

One-Year Outcomes of the RESILIA Balloon-Expandable Transcatheter Valve: Survival, Hemodynamics, and Hypoattenuated Leaflet Thickening

Subtitle: One-Year Outcomes of RESILIA TAVR Valve

Kazuki Suruga, MD, Mamoo Nakamura, MD, Raj R. Makkar, MD



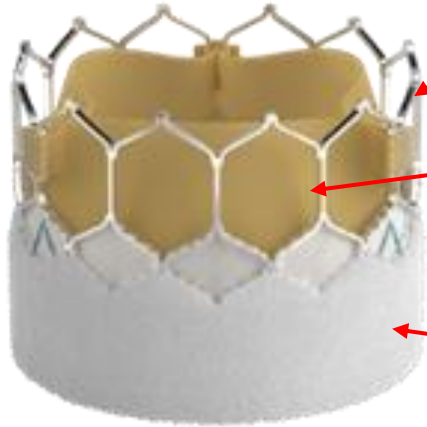
TCT®

TRANSCATHETER
CARDIOVASCULAR
THERAPEUTICS®

Disclosure of Relevant Financial Relationships

I, [\[Kazuki Suruga\]](#) DO NOT have any financial relationships to disclose.

Background; SAPIEN 3 Ultra RESILIA valve



- **Commissural positions**

- Lager EOA

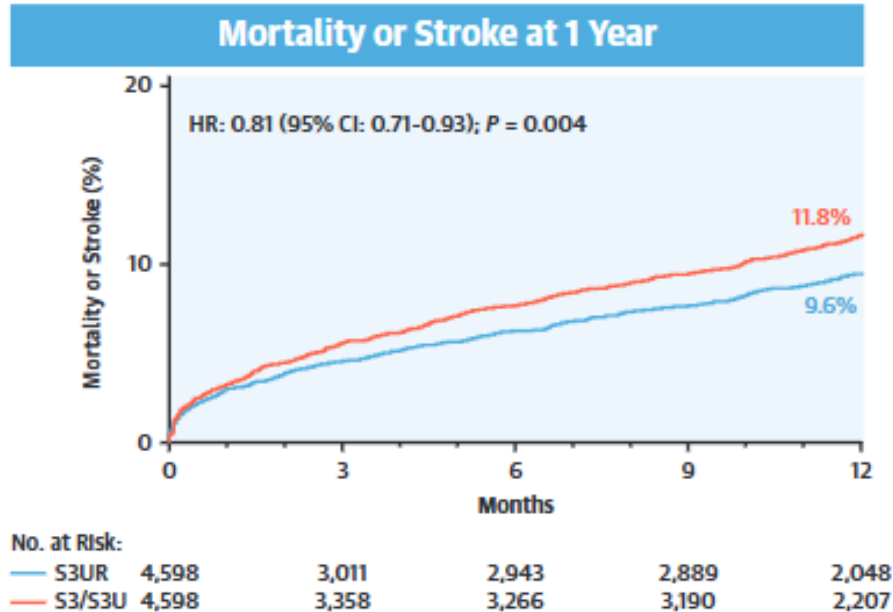
- **RESILIA tissue**

- Calcium-blocking technology

- **Outer skirt**

- 40% taller, outer skirt enabled low rates of PVL.

