

2023 대한심장혈관흉부외과학회

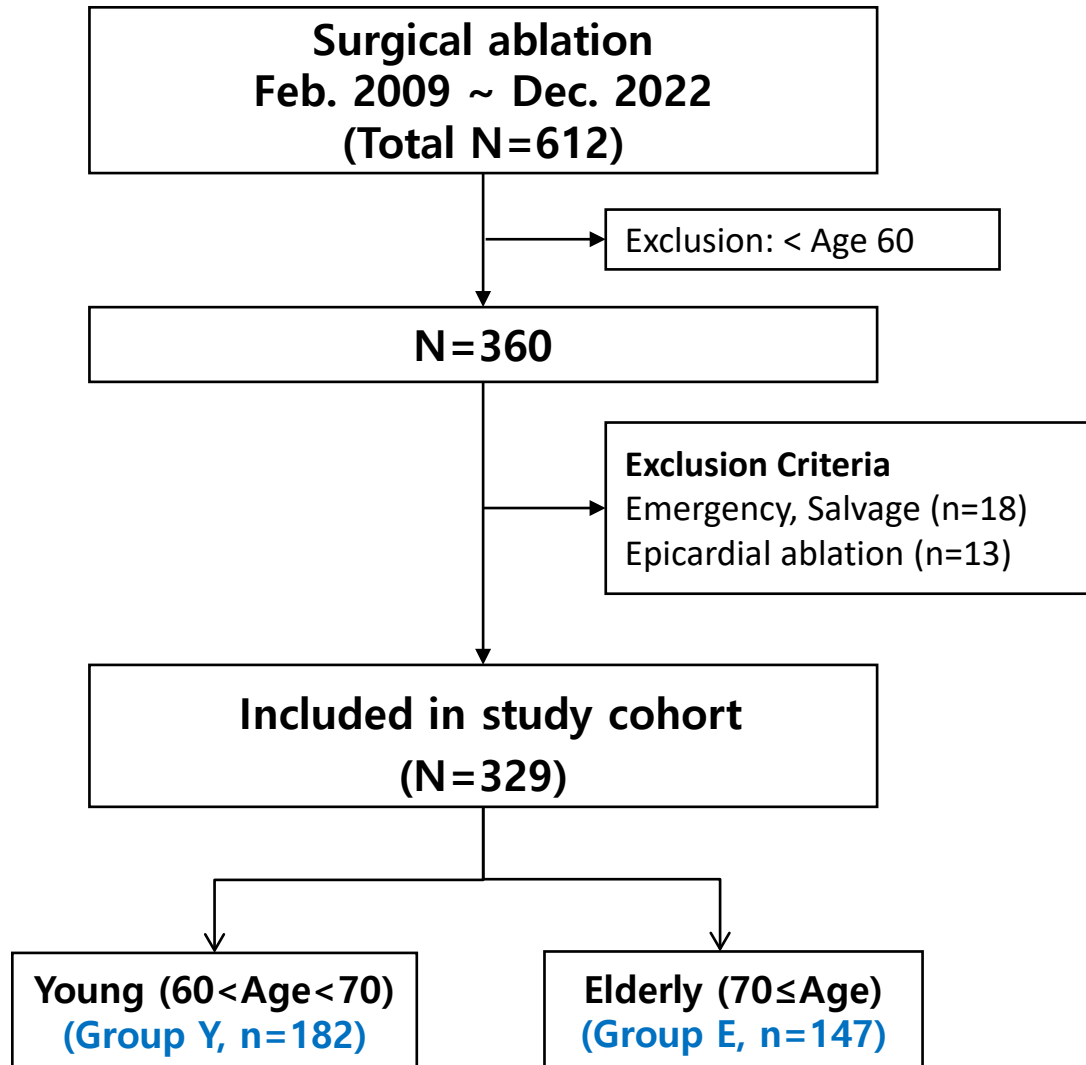
제55차 추계학술대회 & APELSO 2023

2023. 11. 02 (Thu) - 11. 04 (Sat), 그랜드 인터컨티넨탈 파르나스 서울

Efficacy and risk of concomitant surgical ablation in elderly patients



- The incidence of atrial fibrillation(AF) increases with age, and therefore many elderly patients presenting for cardiac surgery suffer from AF
- AF can reduce quality of life especially in elderly patients, but recent study have shown that increasing **age** has been recognized as a **predictor** for **surgical ablation failure**
- Considering the comorbidity and frailty of elderly, many surgeons are reluctant to perform a concomitant surgical ablation in elderly patients
- Therefore, we aim to examine **the efficacy** and **the risk** of concomitant surgical ablation in elderly patients



