

Ten-year Durability, Hemodynamic Performance, and Clinical Outcomes after Transcatheter Aortic Valve Implantation Using a Self-expanding Device

Karim Elbasha^{1,2}, MD; Jatinderjit Kaur¹, MD; Mohammad Abdelghani^{3,4,5}, MD, PhD; Martin Landt¹, MD; Sultan Alotaibi^{1,6}, MD; Ahmed Abdelaziz³, MD; Mohamed Abdel-Wahab⁷, MD; Ralph Toelg¹, MD; Volker Geist¹, MD; Gert Richardt¹, MD and Abdelhakim Allali^{1,8}, MD.

- 1) Cardiology Department, Heart Centre Segeberger Kliniken GmbH, Bad Segeberg, Germany
- 2) Cardiology Department, Zagazig University, Sharkia, Egypt
- 3) Department of Cardiology, Al-Azhar University, Cairo, Egypt
- 4) Cardiology Unit, Department of Internal Medicine, Sohar Hospital, Oman
- 5) Department of Cardiology, Amsterdam UMC, Amsterdam, The Netherlands
- 6) Cardiac Centre, King Fahad Armed Forces Hospital, Jeddah, Saudi Arabia
- 7) Cardiology Department, Heart Centre Leipzig at the University of Leipzig, Leipzig, Germany
- 8) University Heart Centre Lübeck, Medical Clinic II, Lübeck, Germany.

