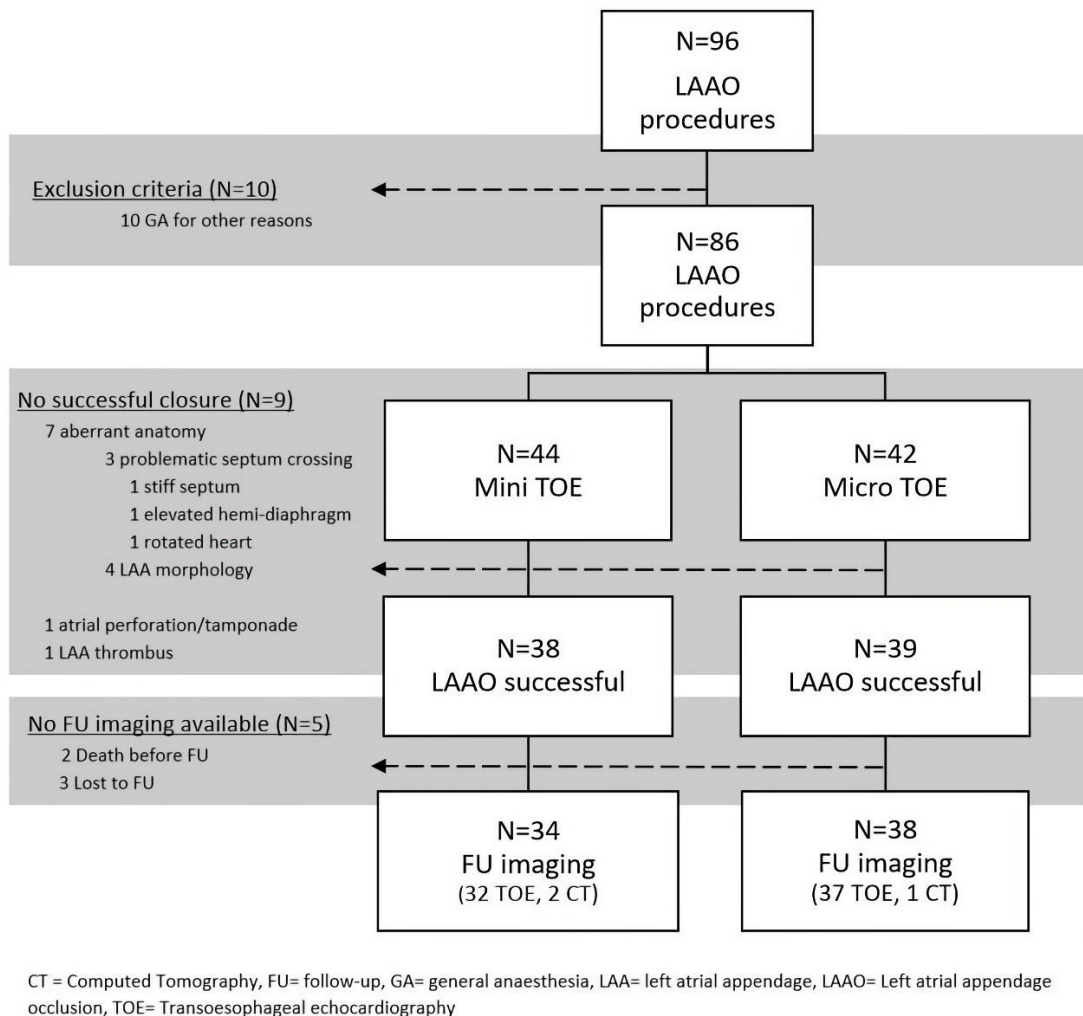


## Supplementary data



**Supplementary Figure 1.** Flow chart of patient inclusion.

**Supplementary Table 1. Baseline characteristics.**

	Micro TOE group (n=42)	Mini TOE group (n=44)	Total (n=86)	p-value
Age, years	72.6±7.1	72.7±6.3	72.6±6.7	0.938
Male gender (%)	27 (64%)	29 (66%)	56 (65%)	0.875
<b>Indication for LAAO* (%)</b>				
History of bleeding	34 (81%)	32 (73%)	66 (77%)	0.367
High risk of bleeding	2 (5%)	1 (2%)	3 (4%)	0.529
Thromboembolic event under (N)OAC	6 (14%)	6 (14%)	12 (14%)	0.843
Personal preference	2 (5%)	3 (7%)	5 (6%)	1.000
Other	4 (10%)	6 (14%)	10 (12%)	0.739
<b>Atrial fibrillation type</b>				
Paroxysmal	24 (57%)	19 (43%)	43 (50%)	0.018
Persistent	1 (2%)	10 (23%)	11 (13%)	
Permanent	17 (41%)	15 (34%)	32 (37%)	
<b>CHA<sub>2</sub>DS<sub>2</sub>-VASc</b>				
≤1	3 (7%)	0 (0%)	3 (4%)	0.137
2-3	6 (14%)	10 (23%)	16 (19%)	
≥4	33 (79%)	34 (77%)	67 (78%)	
<b>HAS-BLED</b>				
<3	13 (31%)	16 (36%)	29 (34%)	0.652
≥3	29 (69%)	28 (64%)	57 (66%)	
<b>Anticoagulation at hospital admission</b>				
None	13 (31%)	11 (25%)	24 (28%)	0.538
APT	15 (36%)	12 (27%)	27 (31%)	0.399
(N)OAC	11 (26%)	18 (41%)	29 (34%)	0.149
(N)OAC+APT	3 (7%)	3 (7%)	6 (7%)	1.000
<b>Anticoagulation at discharge</b>				
None	0 (0%)	1 (2%)	1 (1%)	1.000
APT	5 (12%)	13 (30%)	18 (21%)	0.044
DAPT	12 (29%)	9 (21%)	21 (25%)	0.381
(N)OAC	11 (26%)	15 (35%)	26 (31%)	0.425
(N)OAC+APT	3 (7%)	5 (12%)	8 (9%)	0.714
LMWH+APT	11 (26%)	0 (0%)	11 (13%)	<0.000

