## **ISHLT** MECHANICAL CIRCULATORY SUPPORT. DEC '19 **JOURNAL WATCH**

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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* 

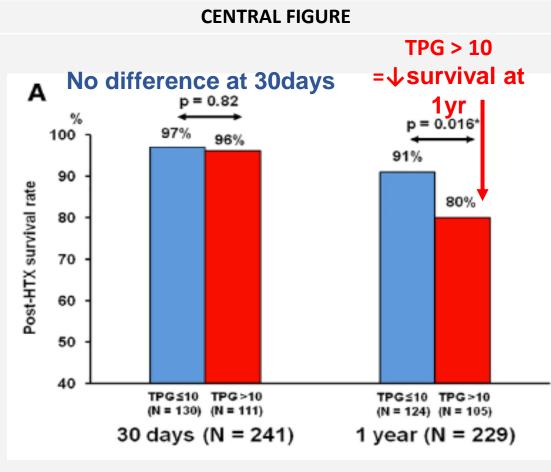
STUDY HIGHLIGHTS

Hypothesis: Transpulmonary gradient (TPG) prior to LVAD = better predictor of survivalpost 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.



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 <u>after</u> LVAD and immediately <u>prior to</u> HT.

-Short duration of LVAD support prior to HT raises question of persistent PH post-LVAD.

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### Van-Khue Ton, MD PhD

MASSACHUSETTS GENERAL HOSPITAL, Boston, MA, USA

#### **ISHLT.ORG**

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

**CENTRAL FIGURE** 

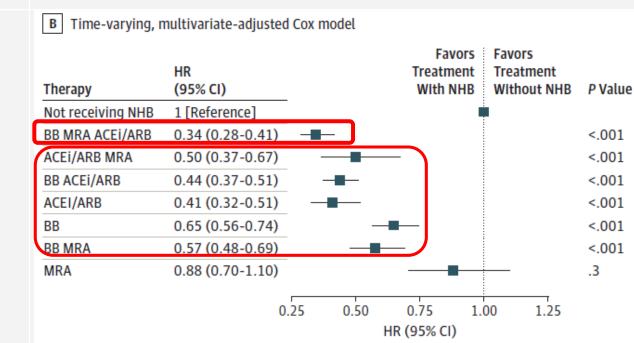
### **STUDY HIGHLIGHTS**

### 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° outcome: survival 6m-4y

## **Results: NHB wins!**



- 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)</li>

### **REVIEWER'S COMMENTS**

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

### **Limitations:**

- Association  $\neq$  causation
- Healthy user bias

### Question raised: Need for RCT of NHB use vs. none in CF-LVAD pts.

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#### **ISHLT.ORG**

Bourque et al. Durable mechanical circulatory support device use in the United States by geographic region and minority

status. J Thorac Cardiovasc Sura

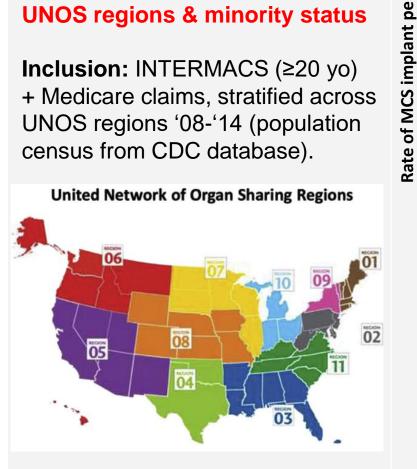
### **STUDY HIGHLIGHTS**

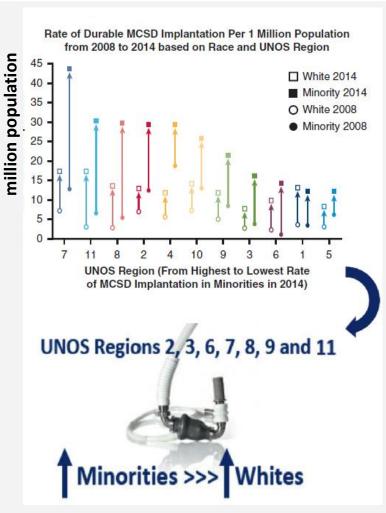
#### **CENTRAL FIGURE**

### Hypothesis: MCS use varies by **UNOS regions & minority status**

**1** 

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





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? ↑Comorbidities? USocioeconomic status?)

### Limitations:

- Ascertainment bias in INTERMACS  $\rightarrow \uparrow$  MCS use
- No granularity within "minority" (Black vs. Hispanic vs. others)