IMPACT OF SEDATION AND ECHOCARDIOGRAPHIC GUIDANCE STRATEGY ON LEFT ATRIAL APPENDAGE CLOSURE

Sapan Bhuta, MD; Jose R. Sleiman, MD; Connor C. Jacob, BS; Nooruddin S. Pracha, BS; Sachit Rustagi, BS; John S. Scandale, BS; Nicholas J. Yavornitzky, BS; Ralph S. Augostini, MD; Raul Weiss, MD; Steven J. Kalbfleisch, MD; Salvatore J. Savona, MD; Toshimasa Okabe, MD; Muhammad R. Afzal, MD; John D. Hummel, MD; Emile G. Daoud, MD; Mahmoud Houmsse, MD, FACP, FACC, FHRS
Division of Cardiovascular Medicine, Department of Internal Medicine, The Ohio State University Wexner Medical Center, Columbus, OH, USA

THE OHIO STATE UNIVERSITY
WEXNER MEDICAL CENTER

Background

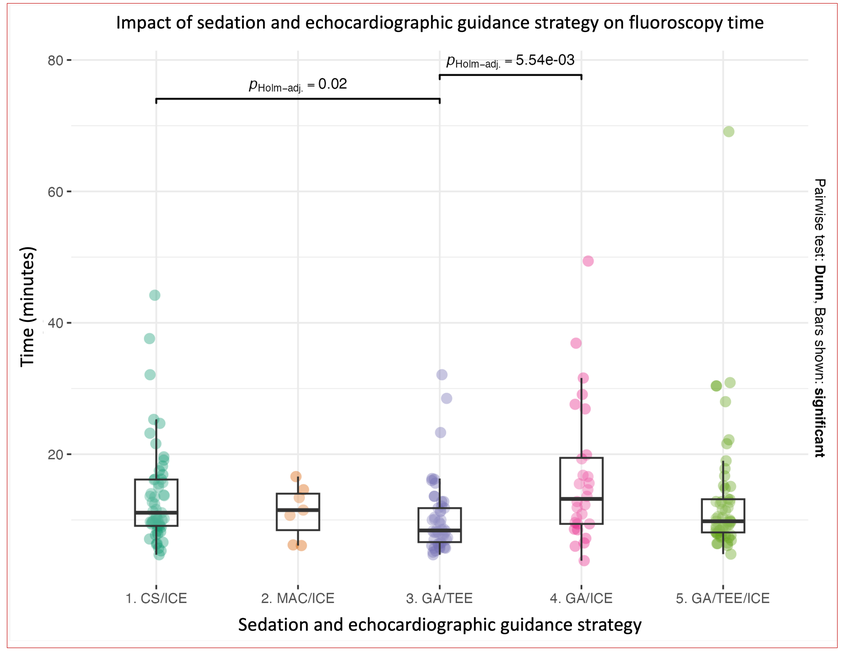
- Traditionally, left atrial appendage closure (LAAC) has been performed under general anesthesia (GA) with transesophageal echocardiography (TEE)
- However, operators are increasingly utilizing conscious sedation (CS) or monitored anesthesia care (MAC) with intracardiac echocardiography (ICE)

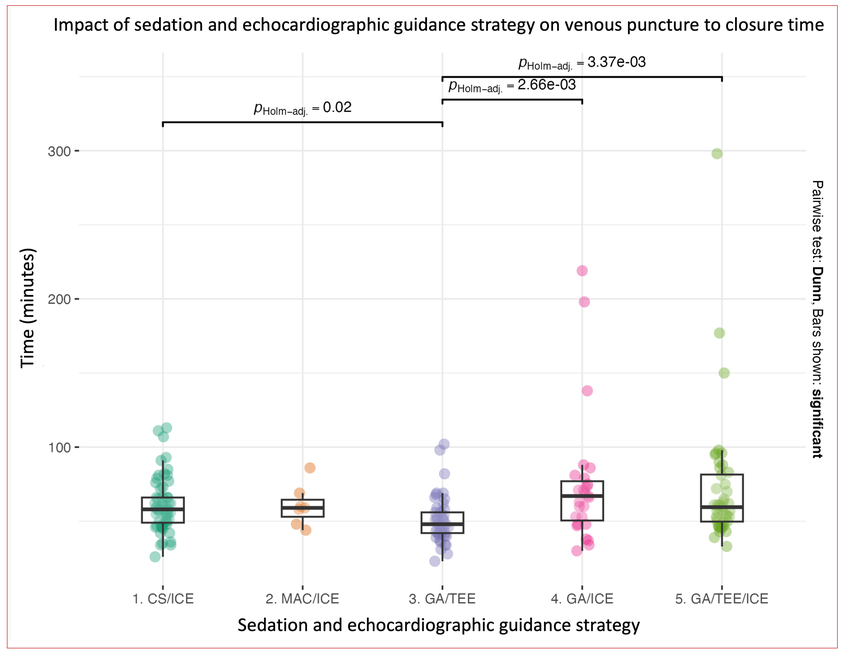
Objective

- To assess the impact of sedation and echocardiographic guidance strategies (CS/ICE, MAC/ICE, GA/TEE, GA/ICE, and GA/TEE/ICE) on the procedural efficiency, outcomes, and safety of LAAC

Methods

- Single center retrospective study
- Included all patients who underwent LAAC with Watchman FLX from June 2021 to November 2022
- Primary measures were patient in-lab, sedation start, device release, vascular closure, and patient out-of-lab times
- Secondary measures were successful transseptal puncture, successful device deployment, number of deployed devices, fluoroscopy time, contrast volume, same day discharges, length of stay, complications, and incidence of peri-device leak and device-related thrombus at follow-up





Results

- 200 patients underwent LAAC:
  - 57 (29%) CS/ICE
  - 07 (04%) MAC/ICE
  - 51 (26%) GA/TEE
  - 29 (15%) GA/ICE
  - 56 (28%) GA/TEE/ICE
- Patient characteristics: age 75.2±8.1 years, 84 (42%) females, LVEF 55.6±9.4%, CHA2DS2-VASc 4.7±1.4.
- Fluoroscopy time (p=0.004)
  - GA/TEE vs CS/ICE (10.3±5.5 vs 13.7±7.7 mins, p=0.016)
  - GA/TEE vs GA/ICE (10.3±5.5 vs 16.5±10.5 mins, p=0.006)
- Total patient in-lab time (p=0.012)
  - GA/TEE vs GA/ICE (110.4±29.7 vs 135.0±48.6 mins, p=0.016)
  - GA/TEE vs GA/TEE/ICE (110.4±29.7 vs 131.7±49.3 mins, p=0.040)
- Venous puncture to closure (p<0.001)
  - GA/TEE vs CS/ICE (50.9±15.9 vs 61.1±18.6 mins, p=0.016)
  - GA/TEE vs GA/ICE (50.9±15.9 vs 75.0±44.2 mins, p=0.003)
  - GA/TEE vs GA/TEE/ICE (50.9±15.9 vs 72.0±44.4 mins, p=0.003)
- No significant differences in other procedural characteristics, clinical outcomes, or complications.

Conclusion

- The choice of sedation and echocardiographic guidance had a significant impact on procedural efficiency but not on outcomes or safety of LAAC
- GA/TEE appears to be the optimal strategy from the perspective of fluoroscopy use and time efficiency
- The discrepancy with ICE maybe attributable to operator learning curve and adoption of dual responsibilities (imaging and device implantation)