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Stens, NA, van Iersel, O, Rooijakkers, MJP, van Wely, MH, Nijveldt, R, Bakker, EA, Rodwell, L, Pedersen, ALD, Poulsen, SH, Kjønås, D, Stassen, J, Bax, JJ, Tanner, FC, Lerakis, S, Shimoni, S, Poulin, F, Ferreira, V, Luksic, VR, van Royen, N and Thijssen, DHJ

Prognostic Value of Preprocedural LV Global Longitudinal Strain for Post-TAVR-Related Morbidity and Mortality: A Meta-Analysis

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Article

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Supplemental Table 1. Systematic literature search strings for the included electronic bibliographic databases.

PubMed <2001 to 2022 April 19>

1	transcatheter aortic valve replacement[MeSH Terms]	9,157
2	heart valve prosthesis implantation[MeSH Terms]	33,351
3	heart valve prosthesis[MeSH Major Topic]	28,115
4	TAVI[Title/Abstract] OR TAVR[Title/Abstract] OR PAVR[Title/Abstract] OR PAVI[Title/Abstract]	10,110
5	("trans*"[Title/Abstract] OR "percutaneous"[Title/Abstract] OR "apical"[Title/Abstract] OR "arterial"[Title/Abstract] OR "catheter"[Title/Abstract] OR "femoral"[Title/Abstract] OR "subclavia*"[Title/Abstract] OR "carotid"[Title/Abstract] OR "axillar*"[Title/Abstract] OR "caval*"[Title/Abstract] OR "antegrade"[Title/Abstract]) AND ("aortic*"[Title/Abstract] OR "aorta*"[Title/Abstract]) AND ("valv*"[Title/Abstract] OR "prosthe*"[Title/Abstract] OR "bioprosthe*"[Title/Abstract]) AND ("replacement*"[Title/Abstract] OR "implantation*"[Title/Abstract])	21,810
6	#1 OR #2 OR #3 OR #4 OR #5	60,099
7	Search: #1 OR #2 OR #3 OR #4 OR #5, from 2001 - 3000/12/12	43,572
8	GLS[Title/Abstract] OR strain[Title/Abstract] OR speckle*[tiab] OR deformation[Title/Abstract]	533,132
9	#7 AND #8	632
10	incidence[MeSH:noexp] OR mortality[MeSH Terms] OR follow up studies[MeSH:noexp] OR follow-up[Title/Abstract] OR follow up[Title/Abstract] OR prognos*[Title/Abstract] OR predict*[Title/Abstract] OR course*[Title/Abstract] OR mortality[Title/Abstract] OR	7,321,646

	morbidity[Title/Abstract] OR hospitali*[Title/Abstract] OR stroke[Title/Abstract] OR stroke[MeSH Terms] OR CVA[Title/Abstract] OR cerebrovascular accident[Title/Abstract] OR cerebro vascular accident[Title/Abstract] OR heart failure[Title/Abstract] OR heart failure[MeSH Terms] OR revascular*[Title/Abstract] OR PCI[Title/Abstract] OR coronary occlusion[Title/Abstract] OR percutaneous coronary intervention[Title/Abstract] OR CABG[Title/Abstract] OR coronary artery bypass[Title/Abstract] OR coronary artery disease[Title/Abstract] OR infarct*[Title/Abstract] OR myocardial infarction[MeSH Terms] OR cardiovascular diseases[MeSH Terms] OR cardiovascular disease*[Title/Abstract] OR MACE[Title/Abstract] OR major adverse cardi* event*[Title/Abstract]	
11	#9 AND #10	481
12	(#11) NOT (review[Publication Type])	**447**

5

6 Embase <2001 to 2022 April 19>

1	exp transcatheter aortic valve implantation/	27,543
2	((trans* or percutaneous or apical or arterial or catheter or femoral or subclavia* or carotid or axillar* or caval* or antegrade) and (aortic* or aorta*) and (valv* or prosthe* or bioprosthe*) and (replacement* or implantation*)).ti,ab,kf.	38,367
3	(TAVI or TAVR or PAVR or PAVI).ti,ab,kf.	21,330
4	(transcatheter aortic valve implantation or transcatheter aortic valve replacement or percutaneous aortic valve replacement or percutaneous aortic valve implantation).ti,ab,kf.	22,246
5	1 or 2 or 3 or 4	44,814