Corresponding Author

Karim Elbasha, MD

drkarim.elbasha@gmail.com

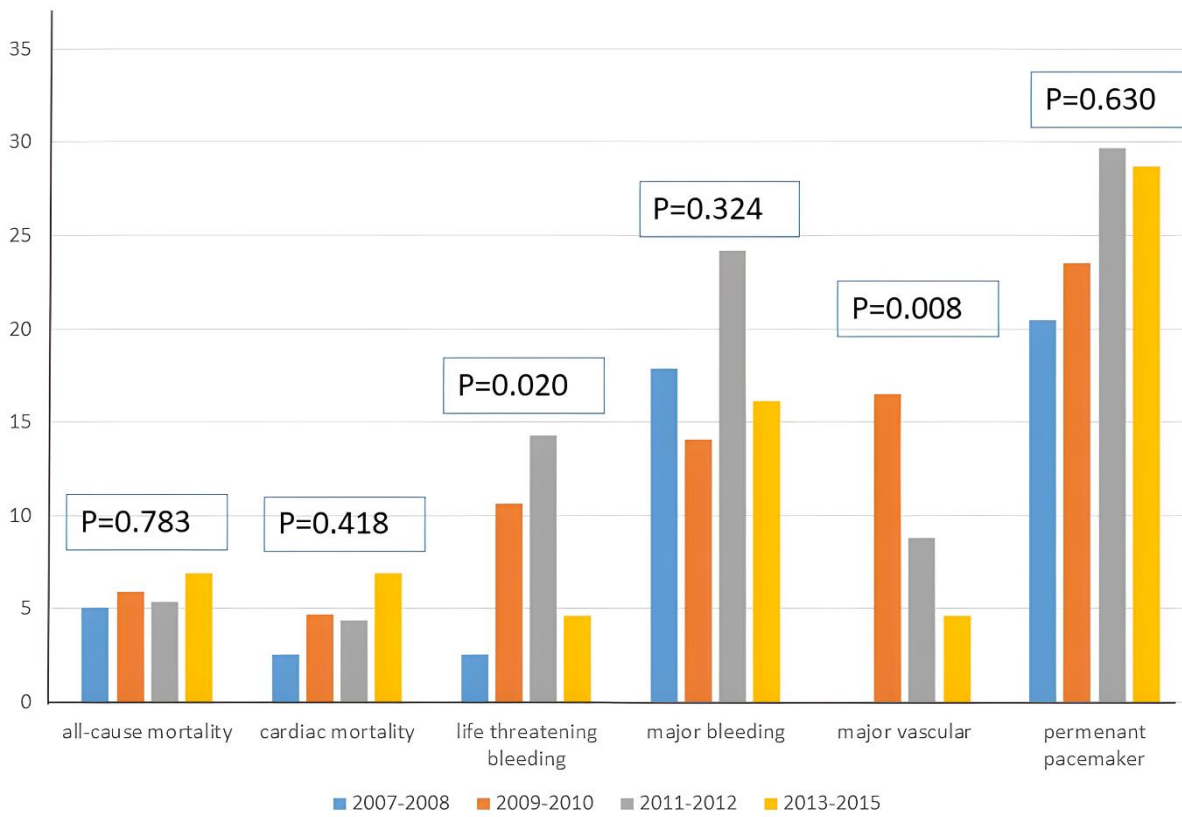
Heart Centre Segeberger Kliniken GmbH

Am Kurpak 1, 23795 Bad Segeberg, Germany

Tel: +4945518029763 / Fax: +4945518024805

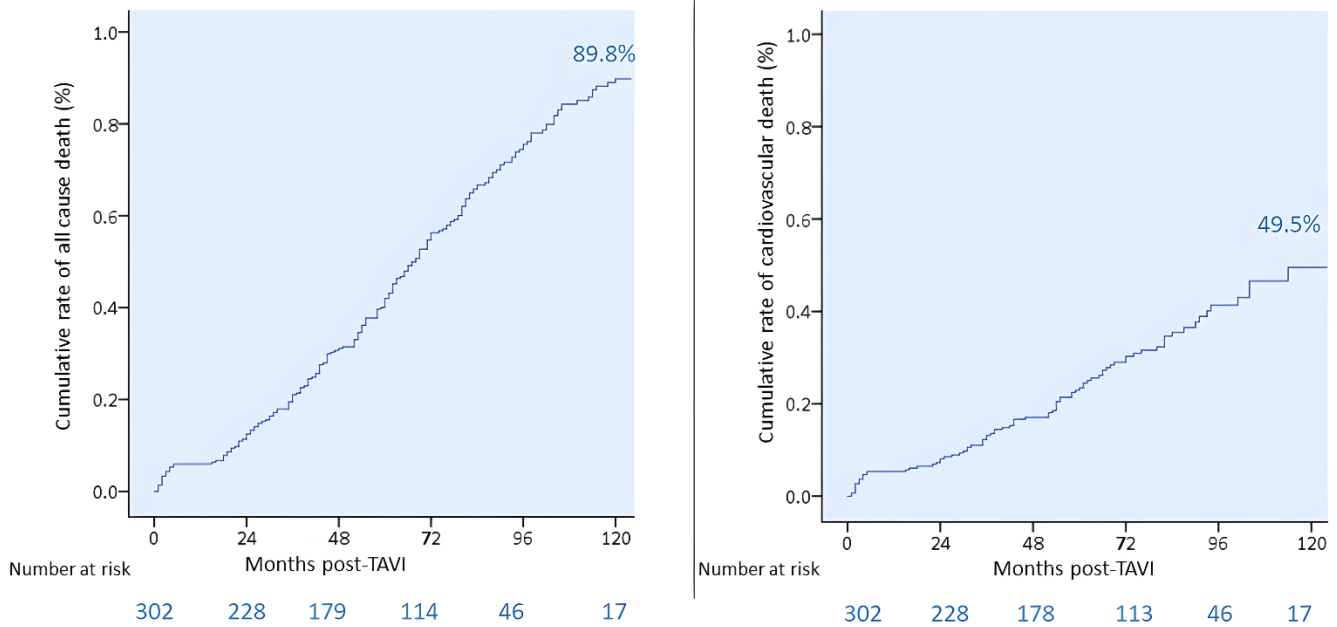
Running title: Long-term durability and performance of self-expanding THV

Supplementary Figure 1. 30 days complications among different time intervals.



