Supplementary Online Content

Stone GW, Kimura T, Gao R, et al. Time-varying outcomes with the ABSORB bioresorbable vascular scaffold during 5-year follow-up: a systematic meta-analysis and individual patient data pooled study. *JAMA Cardiol*. Published online September 27, 2019. doi:10.1001/jamacardio.2019.4101

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. PRISMA Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	3
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	5
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	5
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	No review protocol exists
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	6
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	6
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	6 Suppl. Fig 1

Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	6
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	6
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	6
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	6
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	7
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	7

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	7
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	7,8
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	6
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	Supplement pp 2-5
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	Supplement p 35

Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	Tables 1,2, Figures 1,2 Supplement pp 8-10, 12-29
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	Tables 1,2, Figures 1,2 Supplement pp 8-10, 12-29
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	7
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	Supplement pp 7, 30
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	10-12
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	12
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	12,13
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	13

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097.

eTable 2. Risk of bias in the 4 ABSORB trials

	ABSORB II	ABSORB III	ABSORB China	ABSORB Japan
Domain 1. Risk of bias arising from the randomization process				
	Low risk	Low risk	Low risk	Low risk
Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)				
	Low risk	Low risk	Low risk	Low risk
Domain 2: Risk of bias due to deviations from the intended interventions (effect of adhering to intervention)				
	Low risk	Low risk	Low risk	Low risk
Domain 3: Risk of bias due to missing outcome data				
	Some risk	Some risk	Some risk	Some risk
Domain 4: Risk of bias in measurement of the outcome				
	Low risk	Low risk	Some risk	Low risk
Domain 5: Risk of bias in selection of the reported result				
	Low risk	Low risk	Low risk	Low risk

From https://methods.cochrane.org/bias/resources/rob-2-revised-cochrane-risk-bias-tool-randomized-trials

eTable 3. Baseline clinical features and antiplatelet medications

	BVS (N=2161)	EES (N=1223)
Age (years)	62.9 ± 10.8	62.5 ± 10.4
Male	1568 (72.6%)	884 (72.3%)
Hypertension (medically treated)	1622 (75.1%)	902 (73.8%)
Hyperlipidemia (medically treated)	1540 (71.3%)	847 (69.3%)
Current smoking	491 (22.7%)	291 (23.8%)
Diabetes mellitus	652/2159 (30.2%)	367 (30.0%)
- Insulin-treated	207/2159 (9.6%)	120 (9.8%)
Prior myocardial infarction	457/2143 (21.3%)	268/1218 (22.0%)
Prior PCI	716 (33.1%)	372/1221 (30.5%)
Prior CABG	69 (3.2%)	31/1221 (2.5%)
Renal insufficiency*	145/1557 (9.3%)	76/922 (8.2%)
Body mass index (kg/m^2)	28.8 ± 5.9	28.5 ± 5.7
Pre-PCI evidence of ischemia		
- Silent ischemia	253/2160 (11.7%)	126 (10.3%)
- Stable angina	1194/2160 (55.3%)	652 (53.3%)
- Unstable angina	603/2160 (27.9%)	379 (31.0%)
- Recent MI	66/2160 (3.1%)	49 (4.0%)
- Post-MI angina	16/2160 (0.7%)	8 (0.7%)
- None	28/2160 (1.3%)	9 (0.7%)
Aspirin**	2108 (97.5%)	1183 (96.7%)
Platelet P2Y12 receptor inhibitor use**	2129 (98.5%)	1198 (98.0%)
- Clopidogrel or ticlopidine	1615/2129 (75.9%)	945/1198 (78.9%)
- Prasugrel or ticagrelor	514/2129 (24.1%)	253/1198 (21.1%)
Glycoprotein IIb/IIIa inhibitor use	148/1895 (7.8%)	98/1089 (9.0%)

*Estimated glomerular filtration rate <30 ml/min/1.73m² or dialysis at the time of screening. **Index procedure loading dose. PCI = percutaneous coronary intervention. CABG = coronary artery bypass graft surgery. Adapted from Stone GW et al. 1-year outcomes with the Absorb bioresorbable scaffold in patients with coronary artery disease: a patient-level, pooled meta-analysis. Lancet 2016;387:1277-89.

eTable 4. Baseline angiographic features (core laboratory)