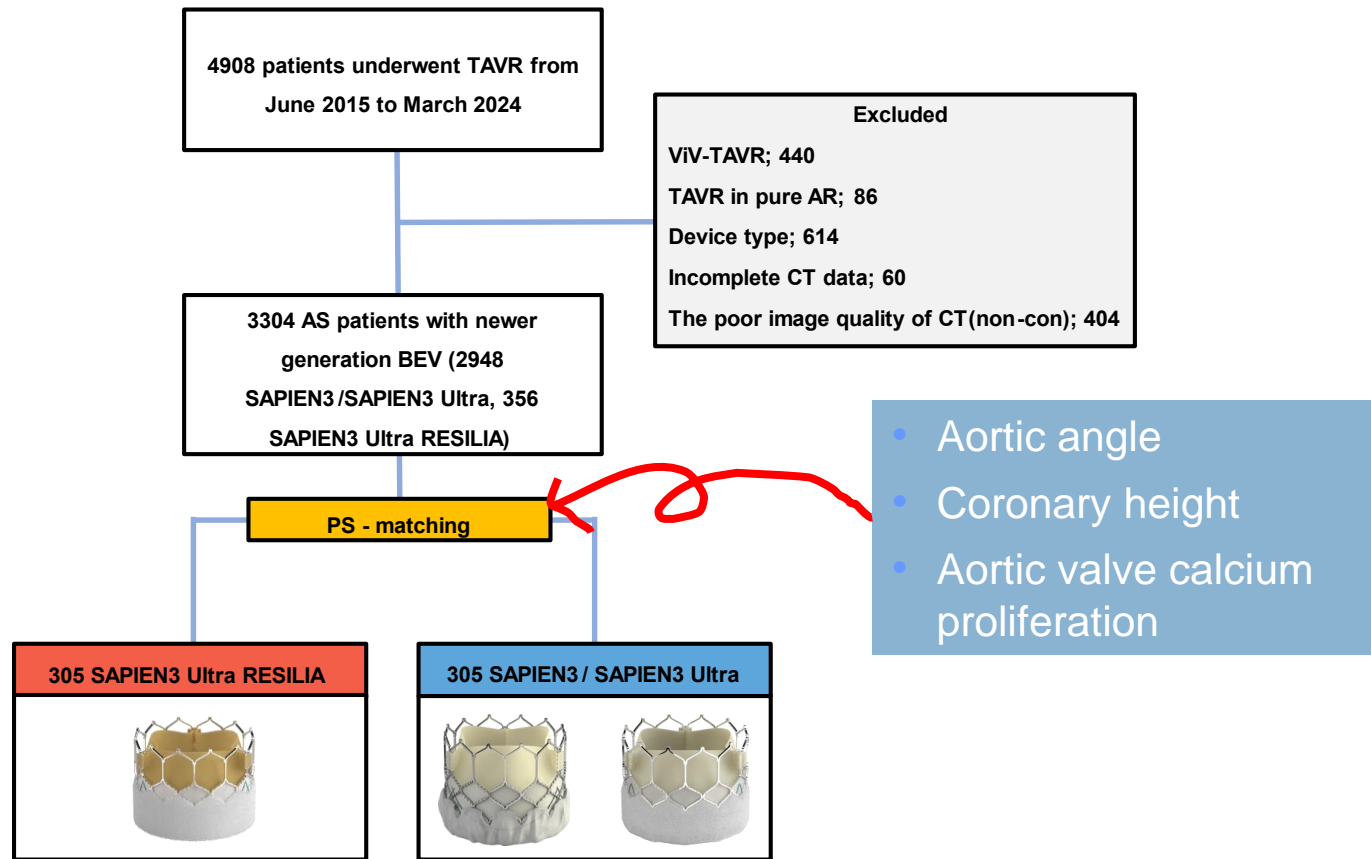
STS/ACC TVT Registry



- Compared with S3/S3U, S3UR is associated with superior 1-year clinical and echocardiographic outcomes



- However, lacked detailed CT-based anatomical data for PS-matching adjustment.

