2023 대한심장혈관흉부외과학회
제55차 추계학술대회 & APELSO 2023
2023. 11. 02 (Thu) - 11. 04 (Sat), 그랜드 인터컨티넨탈 파르나스 서울

Concomitant Ascending Aorta Replacement with Rapid Deployment Aortic Valve Replacement

APELSO 2023
SEOUL | KOREA

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Purpose

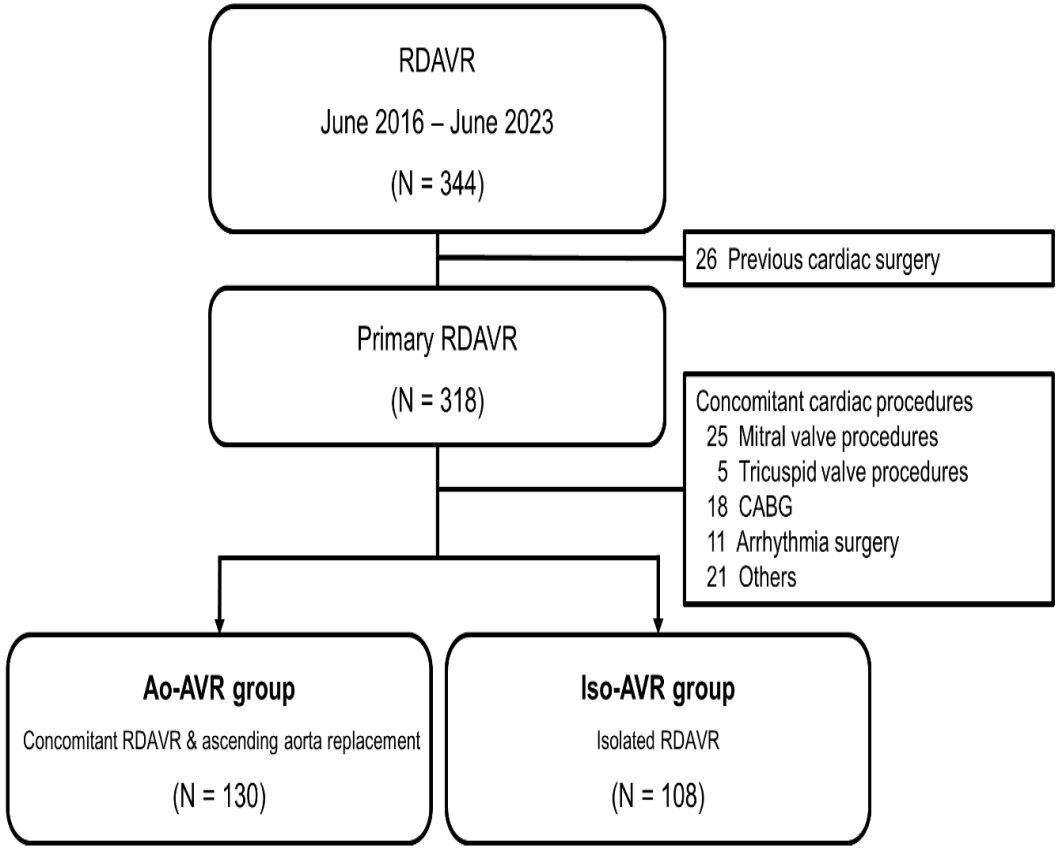
- RDAVR has demonstrated its excellent short-term and long-term clinical outcomes.
- Patients undergoing AVR frequently accompany ascending aorta diseases which require ascending aorta replacement.
- The RD valve was first used in 2016 at our institution, and we performed RDAVR with concomitant ascending aorta replacement in approximately 40% of the patients who received RDAVR.

- Aim of this study
  - To evaluate the early and mid-term outcomes of the patients who underwent ***RDAVR and concomitant ascending aorta replacement***, with the comparison to those who underwent ***isolated RDAVR***.