	BVS (N=2161) (L=2275)	EES (N=1223) (L=1284)
Number of lesions treated (any)*	1.1 ± 0.4	1.2 ± 0.4
Number of target lesions treated	1.1 ± 0.2	1.0 ± 0.2
- One target lesion	2045 (94.5%)	1162 (94.9%)
- Two target lesions	115 (5.3%)	61 (5.0%)
Target coronary artery (lesion level)		
- Left main	1 (0.0%)	0 (0.0%)
- Left anterior descending	1046 (46.0%)	575 (44.8%)
- Left circumflex	581 (25.5%)	357 (27.8%)
- Right	647 (28.4%)	352 (27.4%)
Quantitative measures (lesion level)		
- Reference vessel diameter, mm	2.68 ± 0.44	2.69 ± 0.46
- Minimal luminal diameter, mm	0.96 ± 0.37	0.95 ± 0.36
- Diameter stenosis, %	64.1 ± 12.4	64.6 ± 12.0
- Lesion length, mm	13.1 ± 5.6	13.4 ± 5.7
Lesion characteristics (lesion level)		
- Calcification (moderate or severe)	623/2267 (27.5%)	339/1277 (26.5%)
- Tortuosity (moderate or severe)	103/2268 (4.5%)	59/1277 (4.6%)
- Eccentric	1823/2267 (80.4%)	1014/1273 (79.7%)
- Bifurcation†	751/2268 (33.1%)	449/1274 (35.2%)
- Thrombus	8/2268 (0.4%)	4/1275 (0.3%)
- ACC/AHA class B2/C	1511/2270 (66.6%)	887/1276 (69.5%)

*Randomized target lesions plus non-randomized non-target lesions in a separate epicardial coronary artery.
†Defined by the angiographic core laboratory as having a side branch with diameter ≥1.5 mm. The protocol of each study excluded bifurcation lesions with a side branch diameter ≥2.0 mm by visual estimate. N = number of patients; L = number of target lesions. Adapted from Stone GW et al. 1-year outcomes with the Absorb bioresorbable scaffold in patients with coronary artery disease: a patient-level, pooled meta-analysis. Lancet 2016;387:1277-89.

eTable 5. Procedural and angiographic results (core laboratory)

	BVS (N=2161) (L=2275)	EES (N=1223) (L=1284)	P value
IVUS or OCT guidance (per procedure)	512/2141 (23.9%)	246/1210 (20.3%)	0.02
Number of study devices per patient	1.1 ± 0.4	1.1 ± 0.4	0.98
Total device length per lesion, mm	18.8 ± 6.9	19.6 ± 7.1	0.0008
Overlapping study devices per lesion	159 (7.0%)	95 (7.4%)	0.65
Maximum device diameter per lesion, mm*	3.17 ± 0.41	3.16 ± 0.43	0.36
Maximum device pressure per lesion, atm*	15.5 ± 3.2	15.7 ± 3.3	0.28
Post-dilatation performed (per lesion)	1505 (66.2%)	710 (55.3%)	<0.0001
Bail-out device used (per lesion)	101 (4.4%)	72 (5.6%)	0.12
Post-PCI quantitative measures (lesion level)			
- Reference vessel diameter, mm	2.71 ± 0.44	2.75 ± 0.45	0.02
- In-device			
- Acute gain, mm	1.41 ± 0.45	1.58 ± 0.43	<0.0001
- Minimal luminal diameter, mm	2.37 ± 0.39	2.53 ± 0.40	<0.0001
- Diameter stenosis, %	12.4 ± 8.3	7.5 ± 8.2	<0.0001
- In-segment			
- Acute gain, mm	1.20 ± 0.45	1.24 ± 0.45	0.04
- Minimal luminal diameter, mm	2.16 ± 0.40	2.19 ± 0.43	0.07
- Diameter stenosis, %	19.9 ± 7.7	19.9 ± 8.4	0.96
Device success (per lesion)	2144/2243 (95.6%)	1265/1272 (99.4%)	<0.0001
Procedure success (per patient)	2038/2148 (94.9%)	1176/1212 (97.0%)	0.003
Procedure duration, minutes	43.7 ± 23.7	39.7 ± 21.5	<0.0001

N = number of patients; L = number of target lesions. *Device delivery system or post-dilatation balloon. IVUS = intravascular ultrasound. OCT = optical coherence tomography. Adapted from Stone GW et al. 1-year outcomes with the Absorb

bioresorbable scaffold in patients with coronary artery disease: a patient-level, pooled meta-analysis. Lancet 2016;387:1277-89.

