

Table 1 Patient characteristics

	Low-voltage areas			p value
	Total n=405	Without n=262	With n=143	
Age, years	69±10	67±10	73±8	<0.001
Female gender, n (%)	147 (34)	70 (27)	77 (54)	<0.001
Body mass index, kg/m ²	24±4	24±4	24±4	0.19
Hypertension, n (%)	255 (63)	165 (63)	90 (63)	0.94
Heart failure, n (%)	58 (14)	28 (11)	30 (21)	0.004
Diabetes mellitus, n (%)	80 (20)	50 (19)	30 (21)	0.62
Stroke/Transit Ischemic Attack, n (%)	37 (9)	25 (10)	12 (8)	0.72
Chronic kidney disease, n (%)	44 (11)	29 (11)	15 (11)	0.87
Pacemaker implantation, n (%)	6 (1)	1 (1)	5 (4)	0.013
CHA ₂ DS ₂ VASc score, n (%)	2.6±1.5	2.3±1.4	3.2±1.3	<0.001
Non-paroxysmal atrial fibrillation	257 (63)	160 (60)	101 (71)	<0.001
Left atrial diameter, mm	41±6	40±7	42±6	<0.001
Left ventricular ejection fraction, (%)	61±12	61±12	60±13	0.38

Table 2 Ablation lesions

	Low-voltage areas			p value
	Total n=405	Without n=262	With n=143	
Pulmonary vein isolation, n (%)	405 (100)	262 (100)	143 (100)	1.0
Additional ablations				
<i>Cavo tricuspid isthmus, n (%)</i>	46 (11)	24 (9)	22 (15)	0.059
<i>Superior vena cava isolation, n (%)</i>	6 (1)	5 (2)	1 (1)	0.34
<i>Non-PV AF triggering ectopies ablation, n (%)</i>	13 (3)	6 (2)	7 (5)	0.160
<i>Defragmentation, (%)</i>	1 (1)	1 (1)	0	0.46
<i>Low-voltage-area ablation, n (%)</i>	48 (34)	0 (0)	48 (34)	<0.001
<i>Left atrial anterior line, n (%)</i>	7 (2)	0	7 (5)	<0.001
<i>Left atrial roof line, n (%)</i>	14 (3)	2 (1)	12 (8)	<0.001
<i>Left atrial bottom line, n (%)</i>	4 (1)	0	4 (3)	0.006
<i>Lateral mitral isthmus line, n (%)</i>	1 (1)	1 (1)	0	0.46

Table 3 Factors associated with atrial fibrillation recurrence

	Recurrence		Univariate analysis		Multivariate analysis	
	With n = 126	Without n = 279	Hazard ratio (95%CI)	P	Hazard ratio (95%CI)	P
Age, years	67±9	69±10	0.994 (0.98-1.01)	0.498		
Female, n (%)	53 (42)	94 (34)	1.28 (0.90-1.83)	0.17		
Body mass index, kg/m ²	24±4	24±4	1.02 (0.98-1.06)	0.25		
Hypertension, n (%)	81 (65)	174 (62)	1.01 (0.70-1.46)	0.95		
Heart failure, n (%)	20 (16)	38 (14)	1.16 (0.72-1.88)	0.54		
Diabetes mellitus, n (%)	27 (22)	53 (19)	1.18 (0.77-1.80)	0.46		
Chronic kidney disease, n (%)	14 (11)	23 (8)	1.12 (0.65-1.91)	0.69		
CHA ₂ DS ₂ VASc score	2.7±1.5	2.6±1.5	1.03 (0.91-1.16)	0.69		
Non-paroxysmal AF, n (%)	94 (75)	161(58)	2.16 (1.44-3.23)	<0.001	1.40 (0.73-2.72)	0.31
Left atrial diameter, mm	42±6	40±6	1.06 (1.03-1.09)	<0.001	1.02 (0.989-1.06)	0.20
Left ventricular ejection fraction, %	59±13	62±12	0.98 (0.97-0.99)	0.002	0.98 (0.97-0.995)	0.007
Cryo or laser balloon ablation, n (%)	25 (20)	91 (32)	0.52 (0.34-0.81)	0.003	1.10 (0.55-2.18)	0.79
Left atrial conduction velocity, m/s	0.84±0.15	0.98±0.17	0.005 (0.002-0.017)	<0.001	0.020 (0.005-0.080)	<0.001
Presence of low-voltage areas, n (%)	67 (53)	76 (27)	2.50 (1.76-3.55)	<0.001	1.24 (0.82-1.87)	0.31
Number of regions with mean voltage < the cut-off value, n	3.8±1.7	2.3±1.7	1.48 (1.34-1.64)	0.001	1.21 (1.06-1.38)	0.004