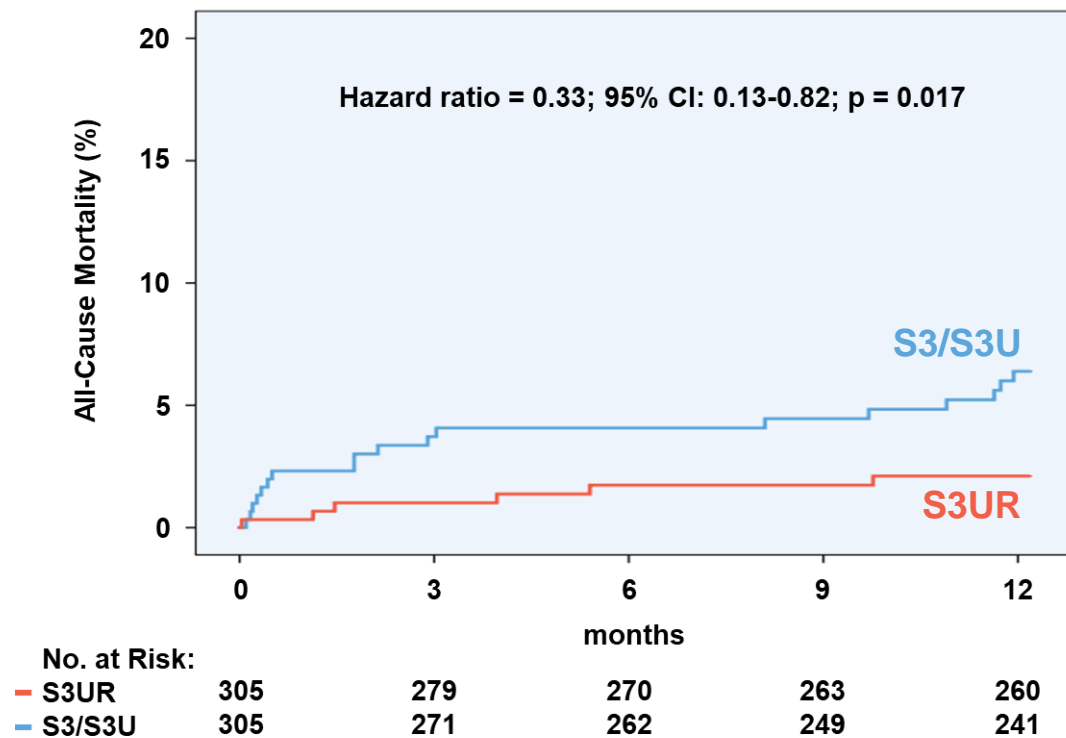


	Overall (n=3304)	Prematching Cohort			Matched Cohort			SMD
		S3UR (n=356)	S3/S3U (n=2948)	p Value	S3UR (n=305)	S3/S3U (n=305)	p Value	
Age, y	79.1 ± 9.8	74.2 ± 9.9	79.7 ± 9.7	<0.001	74.1 ± 9.8	75.0 ± 10.0	0.248	0.094
Male	2509 (62.3)	234 (65.7)	1825 (61.9)	0.160	199 (65.2)	194 (63.6)	0.672	0.034
BMI, kg/m ²	27.0 ± 5.8	26.8 ± 5.6	26.9 ± 5.8	0.619	26.9 ± 5.7	26.8 ± 5.7	0.705	0.031
Hypertension	2809 (85.0)	298 (83.7)	2511 (85.2)	0.463	252 (82.6)	260 (85.2)	0.378	0.071
Diabetes Mellitus	1051 (31.8)	110 (30.9)	941 (31.9)	0.696	95 (31.1)	97 (31.8)	0.862	0.014
CKD (eGFR<30 mL/min)	326 (9.9)	34 (9.6)	292 (9.9)	0.832	28 (9.2)	28 (9.2)	>0.999	0.000
STS Mortality Score	4.7 ± 4.7	3.8 ± 4.3	4.8 ± 4.7	<0.001	3.9 ± 4.4	3.9 ± 4.0	0.981	0.002
Medications								
Aspirin	1354/2209 (61.3)	176/356 (49.4)	1178/1853 (63.6)	<0.001	152 (49.8)	166 (54.4)	0.256	0.092
P2Y12 inhibitor	352/2206 (16.0)	35/356 (9.8)	317/1850 (17.1)	0.001	29 (9.5)	37 (12.1)	0.297	0.084
Any oral anticoagulation	438/2208 (19.8)	65/356 (18.3)	373/1852 (20.1)	0.415	52 (17.0)	60 (19.7)	0.403	0.070
Echocardiographic data								
LVEF, %	58.2 ± 14.3	57.8 ± 13.5	58.2 ± 14.4	0.666	57.7 ± 13.6	59.1 ± 13.3	0.289	0.086
AV mean gradient, mmHg	38.5 ± 14.7	36.0 ± 14.1	38.8 ± 14.7	0.009	37.1 ± 14.4	38.2 ± 13.6	0.352	0.076
EOA, cm ²	0.80 ± 0.32	0.82 ± 0.28	0.75 ± 0.30	0.085	0.81 ± 0.30	0.80 ± 0.23	0.485	0.057