eTable 6. Antiplatelet agent use during follow-up

	BVS (N=2161)	EES (N=1223)	P value
Aspirin use			
Discharge	2134/2158 (98.9%)	1214 (99.3%)	0.28
1 year	2070/2114 (97.9%)	1173/1201 (97.7%)	0.64
2 years	1982/2058 (96.3%)	1118/1170 (95.6%)	0.29
3 years	1907/2003 (95.2%)	1061/1126 (94.2%)	0.23
4 years	1758/1863 (94.4%)	1000/1073 (93.2%)	0.20
5 years	1658/1762 (94.1%)	938/1017 (92.2%)	0.06
P2Y12 inhibitor use			
Discharge	2125/2158 (98.5%)	1209 (98.9%)	0.36
1 year	2041/2114 (96.5%)	1152/1201 (95.9%)	0.36
2 years	1180/2058 (57.3%)	629/1170 (53.8%)	0.05
3 years	1044/2003 (52.1%)	539/1126 (47.9%)	0.02
4 years	902/1863 (48.4%)	470/1073 (43.8%)	0.02
5 years	762/1762 (43.2%)	408/1017 (40.1%)	0.11
Dual antiplatelet therapy use			
Discharge	2106/2158 (97.6%)	1202 (98.3%)	0.18
1 year	2002/2114 (94.7%)	1128/1201 (93.9%)	0.35
2 years	1128/2058 (54.8%)	596/1170 (50.9%)	0.03
3 years	985/2003 (49.2%)	496/1126 (44.0%)	0.006
4 years	839/1863 (45.0%)	423/1073 (39.4%)	0.003
5 years	701/1762 (39.8%)	364/1017 (35.8%)	0.04

eTable 7. Adverse event rates occurring within 5 years, within 3 years and between 3 years and 5 years after multiple imputation to account for missing follow-up data

	From randomization to 5 years			From randomization to 3 years			From 3 years to 5 years			$P_{interaction}$
	BVS	**EES**	**HR [95%CI]**	**BVS**	**EES**	**HR [95%CI]**	**BVS**	**EES**	**HR [95%CI]**	
TLF	14.9%	11.7%	1.24 (1.01, 1.52)	11.5%	8.1%	1.39 (1.09, 1.76)	4.4%	4.4%	0.94 (0.66, 1.34)	0.09
POCE	26.4%	22.9%	1.14 (0.98, 1.31)	19.9%	16.0%	1.22 (1.03, 1.45)	9.5%	9.3%	0.97 (0.76, 1.24)	0.27
All-cause mortality	5.9%	5.6%	1.01 (0.75, 1.37)	2.6%	3.0%	0.85 (0.56, 1.31)	3.4%	2.7%	1.20 (0.78, 1.87)	0.27
- Cardiac	2.3%	2.7%	0.83 (0.52, 1.31)	1.1%	1.1%	0.96 (0.48, 1.90)	1.2%	1.7%	0.70 (0.38, 1.31)	0.41
- Non-cardiac*	3.7%	3.0%	1.18 (0.78, 1.78)	1.6%	1.9%	0.79 (0.46, 1.37)	2.2%	1.1%	1.98 (1.02, 3.84)	0.04
All MI	10.7%	8.0%	1.28 (1.01, 1.64)	8.9%	5.6%	1.51 (1.14, 2.00)	2.1%	2.6%	0.74 (0.45, 1.20)	0.02
- TV-MI	8.8%	5.5%	1.51 (1.14, 2.01)	7.5%	4.2%	1.70 (1.24, 2.34)	1.5%	1.4%	0.99 (0.53, 1.86)	0.09
- Non-TV-MI	2.6%	3.0%	0.82 (0.53, 1.25)	1.9%	1.8%	1.01 (0.59, 1.72)	0.7%	1.3%	0.47 (0.22, 1.02)	0.12
All revascularization	18.4%	16.4%	1.09 (0.92, 1.30)	14.2%	11.8%	1.18 (0.96, 1.44)	5.8%	6.2%	0.88 (0.65, 1.19)	0.15
ID-TLR	8.4%	6.0%	1.37 (1.03, 1.81)	6.5%	4.4%	1.43 (1.04, 1.98)	2.3%	1.8%	1.20 (0.70, 2.05)	0.64
Device thrombosis	2.5%	0.9%	2.67 (1.36, 5.22)	2.4%	0.6%	3.51 (1.59, 7.74)	0.1%	0.3%	0.47 (0.08, 2.85)	0.03

