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stroke risk associated with the presence of SEC or left ventricular thrombus (LVT) in patients with heart failure with reduced ejection fraction (HFrEF).

METHODS Clinical, echocardiographic, and follow-up data were retrospectively extracted from electronic medical records of heart failure patients with left ventricular ejection fraction (LVEF) <40% by echocardiography on admission to our center.

RESULTS Of 9,485 consecutive patients with HFrEF, 123 (1.3%) presented LVT, and 331 (3.5%) presented SEC. Patients with versus those without SEC/LVT had larger left ventricular end-diastolic diameter (199.5 ± 77.7 vs. 165.8 ± 61.3 ml, p < 0.001) and lower LVEFs (29.5 ± 7.0% vs. 33.7 ± 5.5%, p < 0.001) and more often ischemic cardiomyopathy, apical aneurysm, chronic kidney diseases, and a smoking habit. In multivariate analysis, male sex, age, smoking, ischemic cardiomyopathy, apical aneurysm, chronic kidney disease, LVEF, and left ventricular end-diastolic volume were independent risk factors for SEC/LVT (p < 0.05). In Cox regression analysis of the overall patient population with HFrEF, SEC and LVT were independent predictors for ischemic stroke occurrence (hazard ratio [HR]: 2.400; 95% confidence interval [CI]: 1.737 to 3.314; HR: 4.524, 95% CI: 2.767 to 7.395; both p < 0.001). In patients with versus those without SEC or LVT, stroke risk was higher among those not on anticoagulants (HR: 2.551; 95% CI: 0.984 to 6.592). SEC/LVT was associated with higher rates of in-hospital major adverse events (medium vs. low, adjusted odds ratio: 0.69; 95% confidence interval: 0.46 to 1.04; p = 0.08; high vs. low, adjusted odds ratio: 0.55; 95% confidence interval: 0.37 to 0.82; p = 0.003).

CONCLUSION Higher hospital procedural volume is associated with better outcomes for percutaneous LAAO procedures. Further studies are needed to determine if this relationship persists for long-term outcomes.

CATEGORIES STRUCTURAL: Left Atrial Appendage Closure

TCT CONNECT-443
Less Invasive Approaches for Left Atrial Appendage Closure: Ready for a New Era
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BACKGROUND This new coronavirus pandemic scenario makes it necessary to minimize the invasiveness of our structural interventions, in particular those aerosol generating procedures as general anesthesia. Left atrial appendage closure (LAAC) is usually performed under general anesthesia and transesophageal echocardiography (TEE) guidance. The aim of our study was to compare LAAC approaches with and without general anesthesia at the procedure and long-term follow-up.

METHODS From March 2011 to February 2020, 260 LAAC procedures have been performed under the following protocols: general anesthesia plus TEE, conscious sedation plus TEE, and local anesthesia with fluoroscopy guidance. Technical success (successful deployment of first selected device) and procedural success (final successful deployment, without adverse event at 24 h) were compared among approaches. Follow-up assessment included thromboembolic events (ischemic stroke and systemic embolism) and major bleeding.

RESULTS The table summarizes procedural and follow-up (2.5 ± 1.9 years, 638 patients-year) assessment.

| Outcomes | Overall N= 5,949 | Low volume N=1,652 (27.6%) | Medium volume N=3,865 (65.2%) | High volume N=62 (1.0%) | P Value |
|----------|-----------------|-----------------------------|-----------------------------|-----------------------|---------|
| In-hospital Major Adverse Events | 2724(46.2) | 629(38.0) | 1844(47.8) | 141(22.6) | <0.001 |
| Death/Discharge | 11(0.2) | 2(0.1) | 7(0.2) | 2(0.3) | 0.500 |
| Stroke/Transient Ischemic Attack | 10(0.2) | 4(0.2) | 4(0.1) | 2(0.3) | 0.300 |
| Myocardial Infarction | 5(0.1) | 1(0.1) | 2(0.1) | 2(0.3) | 0.690 |
| Pulmonary Embolism | 9(0.2) | 1(0.1) | 3(0.1) | 5(0.8) | 0.460 |
| Pericardial Effusion/Centesis | 108(1.8) | 16(1.0) | 48(1.3) | 44(7.0) | 0.003 |
| Vascular Complications | 189(3.2) | 38(2.3) | 82(2.1) | 69(11.0) | 0.0001 |
| Bleeding/Transfusion | 459(7.7) | 106(6.4) | 238(6.1) | 115(18.5) | <0.001 |
| Length of Stay (Days) | 4.9(2.5) | 4.0(2.0) | 4.0(2.0) | 5.0(2.0) | 0.002 |

CONCLUSION In patients with HFrEF, SEC was not uncommon and was associated with as a high risk for ischemic stroke events as those with LVT. Anticoagulant use significantly reduced the chance of ischemic stroke, suggesting that patients with SEC/LVT, especially in sinus rhythm, would benefit from systemic anticoagulation treatment.

CATEGORIES STRUCTURAL: Heart Failure
CONCLUSION LAAC procedures without general anesthesia showed no significant differences in terms of procedural success and long-term follow-up events compared with standard LAAC with general anesthesia.

CATEGORIES STRUCTURAL: Left Atrial Appendage Exclusion

TCT CONNECT-444
Feasibility and Safety of Left Atrial Appendage (LAA) Occlusion in Presence of LAA Thrombus: The TRAPEUR Registry (Thrombus Trapping European Registry)

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BACKGROUND Percutaneous left atrial appendage occlusion (LAAO) has emerged as an alternative therapeutic option for the prevention of systemic embolic events in high-risk patients with nonvalvular atrial fibrillation. However, the presence of thrombus in the left atrial appendage (LAA) represents a contraindication to the procedure. Previous limited series reported the feasibility of a dedicated technique (thrombus trapping procedure [TTP]) to overcome this limitation in selected cases. We aimed to analyze the short-term outcomes of TTP in patients with an identified thrombus.

METHODS This multicenter (n = 8) retrospective study included patients undergoing TTP between January 2018 and May 2020. The choice of the device, the pre-interventional workup, and the post-discharge anticoagulation/antiplatelet regimen were left at the discretion of the operators. Baseline, procedural, and post-interventional characteristics were collected in a standardized case report form. The primary endpoint was the occurrence of any stroke, systemic embolic event, or cardiovascular death at day 30 following the procedure.

RESULTS A total of 1,206 patients underwent LAAO procedures during the study, including TTP in 31 patients (2.6%/median age: 80 [76 to 87] years; CHA2DS-VASc score: 5 [4 to 6]). The indications for LAAO were contraindication to long-term oral anticoagulation (94%) and recurrent stroke under anticoagulant therapy (6%). The LAA thrombus was identified prior to intervention in 81% and during intervention in 19% of the cases. The thrombus was distal and its length inferior to 50% of the global LAA depth in 73% of the cases. The thrombus identification during pre-intervention workup led to anticoagulation reintroduction in 10 patients (32%). Amulet and Watchman FLX devices were implanted in 25 and 6 cases, respectively (diameter: 25 [25 to 28] mm). No embolic protection device was used in any of the cases. Patients were discharged under antiplatelet therapy in 82% and short-term oral anticoagulation in 18%. The primary endpoint occurred in 1 patient (3%, 1 stroke leading to cardiovascular death). Bleeding Academic Research Consortium 2 and 3 hemorrhagic events were reported in 2 and 1 patient, respectively.

CONCLUSION TTP represents a minority of LAAC procedures but appears feasible and safe in the short-term.