

Uriel, N et al. High Transpulmonary Artery Gradient Obtained at the Time of Left Ventricular Assist Device Implantation Negatively Affects Survival After Cardiac Transplantation. *Journal of Cardiac Failure*

STUDY HIGHLIGHTS

Hypothesis: Transpulmonary gradient (TPG) prior to LVAD = better predictor of survival post heart transplant (HT) than pre-op pulmonary vascular resistance (PVR)

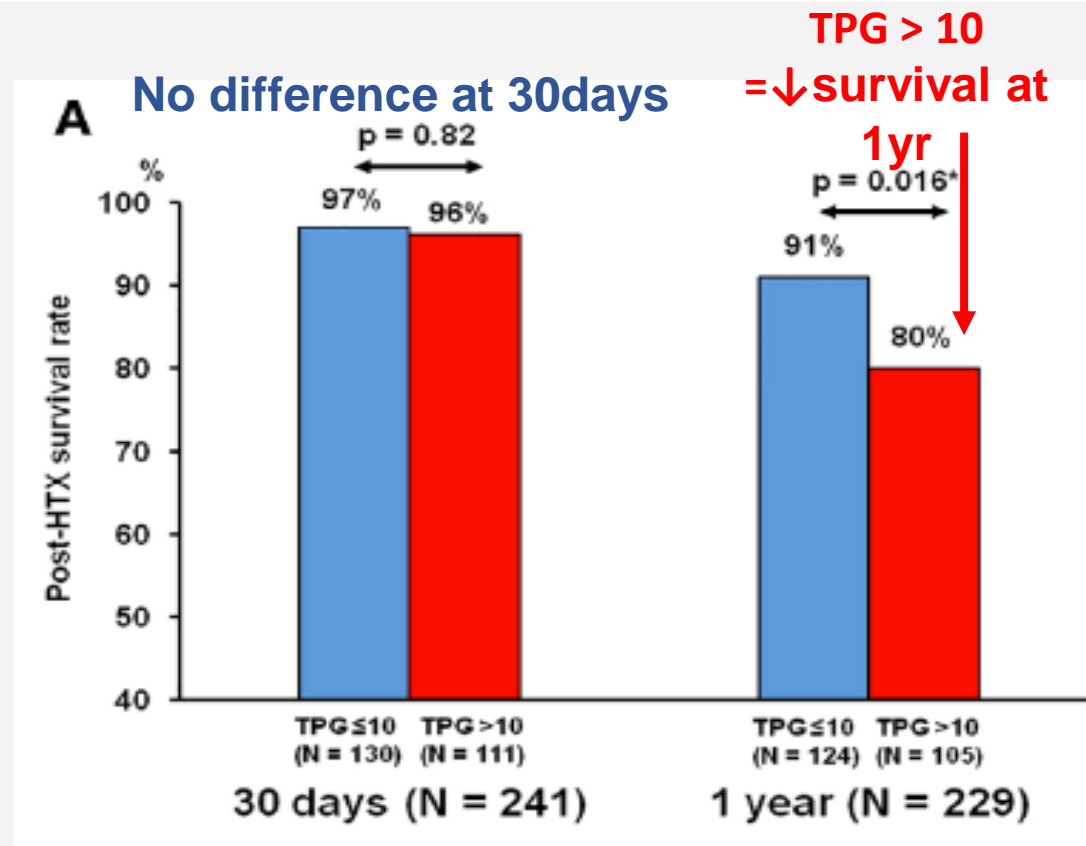
Design: Prospective multicenter

Inclusion: 36 centers, 490 HM2 LVAD patients 3/05 – 4/08

Outcomes: 30-day and 1-year HT survival.

Results: 249 pts had HT after median of 172 days on LVAD.

CENTRAL FIGURE



No difference in 1-yr survival in pts with low or high pre-op PVR

REVIEWER'S COMMENTS

TPG = novel prognosticator for post-HT survival

Limitations:

- HM2 patients only (though other LVADs may confer same outcomes).
- Post hoc analysis
- Lack of TPG or PVR measurements after LVAD and immediately prior to HT.
- Short duration of LVAD support prior to HT raises question of persistent PH post-LVAD.

McCullough et al. Neurohormonal Blockade and Clinical Outcomes in Patients With Heart Failure Supported by Left Ventricular Assist Devices. *JAMA Cardiology*

STUDY HIGHLIGHTS

Question: Does neurohormonal blockade (NHB) improve outcomes for LVAD patients?