Event rates are Kaplan-Meier time-to-first event estimates. Event rates are non-hierarchical. The 3-year to 5-year landmark period includes all randomized patients at 3 years except those who died before 3 years (day 1095). Thus there may be some patients with a non-fatal event within 3 years who have a second event between 3 years and 5 years. *Includes non-cardiac vascular deaths. HR [95% CI] denotes hazard ratio and 95% confidence interval; ID-TLR denotes ischemia-driven target lesion revascularization; ID-TVR MI denotes ischemia-driven target vessel revascularization; myocardial infarction; denotes POCE denotes patient oriented composite endpoint (all death, all MI, all revascularization); TLF denotes target lesion failure (cardiac death, TV-MI or ID-TLR); TV-MI denotes target vessel-related MI.

eTable 8. Independent predictors of target lesion failure by Cox regression between 0 to 5 years, 0 to 3 years and 3 to 5 years

	Between 0 and 5 years		Between 0 and 3 years		Between 3 and 5 years	
	HR [95% CI]	**P value**	**HR [95% CI]**	**P value**	**HR [95% CI]**	**P value**
Treatment with BVS (vs EES)	1.28 (1.05, 1.57)	0.02	1.44 (1.13, 1.83)	0.003	0.95 (0.67, 1.36)	0.79
Age (per year)	1.01 (1.00, 1.03)	0.004	1.01 (1.00, 1.03)	0.02	1.01 (0.99, 1.03)	0.23
Male sex	1.11 (0.89, 1.38)	0.37	1.15 (0.89, 1.48)	0.28	0.85 (0.58, 1.25)	0.41
Diabetes	1.55 (1.27, 1.90)	<0.0001	1.36 (1.08, 1.72)	0.008	1.95 (1.36, 2.80)	0.0003
Hypertension	1.21 (0.92, 1.60)	0.18	1.06 (0.78, 1.44)	0.71	2.18 (1.20, 3.96)	0.01
Dyslipidemia	1.12 (0.86, 1.48)	0.40	1.12 (0.82, 1.53)	0.48	1.23 (0.74, 2.04)	0.42
Recent smoker	1.39 (1.10, 1.75)	0.005	1.40 (1.08, 1.82)	0.01	1.22 (0.79, 1.90)	0.37
Prior PCI	1.36 (1.08, 1.72)	0.009	1.39 (1.06, 1.81)	0.02	1.44 (0.94, 2.20)	0.09
Prior myocardial infarction	0.98 (0.76, 1.26)	0.87	1.07 (0.81, 1.42)	0.65	0.61 (0.36, 1.02)	0.06
Body mass index (per kg/m^2)	1.01 (1.00, 1.03)	0.14	1.02 (1.00, 1.04)	0.06	0.99 (0.96, 1.02)	0.62
Stable CAD (vs. ACS)	0.95 (0.77, 1.17)	0.65	0.91 (0.72, 1.16)	0.45	1.01 (0.69, 1.49)	0.94
No of treated lesions (2 vs 1)	1.14 (0.77, 1.71)	0.51	1.05 (0.66, 1.67)	0.82	1.47 (0.72, 2.98)	0.29
Any LM or LAD lesion	0.99 (0.81, 1.21)	0.91	0.99 (0.79, 1.25)	0.94	1.11 (0.76, 1.61)	0.59
RVD (per 1 mm)*	0.73 (0.58, 0.92)	0.008	0.58 (0.44, 0.77)	0.0001	1.31 (0.87, 1.98)	0.19
Lesion length (per 5 mm)**	1.03 (0.94, 1.12)	0.58	1.01 (0.91, 1.12)	0.83	1.06 (0.90, 1.25)	0.49
Diameter stenosis (per 5%)†	0.97 (0.93, 1.01)	0.18	0.97 (0.92, 1.01)	0.17	0.99 (0.92, 1.06)	0.75
Any moderate/severe calcified lesion	1.16 (0.92, 1.45)	0.20	1.18 (0.91, 1.53)	0.21	1.08 (0.71, 1.63)	0.73
Any type B2/C lesion	1.00 (0.78, 1.28)	0.99	1.07 (0.81, 1.42)	0.62	0.83 (0.53, 1.31)	0.42
Any bifurcation lesion	1.24 (1.01, 1.53)	0.04	1.20 (0.95, 1.52)	0.13	1.20 (0.83, 1.73)	0.34