6	(GLS or strain or speckle*).ti,ab,kf.	539,042
7	5 and 6	866
8	limit 7 to yr="2001 -Current"	853
9	(follow-up or follow up or mortality or survival or predict* or prognos* or course* or morbidity or hospitali* or inciden* or stroke or cva or cerebrovascular accident or cerebro vascular accident or heart failure or revascular* or PCI or percutaneous coronary intervention or CABG or coronary occlusion or coronary artery bypass or infarct* or myocardial infarction* or cardiovascular disease* or MACE or major adverse cardi* event*).ti,ab,kf.	8,772,861
10	exp mortality rate/ or exp in-hospital mortality/ or exp all cause mortality/ or exp mortality/ or exp out-of-hospital mortality/ or exp cardiovascular mortality/ or exp survival/ or exp prediction/ or exp prognosis/ or exp follow up/ or exp morbidity/ or exp hospitalization/ or exp hospital readmission/ or incidence/ or exp cerebrovascular accident/ or exp heart failure/ or heart muscle revascularization/ or exp percutaneous coronary intervention/ or exp coronary artery bypass graft/ or exp coronary artery disease/ or exp heart infarction/ or exp cardiovascular disease/	8,339,305
11	9 or 10	11,893,279
12	8 and 11	767
13	limit 12 to conference abstracts	499
14	12 not 13	**268**

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8 Web of Science <2001 to 2022 April 19>

1	TS=((trans* OR percutaneous OR apical OR arterial OR catheter OR femoral OR subclavia* OR carotid OR axillar* OR caval* OR antegrade) NEAR (valve* OR prosthe* OR bioprosthe*))	57,163
2	TS= ((TAVI OR TAVR OR PAVR OR PAVI))	11,611
3	TS=((transcatheter aortic valve implantation OR transcatheter aortic valve replacement OR percutaneous aortic valve replacement OR percutaneous aortic valve implantation))	19,591
4	((#1) OR #2) OR #3	60,467
5	TS=((GLS OR strain OR speckle*))	1,408,300
6	TS=((incidenc* OR mortality OR follow up OR follow-up OR prognos* OR predict* OR course* OR morbidity OR hospitali* OR stroke* OR CVA OR brain infarction OR heart failure OR revascular* OR PCI OR coronary occlusion* OR percutaneous coronary intervention OR CABG OR coronary artery bypass OR coronary artery disease OR infarct* OR myocardial infarction OR cardiovascular disease* OR MACE OR major adverse cardi* event*))	9,097,699
7	((#4) AND #5) AND #6	546
8	#7, from 2001-01-01 till 2030-01-01	512
8	#8 AND Articles	**415**

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Supplemental Table 2. Quality assessment for the included studies using the Newcastle-Ottawa Scale.

Study	Year	Journal	Outcome	S1) Representativeness cohort	S2) Selection non-exposed cohort	S3) Ascertainment exposure	S4) Absence outcome start of study	C1) Comparability cohorts based on design/analysis	C1) Comparability cohorts based on design/analysis	O1) Outcome Assessment	O2) Follow-up duration	O3) Loss to follow-up	Selection score	Comparability score	Outcome score	Total score
Erhart et al.	2021	Heart	Mortality	*	*	*	*	*		*	*	*	4	1	3	8
Gegenava et al.	2019	J Am Soc Echocardiogr	Mortality	*	*	*	*				*	*	4	0	2	6
Kjønas et al.	2019	Open Heart	Mortality	*	*	*	*			*	*	*	4	0	3	7
Pedersen et al.	2020	J Am Soc Echocardiogr	Mortality	*	*	*	*			*	*	*	4	0	3	7
Poulin et al.	2016	J Am Heart Assoc	Mortality	*	*	*	*			*	*	*	4	0	3	7
Povlsen et al.	2020	BMC Cardiovasc Dis	Mortality	*	*	*	*	*	*	*	*	*	4	2	3	9
Sato et al.	2017	J Am Heart Assoc	Mortality	*	*	*	*		*	*	*	*	4	1	3	8
Anastasius et al.	2022	J Cardiovasc Dev Disord	MACE	*	*	*	*				*	*	4	0	2	6
Ferreira et al.	2021	Am J Cardiovasc Dis	Mortality MACE	* *	* *	* *	* *				* *	* *	4 4	0 0	2 2	6 6
Reskovic Luksic et al.	2020	J Cardiovasc Med (Hagerstown)	MACE	*	*	*	*			*	*	*	4	0	3	7

