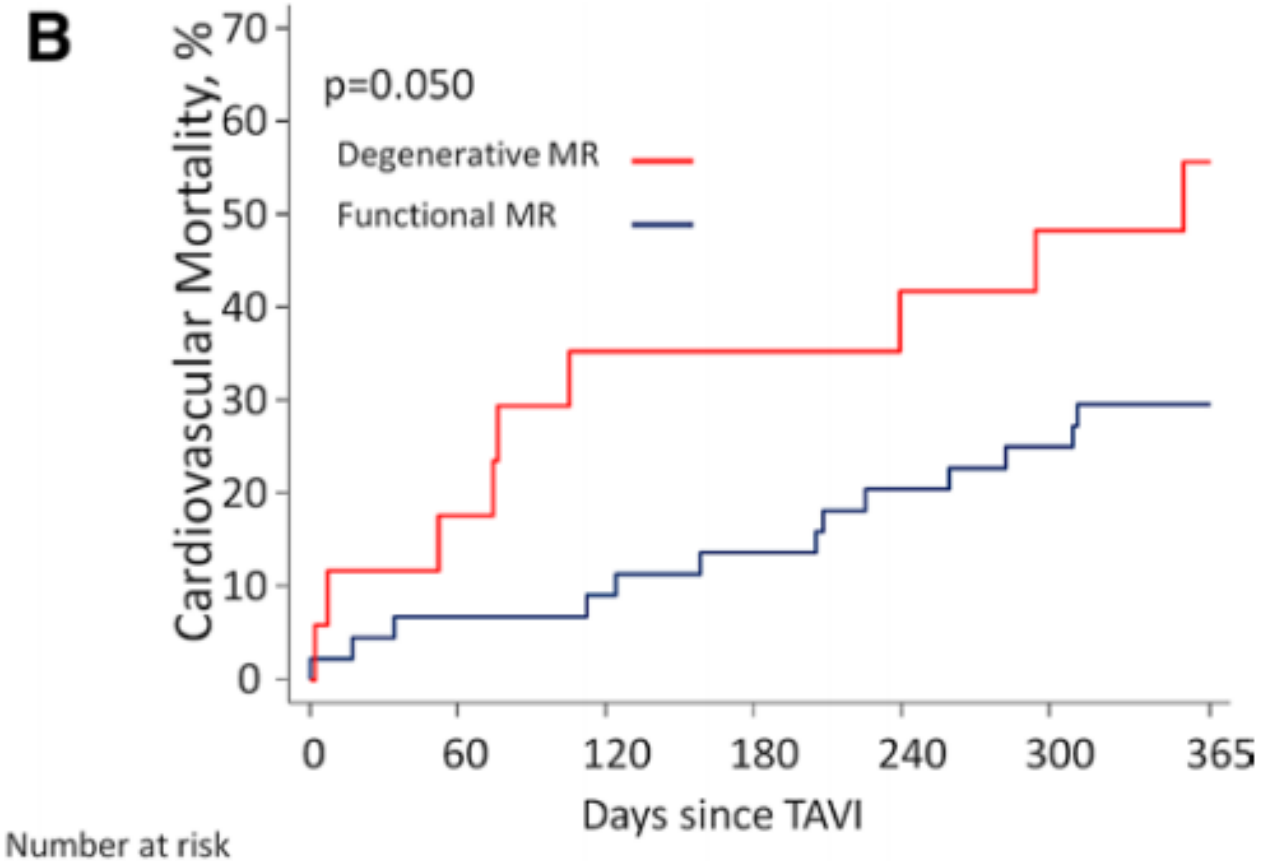

Conclusions

Significant MR in TAVR patients:

- **No change in procedural mortality.**
- **Significant reduction in severity of MR after TAVR, specially if functional.**
- **Persistent mod/sev MR has increased mortality.**
- **Degenerative MR may be require interventional treatment after TAVR.**