

**Table 1:** Baseline characteristics, for all patients and by recurrent atrial fibrillation vs. recurrent atypical atrial flutter at presentation for repeat ablation

Characteristics	Total (n=336)	Recurrent Atrial Fibrillation (n=234)	Recurrent Atypical Atrial Flutter (n=102)	p-value
Age, years, mean ± SD	63.7 ± 10.7	62.9 ± 11.3	65.6 ± 8.8	0.04
White, n (%)	295 (87.8)	206 (88)	89 (87.3)	0.84
Male, n (%)	244 (72.6)	167 (71.4)	77 (75.5)	0.43
Body mass index, kg/m <sup>2</sup> , mean ± SD	29.9 ± 5.5	29.7 ± 5.5	30.5 ± 5.5	0.20
Duration of AF, years, mean ± SD	7.4 ± 7.0	7.3 ± 6.9	7.3 ± 7.3	0.96
Congestive heart failure, n (%)	50 (15)	31 (13.2)	19 (18.6)	0.19
Hypertension, n (%)	208 (61.9)	140 (59.8)	68 (66.7)	0.23
Diabetes mellitus, n (%)	48 (14.3)	26 (11.0)	23 (22.1)	0.01
Stroke/TIA, n (%)	26 (7.7)	17 (7.2)	9 (8.6)	0.80
Vascular disease, n (%)	42 (12.5)	28 (12)	14 (13.7)	0.65
CHA <sub>2</sub> DS <sub>2</sub> -VASc score, mean ± SD	2.0 ± 1.4	1.9 ± 1.4	2.1 ± 1.4	0.20
Obstructive sleep apnea, n (%)	75 (22.3)	51 (21.8)	24 (23.5)	0.83
Home CPAP, n (%)	46 (61.0)	29 (12.4)	17 (16.7)	0.39
Chronic kidney disease, n (%)	9 (2.7)	5 (2.1)	4 (3.9)	0.58
Valve disease, n (%)	21 (6.3)	15 (6.4)	6 (5.9)	1.00
Smoking history, n (%)	84 (25)	59 (25.2)	25 (24.5)	1.00
Implantable cardiac device, n (%)	28 (8.3)	17 (7.3)	11 (10.8)	0.39
H/o Prior cardioversion, n (%)	161 (47.9)	101 (43.2)	60 (58.8)	0.01
H/o Cardioversion within one year, n (%)	114 (33.9)	66 (28.2)	48 (47.1)	0.00
ACE inhibitor, n (%)	61 (18.2)	38 (16.2)	23 (22.5)	0.22
Angiotensin II receptor blocker, n (%)	69 (20.5)	48 (20.5)	21 (20.6)	1.00
Beta blocker, n (%)	208 (61.9)	134 (57.3)	74 (72.5)	0.01
Statin, n (%)	115 (34.2)	70 (29.9)	45 (44.1)	0.01
Calcium channel blocker, n (%)	131 (39)	89 (38)	42 (41.2)	0.67
Anticoagulation				0.41
None, n (%)	8 (2.4)	6 (2.6)	2 (2)	
Coumadin, n (%)	80 (23.8)	51 (21.8)	29 (28.4)	
Direct oral anticoagulant, n (%)	248 (73.8)	177 (75.6)	71 (69.6)	
Antiarrhythmic				
Amiodarone, n (%)	110 (32.7)	75 (32.1)	35 (34.3)	0.78
Flecainide, n (%)	46 (13.7)	37 (15.8)	9 (8.8)	0.12
Sotalol, n (%)	18 (5.4)	14 (6)	4 (3.9)	0.61
Dofetilide, n (%)	15 (4.5)	14 (6)	1 (1)	0.04
Other antiarrhythmic, n (%)	37 (11)	29 (12.4)	8 (7.8)	0.22
No antiarrhythmic, n (%)	110 (32.7)	68 (29)	44 (43.1)	0.00

ACE indicates angiotensin-converting enzyme; AF, atrial fibrillation; CPAP, continuous positive airway pressure therapy; LV, left ventricular; TIA, transient ischemic attack

**Table 2:** Imaging characteristics, for all patients and by recurrent atrial fibrillation vs. recurrent atypical atrial flutter at presentation for repeat ablation