Shimoni et al.	2021	ESC Heart Fail	Mortality MACE	* *	* *	* *	* *				* *	* *	4 4	0 0	2 2	6 6
Suzuki-Eguchi et al.	2018	PLoS One	MACE	*	*	*	*				*	*	4	0	2	6

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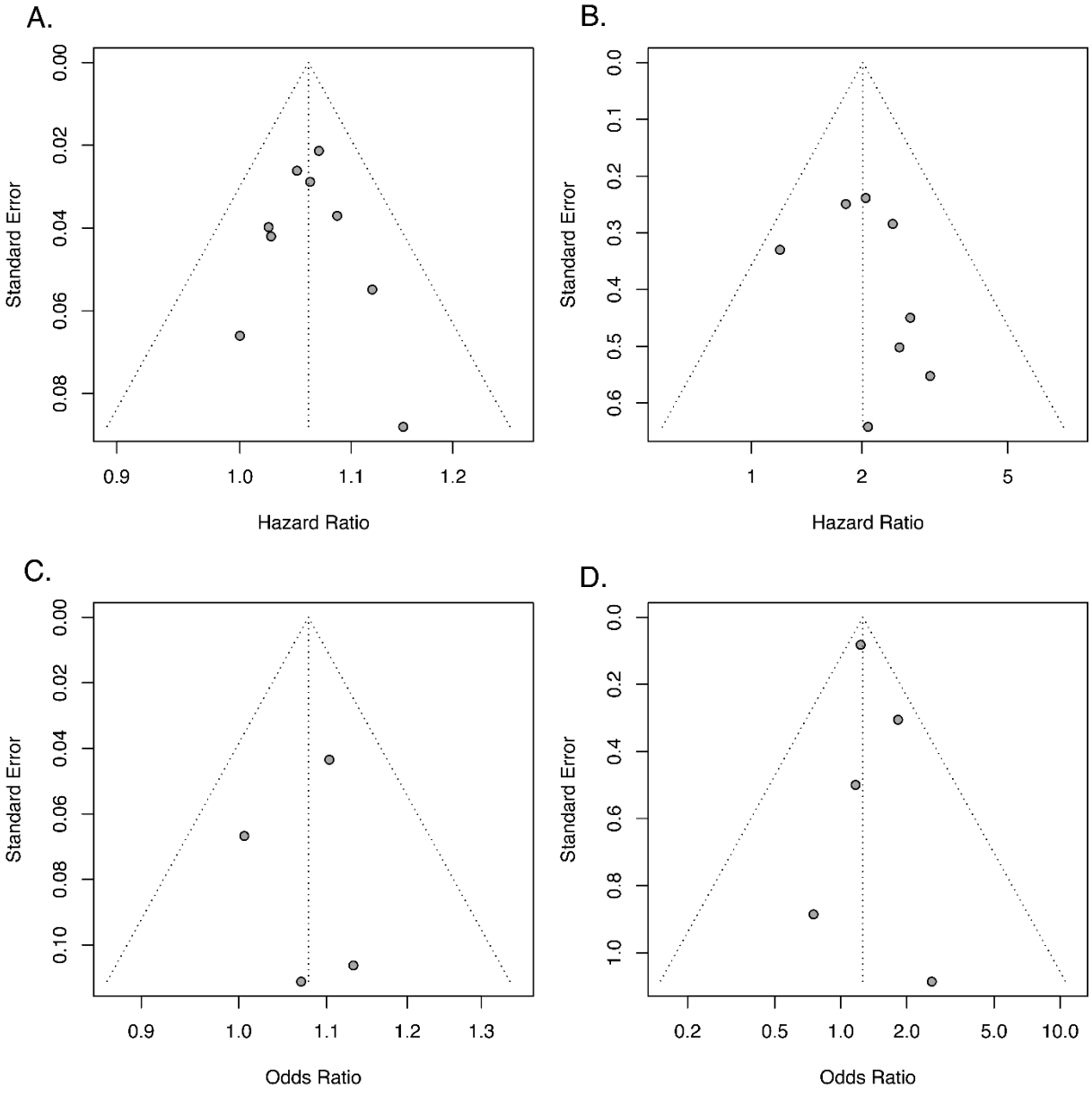
Supplemental Figure 1. Funnel plots for the association between LV-GLS versus post-TAVI outcomes.



A. LV-GLS (continuous) vs all-cause mortality, B. LV-GLS (dichotomized) vs all-cause mortality, C. LV-GLS (continuous) vs MACE, D. LV-GLS (dichotomized) vs MACE.