Seated Pulmonary Artery Pressure Management in Patients with Heart Failure: 12-Month Outcomes in the PROACTIVE-HF Trial

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Background

- PROACTIVE-HF was changed from a randomized, single-blind design to a single-arm, multi-center, open label design with blinded endpoint assessment and pre-specified safety and effectiveness endpoints defined from previous hemodynamic monitoring trials[1]
- Subjects had NYHA class III heart failure (HF) with prior HF hospitalization or elevated natriuretic peptides
- PROACTIVE-HF met its primary effectiveness endpoint at 6 months: the incidence of HF hospitalization or all-cause mortality compared to a performance goal: **0.15 vs. 0.43 events/patient/6-month; p<0.000[2]**
- PROACTIVE-HF met its primary safety endpoints at 6 months: freedom from device or system-complications (DSRC) and pressure sensor failure: **99.2% freedom from DSRC (N=4 events) and 99.8% freedom from pressure sensor failure (N=1 event)**
- Significant improvements were seen in:
  - KCCQ (+5.0 points)
  - 6-minute walk test (+23.7 meters)
  - NYHA class (32% improved)
  - above-target seated mean pulmonary artery pressure (mPAP) reduction (-2.4 mmHg)

We extend these analyses over a 12-month period

1. Guichard JL et al. J Card Fail. 2023;29(2):171-180
2. Guichard JL et al. JACC Heart Fail. 2024;S2213-17779(24)00485. Online ahead of print

PROACTIVE-HF: Baseline Characteristics

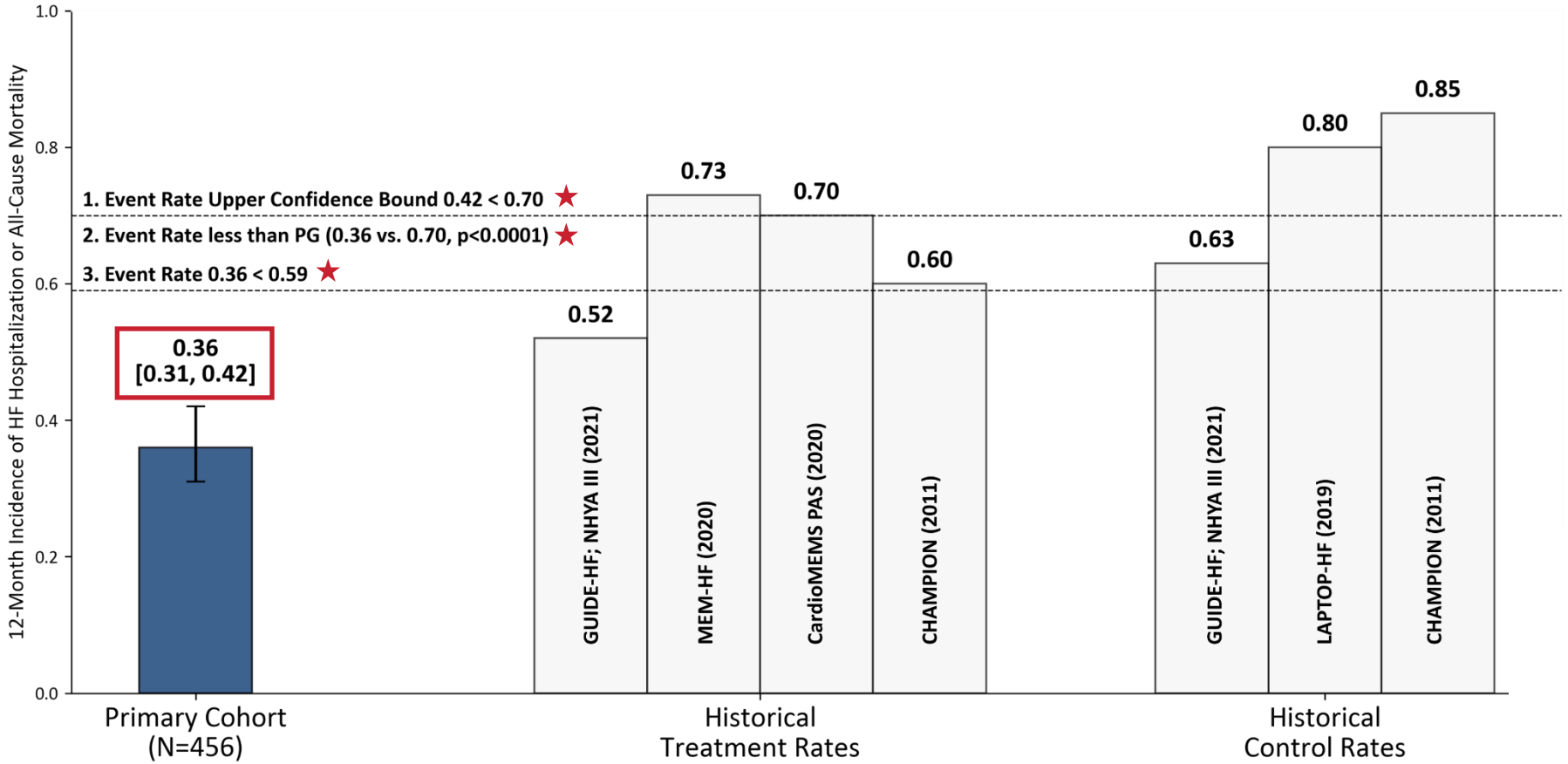
Characteristic	All Subjects N = 456
Age (years), Mean (SD)	64 (13)
Female	40%
Black	18%
BMI (kg/m^2), Mean ± SD	36 (9)
LVEF ≥ 50%	44%
Number of HFH in previous year, Mean ± SD	1.0 ± 1
Hypertension	88%
Chronic obstructive pulmonary disease	20%
Chronic kidney disease	43%
Atrial fibrillation	52%
eGFR, Mean ± SD	55 ± 19
NT-proBNP, Mean ± SD	1731 ± 3013
KCCQ, Mean ± SD	53 ± 23
6MWT, Mean ± SD	260 ± 121