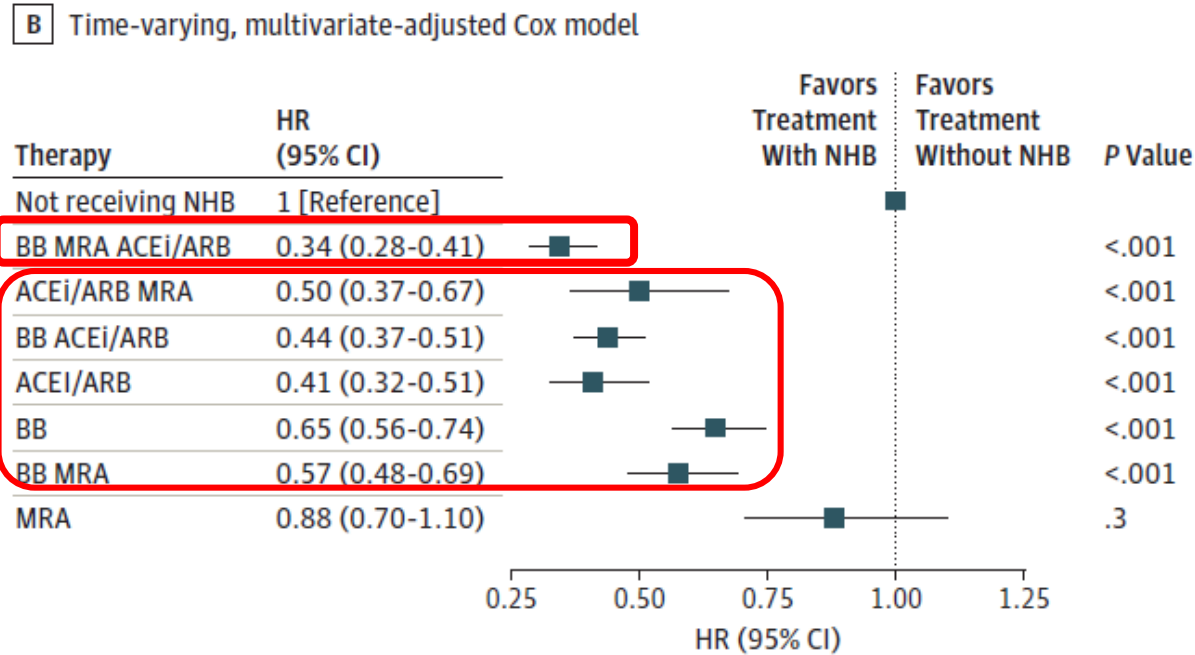
Inclusion: 12,144 pts with CF-LVAD for 6 months in INTERMACS (1,725 not on NHB).

Stats: KM curve with NHB=time-dependent covariate, propensity matching

1^o outcome: survival 6m-4y

Results: NHB wins!

CENTRAL FIGURE



- Propensity score-match analysis: any NHB use > none (4y survival 59% vs. 46%); triple drugs >> none (69% vs. 54%).
- Median KCCQ score: NHB use > none (67 vs. 63, p=0.02)
- 6MWT: NHB use > none (1103 ft vs. 987 ft, p<.001)
- New NHB users after 6 months: NHB associated with ↑survival (HR 0.66, CI 0.56-0.78).

REVIEWER'S COMMENTS

- Excellent & important study of a large cohort, meticulous analyses to adjust for confounders.
- Provocative finding: NHB assoc. w/ ↑ explant chance for recovery.
- Use of NHB across North American centers = very heterogenous.

Limitations:

- Association ≠ causation
- Healthy user bias

Question raised:

Need for RCT of NHB use vs. none in CF-LVAD pts.

Bourque et al. Durable mechanical circulatory support device use in the United States by geographic region and minority status. *J Thorac Cardiovasc Surg*

STUDY HIGHLIGHTS

Hypothesis: MCS use varies by UNOS regions & minority status

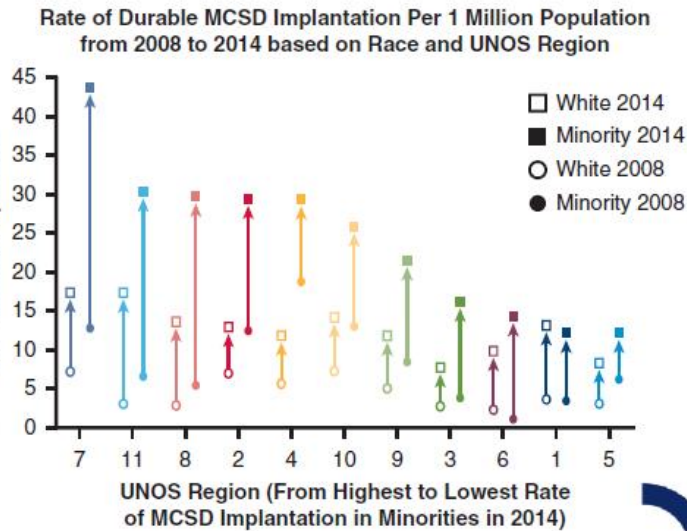
Inclusion: INTERMACS (≥20 yo) + Medicare claims, stratified across UNOS regions '08-'14 (population census from CDC database).

United Network of Organ Sharing Regions



CENTRAL FIGURE

Rate of MCS implant per 1 million population



UNOS Regions 2, 3, 6, 7, 8, 9 and 11

↑ Minorities >>> ↑ Whites

Changes in rates (#MCS procedures/white or minority population per UNOS region) '08 → '14:

- **White patients:** ↑MCS, ↓OHT in regions 1, 3, 9, 10.
- **Minority:** ↑MCS, ↓OHT in regions 1, 2, 3, 6.

REVIEWER'S COMMENTS

- Marked heterogeneity in MCS use across UNOS regions
- **Provocative question:** Why ↑MCS use in minority only in certain regions? (Disparity in OHT access? ↑Co-morbidities? ↓Socio-economic status?)

Limitations:

- Ascertainment bias in INTERMACS → ↑MCS use
- No granularity within "minority" (Black vs. Hispanic vs. others)