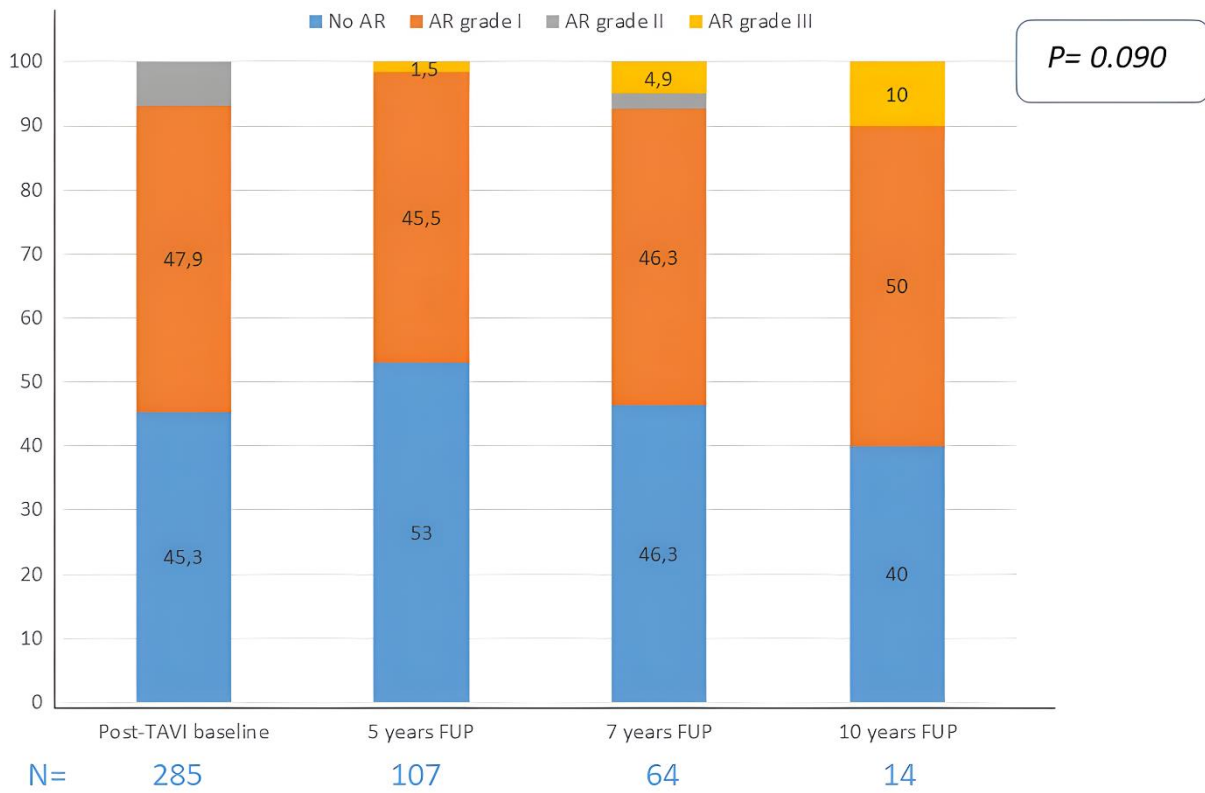
Columnar time series bar chart showed the rates of 30 days complications from 2007 to 2015 divided into different time intervals.

Supplementary Figure 2. All-cause and cardiovascular mortality



Kaplan-Meier curves that shows time to all-cause (a) and cardiovascular mortality (b). TAVI, transcatheter aortic valve implantation.

Supplementary Figure 3. Aortic insufficiency at follow-up



Bar chart demonstrates different aortic regurgitation grade post-procedural and at 10-years follow-up. AR, aortic regurgitation; FUP, follow-up; TAVI, transcatheter aortic valve implantation.