Characteristic	All Subjects N = 456
Supine pulmonary artery pressure, Mean ± SD	28 ± 10
Pulmonary capillary wedge pressure, Mean ± SD	17 ± 9
Systolic blood pressure, Mean ± SD	122 ± 19
Angiotensin receptor-neprilysin inhibitor	44%
Angiotensin II receptor blocker	18%
ACE Inhibitor	7%
Beta blocker	87%
Aldosterone Antagonist	68%
SGLT2 inhibitor	58%
Loop Diuretic	97.4%
Enrollment: HFH criteria only	33%
Enrollment: NT-proBNP criteria only	20%
Enrollment: HFH + NT-proBNP criteria	47%
Subjects with HFH prior to implant	80%

PROACTIVE-HF: Safety and Effectiveness

Powered Secondary Effectiveness Endpoint

12-month incidence of HF hospitalization or all-cause mortality against performance goals

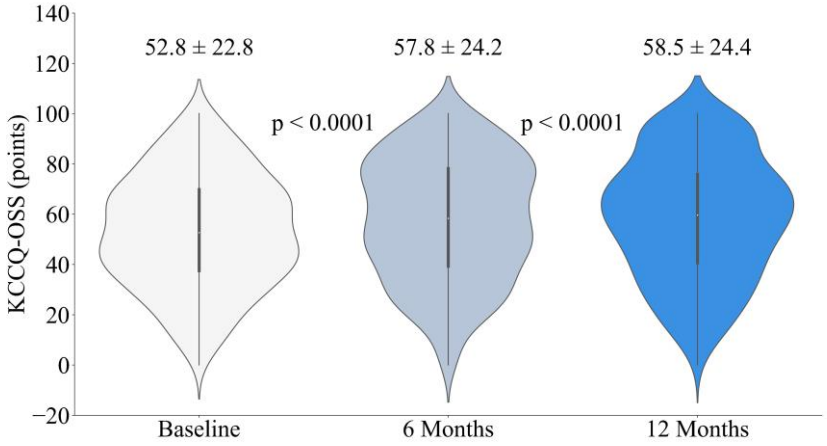


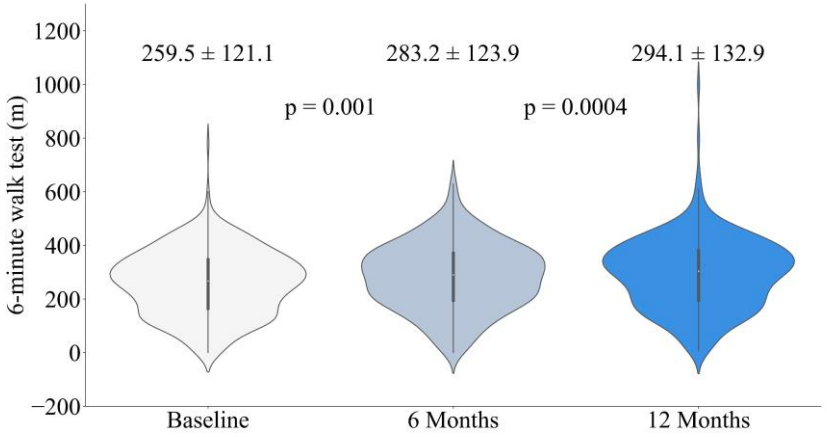
Safety Endpoints

- No further DSRC or pressure sensor failures beyond 6-month primary endpoint
- Low incidence of serious adverse events
  - AKI (2.4%)
  - PE (1.0%)
  - Bleeding (0.6%)
  - MI (0.4%)
  - Arrhythmia (10.1%)
  - Hemoptysis (3.0%)