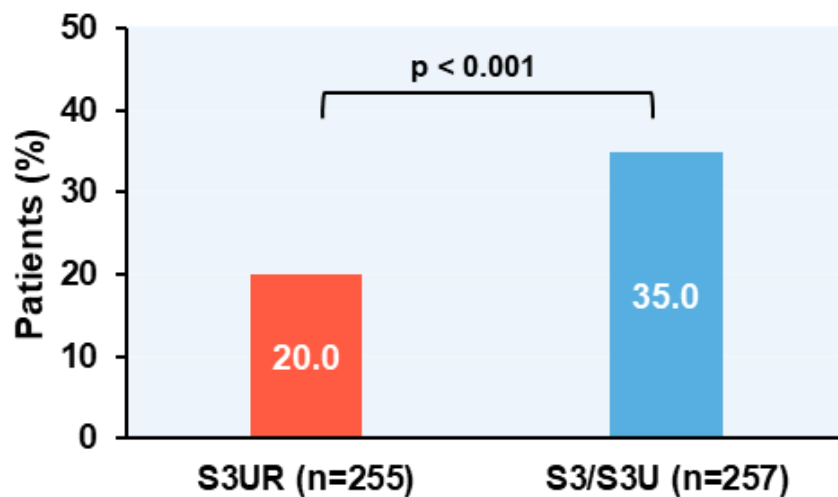
Pre-procedural CT analysis in the Matched Population

	S3UR	S3/S3U	p Value
Pre-procedure	(n=305)	(n=305)	
Bicuspid aortic valve	58 (19.0)	60 (19.7)	0.838
Annulus mean diameter, mm	24.8 ± 2.8	24.9 ± 2.7	0.736
Annulus area, mm ²	491.9 ± 115.5	489.7 ± 109.3	0.811
Annulus perimeter, mm	79.2 ± 9.3	79.1 ± 8.6	0.908
Mean diameter of Sinus of Valsalva, mm	31.4 ± 4.1	31.6 ± 4.0	0.538
STJ height from annulus, mm	24.6 ± 3.9	24.4 ± 3.8	0.476
STJ mean diameter, mm	31.3 ± 4.1	29.4 ± 4.0	0.420
LVOT mean diameter, mm	24.9 ± 5.7	24.5 ± 3.1	0.344
LVOT area, mm ²	470.6 ± 128.4	472.1 ± 118.4	0.882
LVOT perimeter, mm	78.1 ± 10.5	77.5 ± 10.0	0.503
LCA height, mm	14.9 ± 3.2	14.6 ± 3.3	0.176
RCA height, mm	18.4 ± 3.4	18.2 ± 3.4	0.434
Calcium volume, mm ³	283.2 ± 253.5	294.5 ± 313.1	0.634
Aortic angulation, deg	49.6 ± 9.8	48.4 ± 9.2	0.142

