The Effect of Left Atrial Appendage Closure on Patients Undergoing Hybrid Convergent AF Ablation

A recently published single-site, retrospective analysis conducted by N. Gegechkori and colleagues (Maimonides Medical Center, Brooklyn, NY) aimed to determine if hybrid convergent ablation with left atrial appendage exclusion (LAAE) using the AtriClip® LAAE System offers additional benefit in reducing atrial arrhythmia (AA) recurrence and longer-term stroke risk.[1]

A total of 139 consecutive patients from the TRAC AF Registry (sponsored by AtriCure Inc, ClinicalTrials.gov identifier: NCT05111015), who presented with persistent atrial fibrillation (AF) and without prior ablation, underwent hybrid convergent ablation alone (HA, n=59, 48%) or HA with LAAE using AtriClip (n=64, 52%). Outcomes including freedom from AF and any AA on or off antiarrhythmic drugs (AADs) outside of the 90-day blanking period were assessed. Patients completed a minimum of 3 months of follow-up and outcomes were evaluated at one year.

Results demonstrated freedom from any AA off AAD was significantly improved in the HA+AtriClip group compared to HA alone (77% vs 58%; p=0.04), and a trend to improved freedom from any AA on or off AADs in the HA+AtriClip group (88% vs 76%; p=0.15) was also observed. In addition, fewer repeat catheter ablations were required at one year for the HA+AtriClip group (p<0.05). Furthermore, discontinuation of oral anticoagulation therapy occurred in 25% and 7% of patients treated with HA+AtriClip and HA alone, respectively, at 12 months. Of patients who underwent HA+AtriClip, 98% had complete closure of their LAA with residual stumps measuring < 1 cm. No strokes, trans-ischemic attacks, myocardial infarctions, phrenic nerve injuries, atrioesophageal fistulas or deaths occurred in either group.

Outcomes at one-year post-procedure			
	HA + AtriClip	HA Alone	P-Value
Freedom from any AA off AAD	77%	58%	P=0.04
Patients requiring repeat ablations at 1 year	0%	10%	P<0.05
Freedom from any AA on or off AADs	88%	76%	P=0.15
Freedom from oral anticoagulation	25%	7%	NS

AA = atrial arrhythmias; AADs= antiarrhythmic drugs; HA = hybrid convergent ablation; NS = non-significant

Key Takeaways

- In this study, patients with persistent AF who underwent HA+AtriClip demonstrated improved freedom from AA recurrence over HA alone without any increased risk of stroke at one year.
- Fewer patients treated with HA+AtriClip were using AADs and required fewer repeat ablations at one year.
- These results are in line with those of the CONVERGE Trial which demonstrated a significant improvement in freedom from atrial arrhythmias (AA, absent change in antiarrhythmic drugs, AAD) with hybrid convergent ablation as compared to endocardial catheter ablation alone (67.7% vs 50.0%, p=0.036) in patients with persistent and long-standing persistent AF.[2]

AtriCure

Hybrid Convergent: Effects of Left Atrial Appendage Closure

References:

1. *Gegechkori, N. et al. (2022). J Afib-EP, 15(3), in press.*
2. *Delurgio, D. et al. (2020). Circ Arrhythm Electrophysiol, 13: e009288.*

AtriClip LAA Exclusion System
The AtriClip LAA Exclusion System is indicated for the exclusion of the heart's left atrial appendage

EPi-Sense® Guided Coagulation System
The EPi-Sense® Guided Coagulation System with VisiTrax® is intended for the coagulation of cardiac tissue using radiofrequency (RF) energy during cardiac surgery for the treatment of arrhythmias including Atrial Fibrillation (AFIB) or Atrial Flutter (AFL). Contraindications include patients with Barrett's Esophagitis, left atrial thrombus, a systemic infection, active endocarditis, or a localized infection at the surgical site at the time of surgery. Reported adverse events associated with epicardial ablation procedure may include, but are not limited to, the following: pericardial effusion, excessive bleeding, Pericarditis, phrenic nerve injury, stroke/TIA/neurologic complication. Please review the Instructions for Use for a complete listing of contraindications, warnings, precautions and potential adverse events located at the following AtriCure web address: https://www. atricure.com/instructions-for-use/international. Individual results may vary. Please consult with your physician regarding your condition and appropriate medical treatment. The devices are used to form scars in the heart tissue. Possible problems during the procedure may result in the formation of unwanted scar tissue, damage to nerve and blood vessels, heart rhythm disorder, blood clots, pooling of fluid in the sac around the heart and tissue tearing or puncture.