Values are mean±standard deviation, median [interquartile range] or n (%).

\*Some patients had multiple indications.

APT: antiplatelet therapy; DAPT: dual antiplatelet therapy; LAAO: left atrial appendage occlusion; LMWH: low molecular weight heparin; (N)OAC: (novel) oral anticoagulation therapy; TOE: transoesophageal echocardiography

**Supplementary Table 2. Procedural characteristics.**

	Micro TOE group (n=42)	Mini TOE group (n=44)	Total (n=86)	<i>p</i> -value
<b>Type of procedure</b>				
<b>LAAO combined with PVI</b>	16 (39%)	12 (27%)	28 (33%)	0.359
<b>LAAO</b>	26 (62%)	32 (73%)	58 (67%)	
<b>Type of device</b>				
<b>WATCHMAN</b>	37 (88%)	40 (91%)	77 (90%)	0.736
<b>AMPLATZER Amulet</b>	5 (12%)	4 (9%)	9 (11%)	
<b>General anaesthesia</b>	6 (14%)	0 (0%)	6 (8%)	0.011
<b>Rhythm at start of device implant</b>				
<b>Sinus rhythm</b>	24 (57%)	24 (55%)	48 (56%)	0.808
<b>Atrial fibrillation</b>	18 (43%)	20 (46%)	38 (44%)	
<b>Duration of implantation (min)</b>	46±19	49±20	48±20	0.478
<b>Fluoroscopy time (min)</b>	9±3	9±4	9±4	0.816
<b>DAP (Gycm<sup>2</sup>)</b>	19 [10.25-32.25]	20.25 [12.50-33.0]	20 [11.0-33.0]	0.387
<b>Mean device size (mm)</b>	25±3	25±4	25±3	0.656
<b>No. of devices used</b>	1 [1-1]	1 [1-1]	1 [1-1]	0.961
<b>No. of partial recaptures</b>	0 [0-1]	0 [0-1]	0 [0-1]	0.915
<b>No. of full recaptures</b>	0 [0-2]	0 [0-1.25]	0 [0-2]	0.507
<b>LAAO completed</b>	39 (93%)	38 (86%)	77 (90%)	0.485

Values are mean±standard deviation, median [interquartile range] or n (%).