Methods

- A single center, retrospective study
- From June 2016 to July 2023
- Overall 344 patients underwent AVR with Edwards Intuity
- Concomitant RDAVR & ascending aorta replacement (n=130) vs isolated RDAVR (n=108)

- Evaluation of clinical outcomes
  - Early outcomes : op mortality, postop cx
  - Mid-term outcomes : Overall survival, freedom from cardiac death, freedom from aortic valve-related events (AVREs)
- Multivariable analysis : to find the risk factors for mid-term all-cause mortality



Results

Baseline characteristics

Variable	Ao-AVR (n = 130)	Iso-AVR (n = 108)	*P*
Female, n (%)	56 (43.1%)	55 (50.9%)	.227
Age	67.8 ± 9.0	70.8 ± 9.7	.012
BSA	1.68 ± 0.18	1.65 ± 0.19	.218
Risk factors, n (%)			
Smoking	49 (37.7%)	32 (29.6%)	.191
DM	21 (16.2%)	32 (29.6%)	.013
HTN	71 (54.6%)	71 (65.7%)	.082
Dyslipidemia	74 (56.9%)	60 (55.6%)	.832
COPD	7 (5.4%)	7 (6.5%)	.720
Stroke	5 (3.8%)	10 (9.3%)	.110
CKD	12 (9.2%)	29 (26.9%)	<.001
RRT	1 (0.8%)	10 (9.3%)	.003
CAD	10 (7.7%)	23 (21.3%)	.002
PAOD	4 (3.1%)	7 (6.5%)	.233
Afib	1 (0.8%)	4 (3.7%)	.179
EF < 35%	2 (1.5%)	5 (4.6%)	.250
EuroSCORE II	2.95 ± 3.41	1.87 ± 1.34	.001
Etiology			
Degenerative	27 (20.8%)	60 (55.6%)	<.001
Bicuspid	93 (71.5%)	42 (38.9%)	<.001
Rheumatic	3 (2.3%)	2 (1.9%)	>.999
Pure aortic regurgitation	7 (5.4%)	3 (2.8%)	.355
Emergency op	1 (0.8%)	1 (0.9%)	>.999

Op data

Variable	Ao-AVR (n = 130)	Iso-AVR (n = 108)	*P*
Procedural times			
CPB time, mins	162 (147, 181)	141 (126, 165)	<.001
ACC time, mins	116 (106, 129)	88 (78, 103)	<.001
Valve size, n (%)			
19 mm	13 (10.0%)	20 (18.5%)	
21 mm	37 (28.5%)	40 (37.0%)	
23 mm	40 (30.8%)	29 (26.9%)	
25 mm	25 (19.2%)	13 (12.0%)	
27 mm	15 (11.5%)	6 (5.6%)	

- ✓ *Ao-AVR group was younger and less morbid than Iso-AVR group.*
- ✓ *Ao-AVR group has more bicuspid valve than Iso-AVR group.*