- Comparison between two age group
 - Cut-off : 70 years old
- **Surgical ablation success (69.1%, n=244):**
 - **1year follow up EKG : Normal sinus rhythm**
- Failure (30.9%, n=85)
 - Death before 1 year follow up : n=12 (Group Y:4 vs E:8)
 - Permanent pacemaker insertion : n=10 (Group Y:4 vs E:6)
 - Atrial fibrillation or atrial flutter : n=78 (Group Y:39 vs E:39)

Table 1. Demographics

	Group Y (N=182)	Group E (N=147)	p
Female gender	97 (51.9)	102 (61.8)	0.077
Age (years)	64.5 ± 2.9	75.3 ± 4.3	< 0.001
Weight	61.0 ± 11.3	56.3 ± 9.9	< 0.001
Height	160.0 ± 8.6	156.9 ± 8.7	0.001
BSA	1.6 ± 0.2	1.6 ± 0.2	< 0.001
Hypertension	117 (62.6)	125 (75.8)	0.011
Diabetes	30 (16.0)	47 (28.5)	0.007
Chronic lung disease	12 (6.4)	13 (7.9)	0.212
CKD stage 4or 5	7 (3.7)	27 (16.4)	< 0.001
Dyslipidemia	120 (64.2)	113 (68.5)	0.459
Stroke	49 (26.2)	35 (21.2)	0.064
NYHA III-IV	89 (47.6)	98 (59.4)	0.035
LVEF	57.2 ± 11.2	57.9 ± 10.5	0.551
LA size	53.9 ± 8.7	53.0 ± 10.8	0.373
Coarse atrial fibrillation	135 (72.2)	92 (56.4)	0.003
Long standing persistent	165 (88.2)	137 (83.0)	0.214
Repeated operation	3 (1.6)	6 (3.6)	0.386
Urgency	43 (23.0)	52 (31.5)	0.094
EUROSCORE II	5.1 ± 5.1	10.0 ± 10.7	< 0.001
	3.6 [2.1;5.5]	6.0 [3.7;11.5]	< 0.001