Supplementary Figure 4. Summary of the main finding

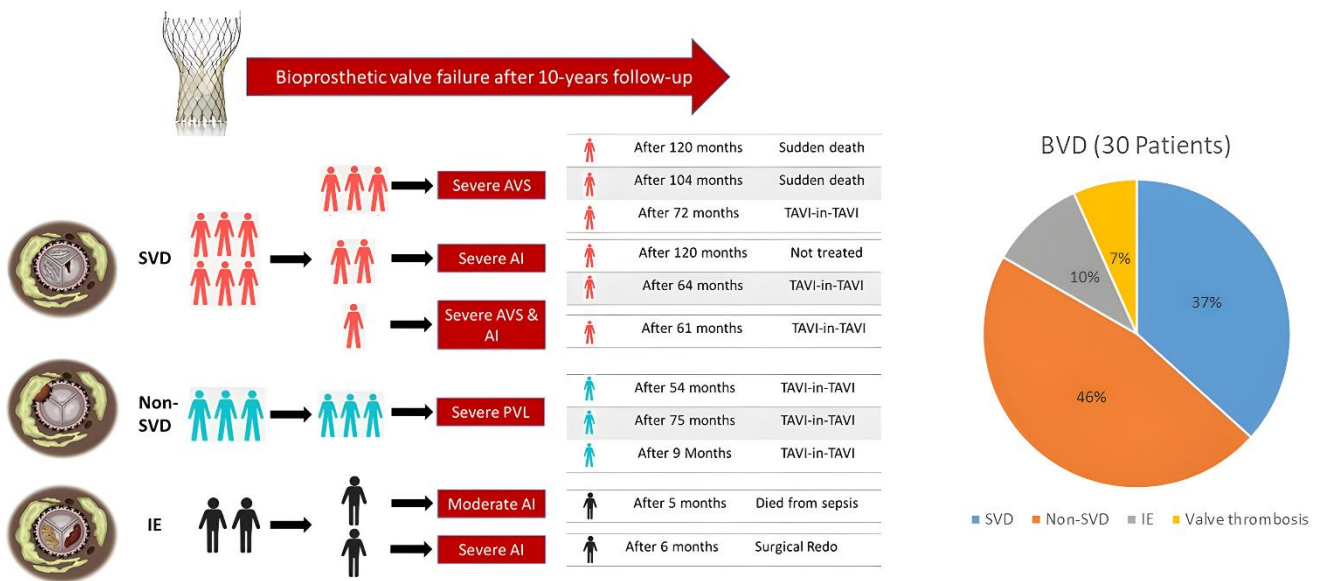


Diagram illustrates the different types and timing of bioprosthetic valve dysfunction. AI, aortic insufficiency; AVS, aortic valve stenosis; BVD, bioprosthetic valve dysfunction; IE, infective endocarditis; SVD, structural valve deterioration.

Supplementary table 1. Predictors of all-cause mortality

Variable	HR ; 95% CI	p-value	HR ; 95% CI	p-value
Age	1.02 (0.99-1.04)	0.209		
MVD	0.97 (0.87-1.09)	0.629		
Baseline AVA	0.79 (0.48-1.29)	0.353		
Baseline Peak PG	1.11 (0.99-1.00)	0.090	0.99 (0.99-1.00)	0.427
Baseline Pro BNP	1.42 (1.06-1.89)	0.018	1.19 (0.77-1.87)	0.424
Reduced LV EF	1.41(0.98-2.02)	0.067	1.51 (0.99-2.28)	0.053
AR>II post-TAVI	1.27 (0.91-1.76)	0.161		
AKI	2.06 (1.47-2.89)	<0.001	2.55 (1.48-4.41)	0.001
PPM	0.85 (0.62-1.16)	0.308		
SVD	3.02 (1.12-8.15)	0.029	3.80 (0.52-27.75)	0.188

AKI, acute kidney injury; AR, Aortic regurgitation; AVA, aortic valve area; LV EF, left ventricular ejection fraction; MVD, multi-vessel disease; PG, pressure gradient; PPM, permanent pace maker; SVD, structural valve deterioration.