

Hybrid Epicardial-Endocardial Ablation for Long-Standing Persistent Atrial Fibrillation: A Subanalysis of the CONVERGE Trial

DeLurgio, D.B. et al. (2022). Heart Rhythm O2; doi: <https://doi.org/10.1016/j.hroo.2022.11.007>

Objective

The CONVERGE IDE trial¹ evaluated the effectiveness of Hybrid Convergent (HC) ablation versus endocardial Catheter Ablation (CA) for treating persistent atrial fibrillation (AF) and longstanding persistent AF (LSPAF). The objective of the present article was to present the safety and effectiveness of HC versus CA in the LSPAF subgroup from CONVERGE.

Key Results

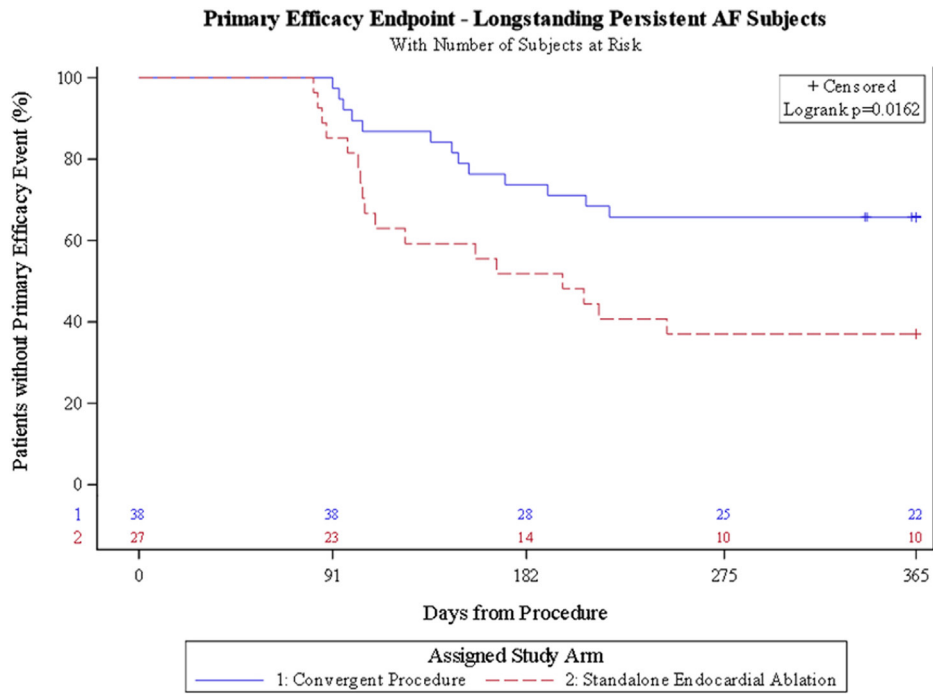
- Through 12-months:
 - Freedom from atrial arrhythmias (AA) off new or increased dose of previously failed/intolerant anti-arrhythmic drugs (AADs) was 65.8% (95% CI: 50.7–80.9%) with HC versus 37.0% (95% CI: 5.1–52.4%) with CA (P=0.022) (**Figure**).
 - Freedom from AAs off AADs was 52.6% (95% CI: 36.8–68.5%) with HC versus 25.9% (95% CI: 9.4–42.5%) with CA (P=0.031).
 - Freedom from AA regardless of AAD use was 73.7% (95% CI: 59.7–87.7%) with HC versus 44.4% (95% CI: 25.7–63.2%) with CA (P=0.017).
 - ≥90% AF burden reduction at 12 months: 78.9% (95% CI: 66.0–91.9%) with HC versus 46.2% (95% CI: 27.0–65.3%) with CA (P=0.007).
 - Freedom from AF off AADs was 71.1% (95% CI: 56.6–85.5%) with HC versus 37% (95% CI: 18.8–55.3%) with CA (P=0.006).
- Through 18-months:
 - Freedom from AA off new or increased AADs was 60.5% (95% CI: 50.0–76.1%) with HC versus 25.9% (95% CI: 9.4–42.5%) with CA (P=0.006).
 - Freedom from AF off AADs was 47.4% (95% CI: 31.5–63.2%) with HC versus 22.2% (95% CI: 6.5–37.9%) with CA (P=0.038).
 - Freedom from AA regardless of AAD use was 68.4% (95% CI: 53.6–83.2%) with HC versus 33.3% (95% CI: 15.6–51.1%) with CA (P=0.005).
 - ≥90% AF burden reduction at 18 months: 73% (95% CI: 58.7–87.3%) with HC versus 36% (95% CI: 13.3–60.6%) with CA (P=0.004).
 - Freedom from AF off AADs was 68.4% (95% CI: 53.6–83.2%) with HC versus 29.6% (95% CI: 12.4–46.9%) with CA (P=0.002).
- Safety:
 - Three (7.9%) MAEs occurred within 30 days of HC, and included 1 cardiac tamponade, 1 stroke, and 1 phrenic nerve injury. No esophageal injuries were reported through 12-months post-procedure in either arm.
- Electrophysiology lab efficiency:
 - The mean total epicardial ablation time in the HC arm was 77.3 ± 19.9 minutes. The mean total endocardial ablation time was 139.6 ± 44.1 minutes in the HC arm versus 180.7 ± 64.1 minutes in the CA arm (Δ 41.1 min; P=0.006).

Central Message

In a historically difficult-to-treat patient population, HC ablation had significantly greater effectiveness in freedom from AAs and ≥90% AF burden reduction through 18 months in comparison to CA with reasonable safety.

A Subanalysis of the CONVERGE Trial

Figure. Kaplan-Meier analysis of freedom from atrial fibrillation/atrial flutter/atrial tachycardia.



Reference:

1. DeLurgio, D.B. et al. (2020). *CircAE*; 13e009288.

Summary written by: Latoya M. Mitchell, PhD, CMPP