\*Time between venous puncture and sheath removal.

DAP: dose area product; LAAO: left atrial appendage occlusion; PVI: pulmonary vein isolation; TOE: transoesophageal echocardiography

**Supplementary Table 3. Echocardiographic findings.**

		<b>Micro TOE group (n=42)</b>	<b>Mini TOE group (n=44)</b>	<b>Total (n=86)</b>	<b>p-value</b>
<b>Baseline</b>	<b>Successful insertion</b>	42 (100%)	44 (100%)	86 (100%)	-
	<b>Interrupted procedures</b>	0 (0%)	0 (0%)	0 (0%)	-
	<b>Minor probe-related complications</b>	0 (0%)	2 (5%)	2 (2%)	0.494
	<b>Diameter ostium LAA, mm</b>				
	0	20±4	21±4	21±4	0.532
	45	19±3	19±3	19±3	0.974
	90	20±3	20±4	20±3	0.964
	135	20±5	21±5	20±5	0.478
	<b>Length LAA, mm</b>				
	0	27±7	26±7	26±7	0.795
	45	27±6	25±7	26±6	0.156
	90	25±6	25±7	25±6	0.937
	135	23±5	23±7	23±6	0.965
	<b>Compression, percentages *</b>				
	Min.	12±6	12±7	12±6	0.975
	Max.	20±6	21±6	20±6	0.915
	<b>Peri-device leakage, mm †</b>				
No leakage	33 (83%)	27 (73%)	60 (78%)	0.314	
Minimal residual flow ‡	7 (17%)	10 (27%)	17 (22%)		
Significant residual flow §	0 (0%)	0 (0%)	0 (0%)		
<b>Thrombus</b>	0 (0%)	2 (5%)	2 (2%)	0.494	
<b>Follow-up</b>	<b>Imaging modality</b>				
	TOE (X7-2t)	37 (97%)	32 (94%)	69 (96%)	0.594
	CT *	1 (3%)	2 (6%)	3 (4%)	
	<b>Duration between FU imaging and LAAO in days</b>	76±19	90±32	83±27	0.025
	<b>Peri-device leakage</b>				
	No leakage	32 (87%)	19 (56%)	51 (72%)	0.013
	Minimal residual flow ‡	4 (11%)	14 (41%)	18 (25%)	
	Significant residual flow §	1 (3%)	1 (3%)	2 (3%) <sup>§</sup>	
	<b>Mean difference leakage in mm</b>	0.22±0.22	0.53±0.28	0.37±0.15	0.377
	<b>Device embolisation</b>	1 (3%)	0 (0%)	1 (2%) <sup>§</sup>	1.000
<b>Device-related thrombus</b>	1 (3%)	0 (0%)	1 (2%) <sup>§</sup>	1.000	

Values are mean±standard deviation, median [interquartile range] or n (%).

\*Measured in successful LAAO by WATCHMAN device at 0, 45, 90 and 135 degrees.

† Only measured in successful LAAO. ‡ WATCHMAN ≤5 mm, AMPLATZER Amulet ≤3 mm.

§ WATCHMAN >5 mm, AMPLATZER Amulet >3 mm.

\*CT imaging was performed on the Philips 256-slice Brilliance iCT scanner (Philips Medical Systems, Best, the Netherlands) with a vena pulmonalis step and shoot protocol.

§Observed with standard TOE probe.

CT: computed tomography; FU: follow-up; LAA: left atrial appendage; LAAO: left atrial appendage occlusion; TOE: transoesophageal echocardiography