

Association of Left Atrial Appendage Emptying Velocity with Type of Atrial Fibrillation

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Background

- Left Atrial Appendage Emptying Velocity (LAAev) is a surrogate for propensity of LAA thrombus & cardioembolic stroke.
- Atrial fibrillation (AF) is a known significant factor for LAAev.
- However, little information exists regarding association between type of AF and LAAev

Research Questions

- *Is AF type (long standing persistent/ permanent vs. paroxysmal/persistent) an independent predictor of LAAev?*

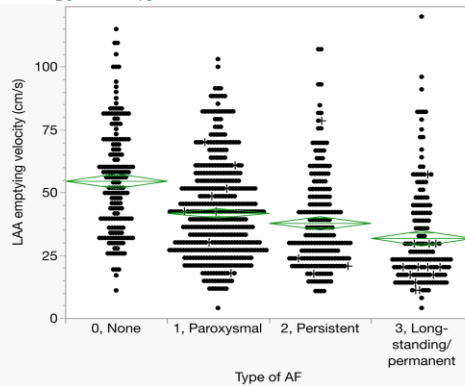
Methods and Materials

1. Transesophageal (TEE) reports from 2016-2022 at The University of Kansas Medical Center were searched.
2. Presence/absence & type of AF was extracted from these charts.
3. Corresponding LAAev's were taken from Doppler TEE images.
4. Association of AF type & LAAev was assessed with univariate & multivariate* linear regression.

*Multivariate analysis included age, sex, hypertension, CAD, PAD, history of VT/PE, LA size, mitral regurgitation, LVEF, rhythm during TEE, mitral regurgitation, general anaesthesia, eGFR, and platelet count

Results

- We included 995 total TEEs (61.9% men, age 71.3 ± 12.7 years, 89.3% white) of which 817 (82.1%) had history of AF
- Of those with history of AF, 43.6% had paroxysmal, 21.7% persistent, and 16.8% long-standing persistent/permanent
- Long-standing persistent/ permanent AF was associated with significant decrease in LAAev compared to paroxysmal/persistent AF both in univariate ($\beta = -8.65 \pm 1.70$ cm/s, $p < 0.0001$) & multivariate ($\beta = -3.77 \pm 1.98$ cm/s, $p = 0.05$) analysis.



Conclusion

Conclusion/discussion:

- Even though CHA₂DS₂-VASc score does not incorporate type of AF, we found long-standing persistent/ permanent AF to be an independent predictor for reduced LAAev.

Future Directions:

- History of long standing persistent/ permanent AF may be considered in future AF-related cardioembolic stroke risk stratification models

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References

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Conflicts of Interest - None

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