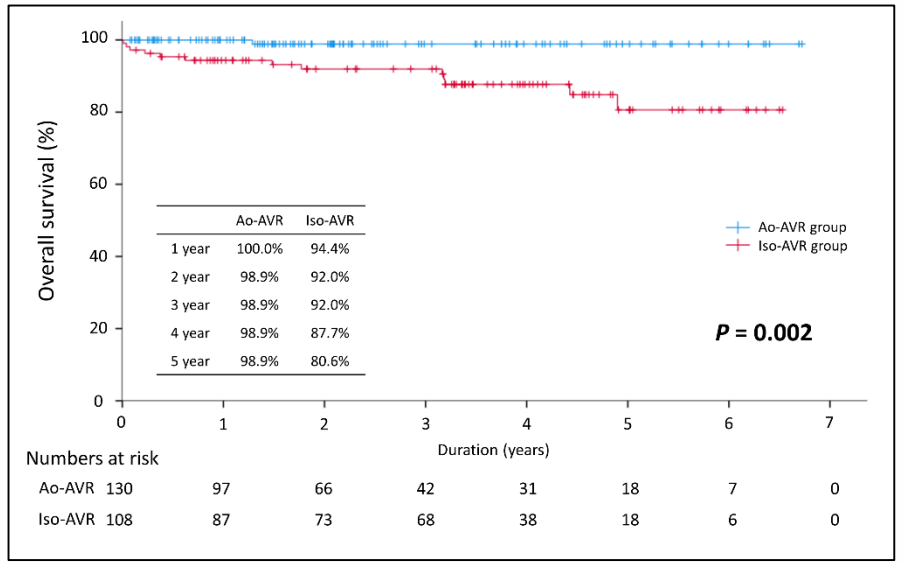
Results

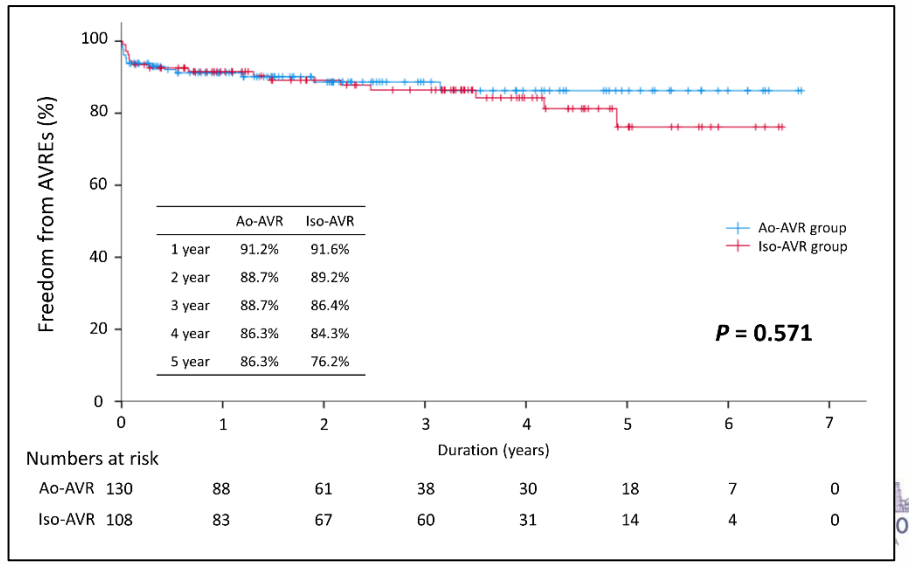
Early clinical outcomes

Variable	Ao-AVR group (n = 130)	Iso-AVR group (n = 108)	*P*
Op mortality, n (%)	0 (0.0%)	3 (2.8%)	.092
Postop cx, n (%)			
POAF	61 (46.9%)	37 (34.3%)	.048
AKI	15 (11.5%)	8 (7.4%)	.283
Respiratory cx	10 (7.7%)	9 (8.3%)	.856
Low cardiac output	4 (3.1%)	1 (0.9%)	.381
Bleeding reop	2 (1.5%)	3 (2.8%)	.661
PPM implantation	3 (2.3%)	1 (0.9%)	.628
Stroke	2 (1.5%)	0 (0.0%)	.502
Mediastinitis	1 (0.8%)	0 (0.0%)	>.999
Infective endocarditis	0 (0.0%)	0 (0.0%)	-

- ✓ *Op mortality was 0.0% in Ao-AVR group.*
- ✓ *Mid-term clinical outcomes of Ao-AVR group were excellent, not inferior to those of Iso-AVR group.*

Mid-term clinical outcomes





Results

Multivariable analysis

	Multivariable Analysis		
Variables	*P*	HR	95% CI
Age (years)	.043	1.07	1.00–1.15
Hypertension	.085	3.92	0.83–18.58
COPD	.007	6.64	1.70–25.98
Emergency	.006	133.50	4.12–4327.3
Ascending aorta replacement	.010	0.06	0.01–0.51

✓ *Ascending aorta replacement was **not** a risk factor associated w/ mid-term all-cause mortality.*

Conclusion

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- Concomitant ascending aorta replacement during RDAVR demonstrated excellent early and mid-term outcomes, and those outcomes were comparable to the outcomes in isolated RDAVR