PROACTIVE-HF: Key Secondary Endpoints

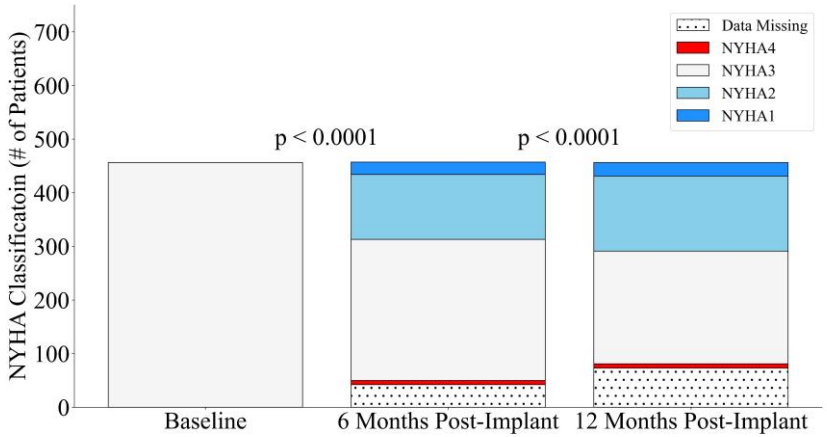
KCCQ-OSS
+5.7 points
p < 0.0001

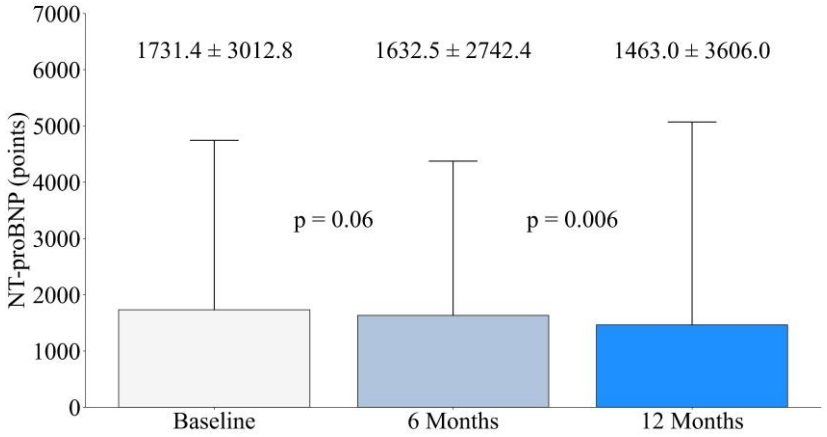




6MWT
+35 m
p = 0.0004

NYHA
N = 165
improved
p < 0.0001



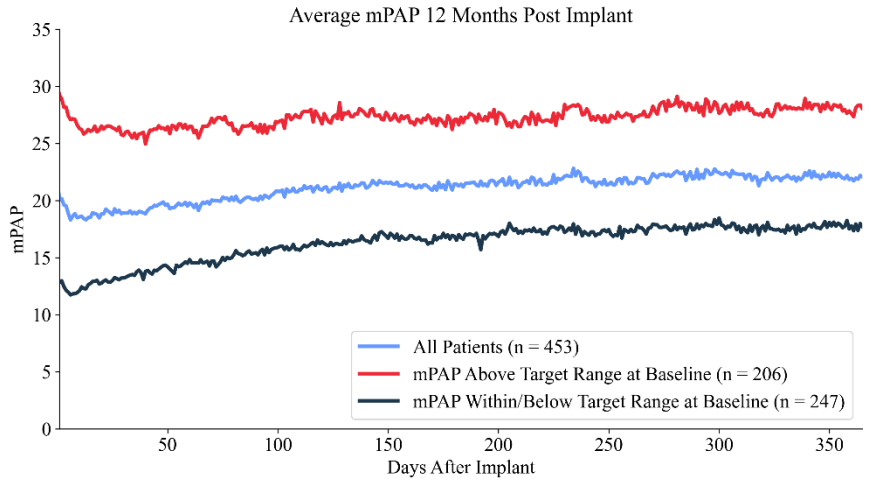


NT-proBNP
-268 pg/mL
p = 0.006

*all p-values are comparing to baseline

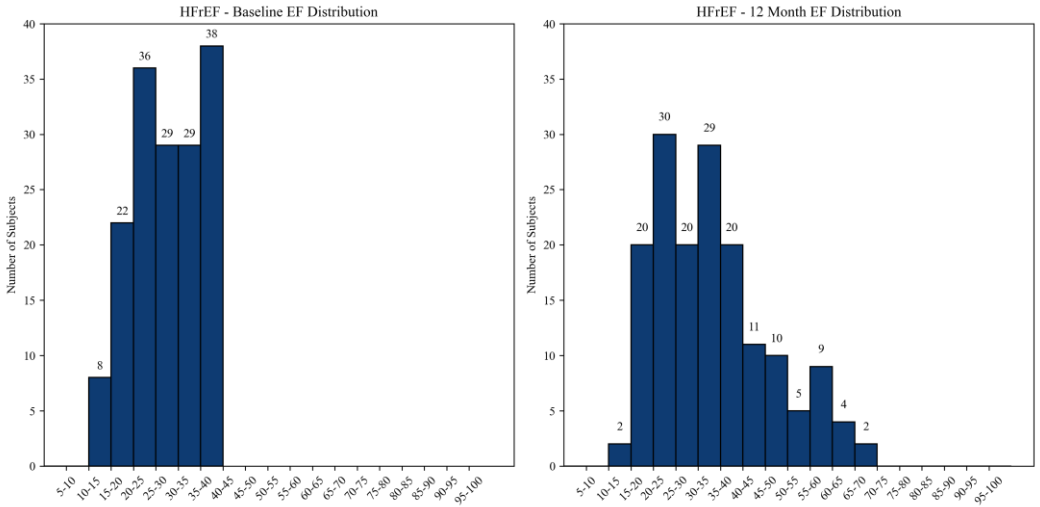
PROACTIVE-HF: Key Secondary Endpoints

Seated mPAP Target Range = 5-20 mmHg



All Subjects	Baseline	12-month	p-value
All N= 453	20.2 ± 10.3	22.4 ± 9.7	<0.0001
Baseline mPAP > 20 mmHg N=206	29.2 ± 7.6	27.8 ± 9.9	0.04
Baseline mPAP ≤ 20 mmHG N= 247	12.8 ± 4.9	18.4 ± 7.4	<0.0001

Echocardiogram



HFrEF Subjects

Baseline vs. 12-month

- N = 162 HFrEF patients had paired ECHO at baseline and 12 mo
- 26.4 ± 8.1% vs. 32.0 ± 12.7% (+5.6%); p < 0.0001

N = 30 (19% of HFrEF subjects) had HF with improved ejection fraction (HFimpEF), defined as a baseline LVEF ≤ 40%, a ≥ 10-point increase from baseline, and a second measurement of LVEF > 40%.

Conclusions

- PROACTIVE-HF met its primary safety and efficacy endpoints at 6 months in NYHA class III HF patients on high rates of GDMT. Through 12 months, remote HF management with the Cordella System enabled markedly low rates of HF hospitalization and all-cause mortality

- The Cordella PA Sensor and HF System was safe, improved KCCQ, 6MWT, NYHA, NT-proBNP, EF in HFrEF, and enabled significant reductions in mPAP for patients elevated at baseline through 12 months of follow-up

- These results support the use of seated mPAP monitoring and extend the growing body of evidence that PAP-guided management improved outcomes in HF

Thank you

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