Primary Endpoint

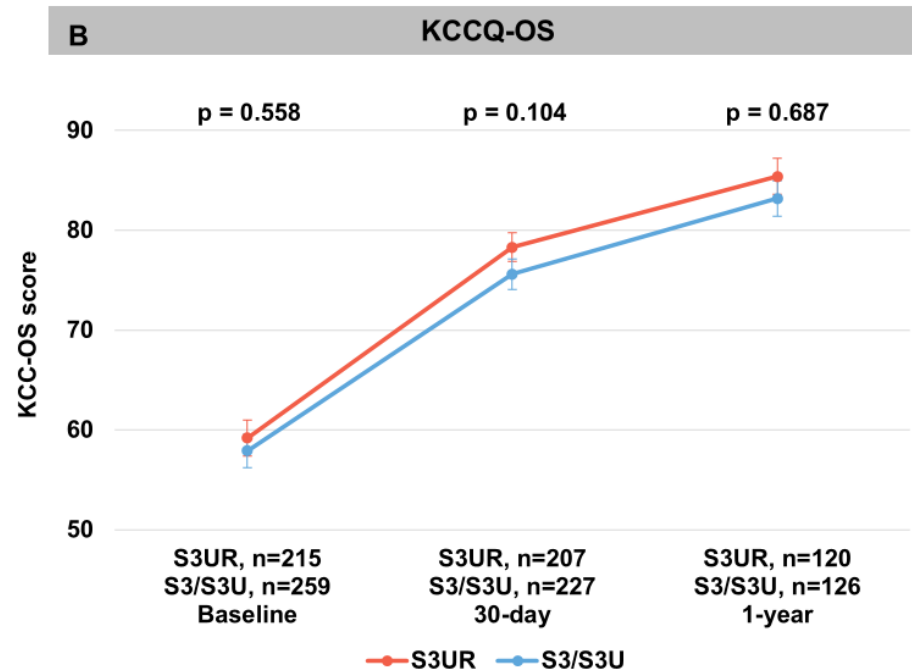
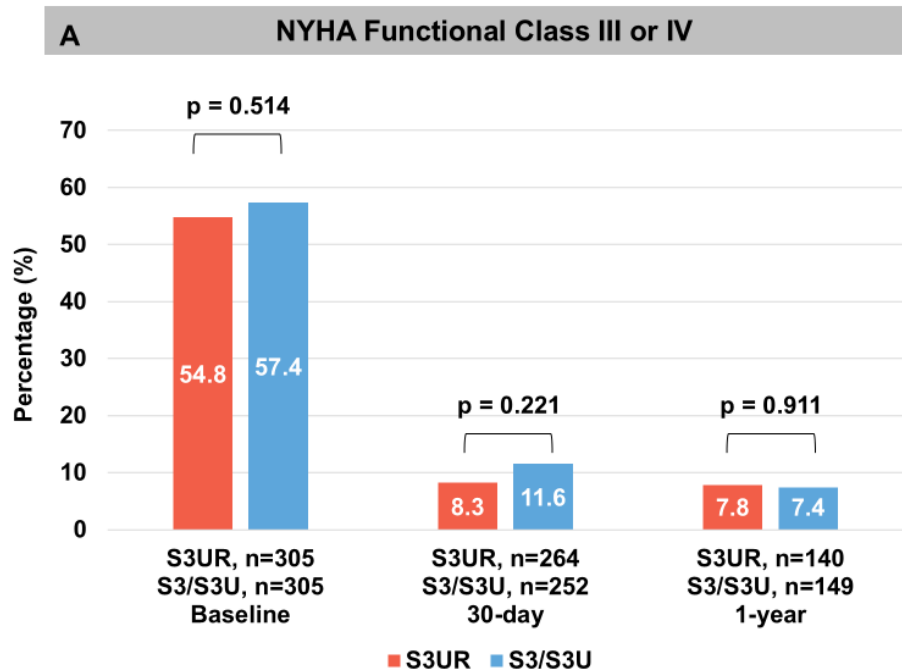


Device Endpoint (30-day)
[Ao MG ≥ 20 , severe PPM, or PVL $\geq 2+$]