<b>Characteristics</b>	<b>Total (n=336)</b>	<b>Recurrent Atrial Fibrillation (n=234)</b>	<b>Recurrent Atypical Atrial Flutter (n=102)</b>	<b>p-value</b>
LA diameter by TTE, cm, mean $\pm$ SD	4.4 $\pm$ 0.7	4.4 $\pm$ 0.7	4.6 $\pm$ 0.9	0.04
LA volume index by CT, mL/m <sup>2</sup> , mean $\pm$ SD	77.5 $\pm$ 26.2	75.4 $\pm$ 25.4	85.1 $\pm$ 27.9	0.03
LV ejection fraction by TTE, mean $\pm$ SD	57.2 $\pm$ 9.1	58.2 $\pm$ 8	55.2 $\pm$ 11.0	0.02

CT computed tomography; LA, left atrial; TTE, transthoracic echocardiogram

**Table 3:** Characteristics of recurrent atypical atrial flutter and acute ablation outcomes at repeat ablation

	<b>Recurrent Atypical Atrial Flutter (n=102)</b>
Number of Atrial flutter circuits, mode (range)	1 (0 to 5)
Atrial flutter not inducible, n (%)	9 (8.8)
<b>Mechanism</b>	
Roof dependent, n (%)	36 (35.6)
Peri mitral, n (%)	24 (23.8)
Others (including multi-loop circuits, idiosyncratic flutters involving ablation lesion sets, and transitioning flutters with more than one stable circuit) n (%)	33 (32.7)
<b>Acute Ablation Outcomes</b>	
Successful ablation (Conversion to NSR), n (%)	74 (73.3)
Conversion to AF, n (%)	5 (5)
Spontaneous termination, n (%)	5 (5)
Failed (NSR achieved via cardioversion), n (%)	9 (8.9)

**Table 4:** Procedural characteristics, for all patients and by recurrent atrial fibrillation vs. recurrent atrial flutter at presentation for repeat ablation

Variables	Total (n=336)	Recurrent Atrial Fibrillation (n=234)	Recurrent Atypical Atrial Flutter (n=102)	p-value
AF type at index ablation				0.53
Paroxysmal, n (%)	213 (63.4)	151 (64.5)	62 (60.8)	
Persistent, n (%)	123 (36.6)	83 (35.5)	40 (39.2)	
Index ablation method				0.00
Radiofrequency, n (%)	289 (86.3)	190 (81.2)	99 (98)	
Cryoballoon, n (%)	46 (13.7)	44 (18.8)	2 (2)	
Time from index to first repeat ablation, years, mean $\pm$ SD	2.1 $\pm$ 2.9	2.2 $\pm$ 3.0	1.9 $\pm$ 3.0	0.31
Total reconnected PVs, mean $\pm$ SD	2.7 $\pm$ 1.3	2.8 $\pm$ 1.2	2.3 $\pm$ 1.4	0.00
Reconnected LSPV	211 (70.3)	156 (75)	55 (59.8)	0.00
Reconnected LIPV	201 (67)	145 (69.7)	56 (60.9)	0.13
Reconnected RSPV	202 (66.9)	152 (73.4)	48 (52.2)	0.00
Reconnected RIPV	195 (65.2)	144 (69.6)	51 (55.4)	0.01
PVI only, n (%)	131 (39.1)	115 (49.1)	16 (15.8)	0.00
PVI plus additional ablation, n (%)	190 (56.5)	118 (50.4)	72 (70.6)	0.00
Additional ablation only, n (%)	14 (4.2)	1 (0.4)	13 (12.7)	0.00
Roof ablation, n (%)	110 (32.7)	62 (26.5)	48 (47.1)	0.00
Floor ablation, n (%)	21 (6.3)	9 (3.8)	12 (11.8)	0.00
Posterior wall ablation, n (%)	60 (17.9)	37 (15.8)	23 (22.5)	0.09
Mitral isthmus line ablation, n (%)	49 (14.6)	11 (4.7)	38 (37.3)	0.00
CTI ablation, n (%)	69 (20.5)	37 (15.8)	32 (31.4)	0.00
SVC ablation, n (%)	13 (3.9)	11 (4.7)	2 (2)	0.35
CS ablation, n (%)	10 (3)	4 (1.7)	6 (5.9)	0.07
Other, n (%)	15 (4.5)	12 (5.1)	3 (2.9)	0.56
Combination of ablation, n (%)	93 (27.7)	46 (19.7)	47 (46.1)	0.00

PV indicates pulmonary vein; RS, right superior; RI, right inferior; LS, left superior; LI, left inferior; CTI, cavotricuspid isthmus; SVC, superior vena cava; CS, coronary sinus