Table 2. Intraoperative and postoperative outcomes

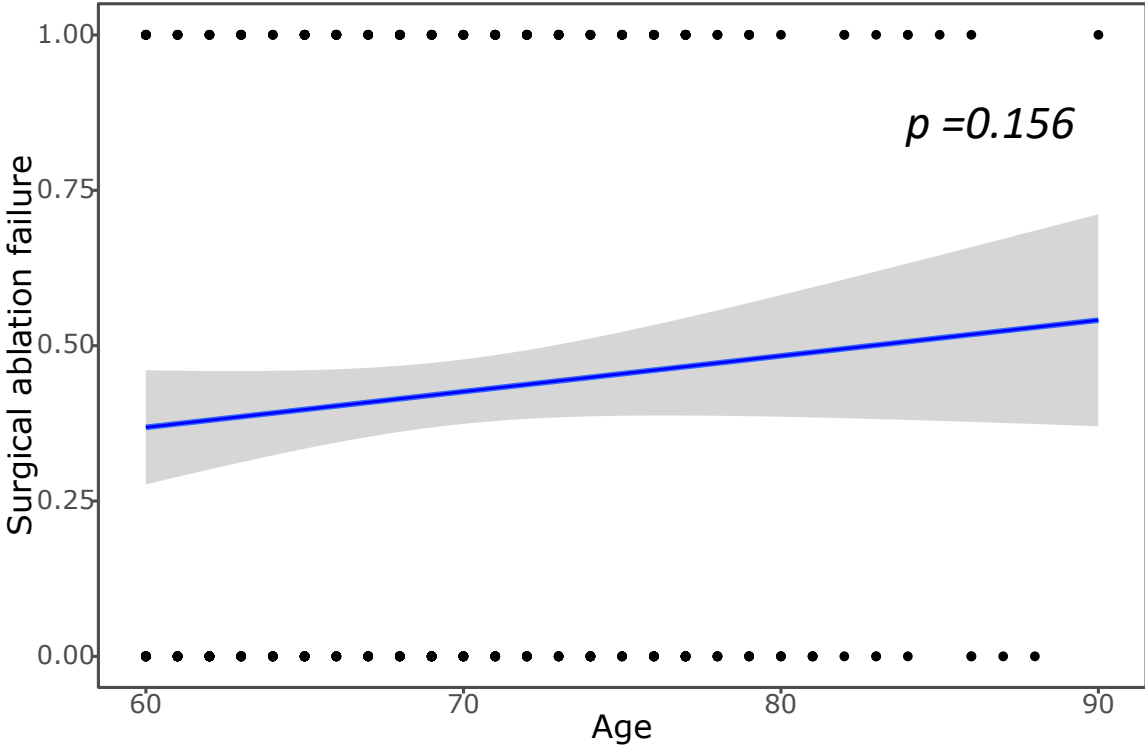
	Group Y (N=182)	Group E (N=147)	p
Minimally invasive cardiac surgery	138 (73.8)	101 (51.2)	0.004
CPB time, minutes	143.0 ± 61.8	150.9 ± 70.8	0.269
ACC time, minutes	99.9 ± 48.4	110.3 ± 53.1	0.055
Bi-atrial surgical ablation	133 (71.1)	124 (80.1)	0.696
Concomitant surgery			
Coronary artery bypass	4 (2.1)	9 (5.5)	0.173
Aortic surgery	9 (4.8)	9 (5.5)	0.976
Valve surgery	170 (90.9)	157 (95.2)	0.181
OR extubation	75 (40.1)	64 (38.8)	0.331
New onset dialysis	7 (3.7)	6 (3.6)	1.000
Permanent neurology	2 (1.1)	2 (1.2)	1.000
Prolonged ventilation	21 (11.2)	31 (18.8)	0.065
Re-exploration for bleeding	11 (5.9)	15 (9.1)	0.345
Transfusion	96 (51.3)	107 (64.8)	0.014
ICU stay, hours	26.0 [23.0;50.0]	28.0 [24.0;70.0]	0.033
Length of stay, days	7.0 [5.0; 10.0]	8.0 [6.0; 12.0]	0.021
Early mortality	1 (0.5)	3 (2.0)	0.471
1year mortality	4 (2.2)	8 (5.4)	0.206
Surgical ablation success	141 (77.5)	103 (70.1)	



Table 3. Risk factor analysis for ERACS failure

Variables	Univariate		Multivariable	
	OR (95% CI)	p	OR (95% CI)	p
Female gender	0.72 (0.44-1.19)	.200		
Age	1.03 (0.99-1.07)	.148	1.04 (0.99-1.08)	.116
Hypertension	1.07 (0.63-1.83)	.809		
Diabetes	1.39 (0.77-2.46)	.264		
Chronic lung ds.	1.25 (0.97-1.62)	.086		
CKD stage 4 or 5	1.78 (0.76-4.00)	.170		
NYHA 3 or 4	1.22 (0.74-2.00)	.438		
LA size	1.08 (1.05-1.12)	< .001	1.07 (1.04-1.11)	< .001
MICS	0.84 (0.52-1.38)	.497		
Redo surgery	0.82 (0.12-3.46)	.802		
CPB time	1.00 (1.00-1.01)	.135		
Coarse a-fib	0.35 (0.21-0.57)	< .001	0.48 (0.28-0.85)	.010
LSP a-fib	2.74 (1.20-7.40)	.027		
Biatial ablation	2.93 (1.52-6.12)	.002	2.12 (1.04-4.70)	.049

Figure 1. No correlation between age and surgical ablation failure



- The concomitant surgical ablation in elderly showed **acceptable early clinical outcome** compared with younger patients
- The **efficacy** of the surgical ablation in elderly was also **comparable** between two groups
- The **age** was **not** an independent **predictor** for **surgical ablation failure** on multivariate analysis
- As is well known, the LA size and coarse AF determine the success of surgical ablation
- Even in elderly patients, the concomitant surgical ablation should be fully considered