

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

It is well known that the left atrial appendage (LAA) is as an electric source for AF triggers and substrate¹ and has been documented as a primary culprit of thrombus formation which can lead to stroke.² Closure of the LAA with the AtriClip LAA Exclusion(LAAE) System has emerged as a tool to successfully isolate the LAA concomitantly during cardiac surgery.³ Hybrid convergent ablation with LAAE using AtriClip may offer additional benefit in reducing atrial arrhythmia (AA) recurrence and longer-term stroke risk.

Therefore, a single site, non-randomized, retrospective analysis of the TRAC AF Registry examined 139 consecutive patients with persistent AF without prior ablation who underwent hybrid convergent ablation alone (HA, n=59, 48%) or HA with LAAE using AtriClip (n=64, 52%).⁴ Outcomes including freedom from AF and any AA on or off 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 demonstrate 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

- 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.
- Results are in line with that 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.⁵

Hybrid Convergent: Effects of Left Atrial Appendage Closure

References:

1. Di Biase, L. et al. (2010). *Circulation*. 122(2):109-18.
2. Blackshear, J. & Odell, J.A. (1996). *Ann Thorac surg* 61(2):755-9.
3. Toale, C. et al. (2019). *Interact Cardiovasc Thorac Surg*. 29(5):655-62.
4. Gegechkori, N. et al. (2022). *J Afib-EP*. 15(3), in press.
5. Delurgio, D. et al. (2020). *Circ Arrhythm Electrophysiol*, 13: e009288.

AtriClip® LAA Exclusion System

U.S. Indications: The AtriClip LAA Exclusion System is indicated for the exclusion of the heart's left atrial appendage, performed under direct visualization and in conjunction with other cardiac surgical procedures.

Direct visualization, in this context, requires that the surgeon is able to see the heart directly, with or without assistance from a camera, endoscope, etc., or other appropriate viewing technologies.