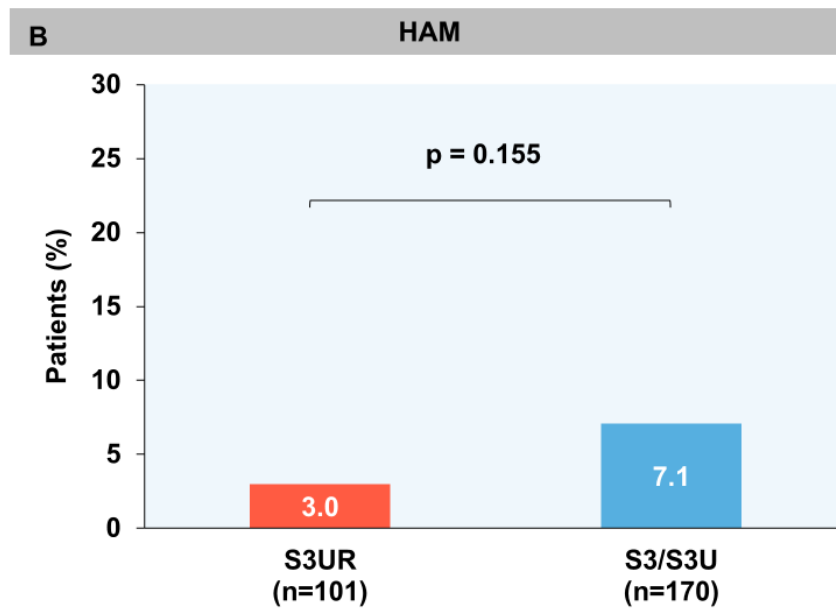
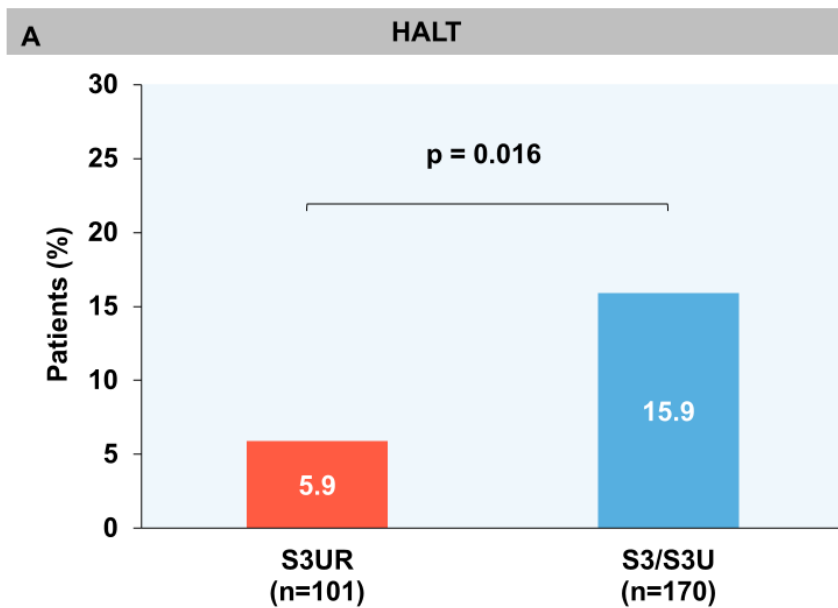


	S3UR (n=255)	S3/S3U (n=257)
Ao MG ≥ 20	11 (4.4%)	14 (5.5%)
Severe PPM	19 (7.5%)	30 (11.9%)
PVL $\geq 2+$	31 (12.2%)	53 (20.6%)

Functional Status and Quality of Life Outcomes



Structural Valve Dysfunction



Conclusion

- In this propensity score-matched cohort, compared with the S3/S3U group, the S3UR group demonstrated favorable clinical outcomes and superior hemodynamic performance.
- S3UR was also associated with a lower HALT incidence.