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Background: Historically, catheter ablation, including cryoballoon ablation (CBA), has been evaluated in a smaller proportion of female study patients with atrial fibrillation (AF) compared to male participants. The resulting consequences of this differential representation are largely unexplored.

Objective: Evaluate outcomes of CBA between genders in the Cryo AF Global Registry (NCT02752737).

Methods: This registry is an ongoing, prospective, multicenter collection of CBA procedures used in standard-of-care practice. Female patients undergoing CBA were compared to males at baseline, 12-, and 24-months post-ablation. Primary safety was evaluated using a composite of procedure-related adverse events, and primary efficacy was examined using time-to-first atrial fibrillation, -flutter and/or -tachycardia (AF/AFL/AT) recurrence after 90-days blanking. Healthcare utilization was assessed during follow-up.

Results: Of 3085 patients with 12-month follow-up, 1134 (36.8%) were female. A subset of 873 patients (37.5% female) reached 24-month follow-up. On average, females were older (64 vs 59 years, $p < 0.01$), with a shorter time to diagnosis of AF (2.9 vs 3.3 years, $p = 0.03$). They presented more often with paroxysmal AF and hypertension, and less often with a history of coronary artery disease and myocardial infarction than men. Freedom from AF/AFL/AT was not different between females and males (12-m: 83.5% vs 84.3%, and 24-m: 75.3% vs 77.6%, $p = 0.51$), respectively. The safety event rate was low overall but higher in females (3.9% vs 2.6%, $p = 0.05$). Symptom burden and quality-of-life improved in both cohorts, with females reporting more symptoms and a lower quality of life before CBA and after 12-month follow-up. Freedom from repeat ablation was not different between females and males (12-m: 93.7% vs 93.8%, and 24-m: 89.2% vs 89.5%, $p = 0.84$), respectively. However, females had a lower freedom from all-cause hospitalization (12-m: 84.5% vs 88.5%, and 24-m: 79.3% vs 83.0%, $p < 0.01$).

Conclusion: CBA is safe and effective in both genders in a standard-of-care setting; however, females had a higher rate of serious adverse events and lower freedom from hospitalizations. Differential baseline characteristics suggests that AF diagnosis and timing of catheter ablation may vary by gender in study participants.

PO-679-06

SAME DAY DISCHARGE AND 30 DAY READMISSION AFTER ATRIAL FIBRILLATION ABLATION BEFORE AND DURING THE COVID-19 PANDEMIC IN A TWO HOSPITAL HEALTHCARE SYSTEM

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Background: COVID-19 pandemic has significantly changed cardiac electrophysiology (EP) practices, specifically directed at decreasing length of hospital stay and increasing same day discharge after EP procedures including Atrial Fibrillation (AF) ablation. However, the safety of these practices needs to be assessed.

Objective: The purpose of the study was to evaluate the practice of same day discharge post AF ablation before and during the COVID pandemic and look at the rate of 30-day readmissions in our two hospital Healthcare system.

Methods: We performed a retrospective chart review study that included patients who underwent AF ablation at the two hospitals of Methodist LeBonheur Healthcare, Memphis TN from January to June 2019 (pre-pandemic group) and January to June 2021 (pandemic group). We compared the same day discharge and 30-day readmissions amongst the two groups.

Results: The study included a total of 225 patients who underwent AF ablation-109 patients in the pre-pandemic group and 116 patients in the pandemic group. Mean age was 64.5 ± 9.0 years, 70.2% were males, 57% had paroxysmal AF. Cryoablation was performed in 87% of patients, while radiofrequency ablation was performed in 13%. There was no same day discharge post AF ablation in the pre-pandemic group, compared to 78.4% of patients in the pandemic group. Following AF ablation, 30-days readmission rate was 5.5% in the pre-pandemic group versus 7.8% in the pandemic group ($p = 0.50$). Among the 9 readmissions in the pandemic group, 6 were among the same day discharge group [pseudoaneurysm ($n = 1$), cardiac tamponade ($n = 1$), chest pain ($n = 2$) and recurrent AF ($n = 2$)] and 3 were in the overnight observation group [AF ($n = 3$)] ($p = 0.37$).

	Total N=225	Pre-COVID-19 N=109	1 year Post-COVID-19 N=116	P-Value
Age (years)	64.5 \pm 9.0	63.4 \pm 9.7	65.5 \pm 8.2	0.08
Male	158 (70.2%)	74 (67.9%)	84 (72.4%)	0.46
Paroxysmal AF	128 (56.9%)	62 (56.9%)	66 (56.9%)	0.99
First time Ablation	192 (85.3%)	95 (87.2%)	97 (83.6%)	0.45
Cryoablation	196 (87.1%)	103 (94.5%)	93 (80.1%)	<0.01
Same Day Discharge	91 (40.4%)	0 (0)	91 (78.4%)	<0.01
30 Day readmission	15 (6.7%)	6 (5.5%)	9 (7.8%)	0.50

Conclusion: While overnight observation post AF ablation was a standard practice in our two hospital healthcare system pre-pandemic, majority of patients are being discharged same day during COVID pandemic, without any significant change in the 30-day readmission. Our study suggests that it is feasible and safe to discharge majority of the patients home the same day after AF ablation.

PO-679-07

FEASIBILITY OF A NOVEL ENDOSCOPIC SHEATH FOR EPICARDIAL CATHETER BASED PROCEDURES

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Background: Percutaneous epicardial catheter based procedures are increasingly utilized to treat a variety of cardiac conditions including atrial and ventricular arrhythmias. Standard approaches do not allow for direct epicardial visualization to guide the procedure and avoid critical structures.

Objective: To evaluate the feasibility of a novel endoscopic sheath for epicardial catheter based procedures.

Methods: Epicardial access was obtained through a percutaneous subxiphoid approach in 3 healthy adult swine. The endoscopic sheath was advanced into the pericardial space. Anatomic landmarks were identified via endoscopy and confirmed via intracardiac echocardiography and fluoroscopy. Radiofrequency ablation was performed via an ablation catheter inserted through the endoscopic sheath. Ablation lesions were assessed by pathologic examination of the target and surrounding structures.

Results: Epicardial access and insertion of the endoscopic sheath into the pericardial space was achieved without complication in all animals (Figure). Identification of epicardial coronary vessels, the ablation catheter, and the pericardial vs epicardial surface was achieved in all cases. The ablation catheter was successfully manipulated under direct visualization. The sheath was successfully utilized to record from integrated