*In patients with 2 lesions, the smallest RVD. ** In patients with 2 lesions, the longest lesion length. †In patients with 2 lesions, the most severe diameter stenosis. ACS denotes acute coronary syndrome. CAD denotes coronary artery disease. LAD denotes left anterior descending coronary artery disease. LM denotes left main coronary artery disease. PCI denotes percutaneous coronary intervention. RVD denotes reference vessel diameter.

eTable 9. Aggregate level treatment effects from 0 through 5 years

	Number of events		Fixed Effect		Random Effect		Heterogeneity	
	BVS (n=2161)	EES (n=1223)	RR [95% CI]	P-value	RR [95% CI]	P-value	I^2	P-value
Target lesion failure	308	135	1.23 [1.02, 1.49]	0.03	1.23 [1.02, 1.48]	0.03	0.0%	0.73
POCE	550	267	1.12 [0.99, 1.28]	0.07	1.12 [0.99, 1.28]	0.08	0.0%	0.67
All-cause mortality	119	64	1.01 [0.75, 1.37]	0.93	1.01 [0.75, 1.36]	0.97	0.0%	0.58
- Cardiac	44	31	0.78 [0.50, 1.24]	0.30	0.78 [0.49, 1.24]	0.30	0.0%	0.89
- Non-cardiac*	75	33	1.23 [0.82, 1.84]	0.33	1.22 [0.81, 1.83]	0.35	0.0%	0.78
All myocardial infarction	221	92	1.28 [1.01, 1.61]	0.04	1.27 [1.01, 1.60]	0.04	0.0%	0.80
- TV-MI	184	64	1.52 [1.16, 2.00]	0.003	1.50 [1.14, 1.98]	0.004	0.0%	0.61
- Non-TV-MI	51	35	0.78 [0.51, 1.19]	0.25	0.78 [0.51, 1.19]	0.25	0.0%	1.00
All revascularization	378	189	1.09 [0.93, 1.28]	0.28	1.09 [0.93, 1.28]	0.29	0.0%	0.59
ID-TVR	268	112	1.30 [1.05, 1.60]	0.02	1.30 [1.05, 1.60]	0.02	0.0%	0.96
ID-TLR	172	67	1.40 [1.06, 1.83]	0.02	1.50 [1.00, 2.26]	0.052	25.5%	0.26
Device thrombosis (definite or probable)	53	10	2.75 [1.42, 5.31]	0.003	2.59 [1.33, 5.03]	0.005	0.0%	0.82
- Definite	48	8	2.87 [1.41, 5.84]	0.004	2.68 [1.31, 5.47]	0.007	0.0%	0.77
- Probable	5	2	1.17 [0.33, 4.18]	0.81	1.20 [0.28, 5.10]	0.80	0.0%	0.59

*Includes non-cardiac vascular deaths. ID-TLR denotes ischemia-driven target lesion revascularization; ID-TVR MI denotes ischemia-driven target vessel revascularization; myocardial infarction; denotes POCE denotes patient oriented composite endpoint (all death, all MI, all revascularization); RR [95% CI] denotes relative risk and 95% confidence interval; TLF denotes target lesion failure (cardiac death, TV-MI or ID-TLR); TV-MI denotes target vessel-related MI.

eTable 10. Aggregate level treatment effects from 0 through 3 years

	Number of events		Fixed Effect		Random Effect		Heterogeneity	
	BVS (n=2161)	EES (n=1223)	RR [95% CI]	P-value	RR [95% CI]	P-value	I^2	P-value
Target lesion failure	245	95	1.40 [1.11, 1.75]	0.004	1.39 [1.11, 1.74]	0.005	0.0%	0.75
POCE	422	190	1.21 [1.04, 1.42]	0.02	1.19 [0.98, 1.44]	0.08	16.4%	0.31
All-cause mortality	54	35	0.84 [0.55, 1.29]	0.43	0.84 [0.55, 1.30]	0.45	0.0%	0.45
- Cardiac	22	13	0.92 [0.46, 1.83]	0.82	0.93 [0.46, 1.88]	0.83	0.0%	0.58
- Non-cardiac*	32	22	0.78 [0.45, 1.35]	0.38	0.79 [0.45, 1.36]	0.39	0.0%	0.75
All myocardial infarction	190	66	1.54 [1.17, 2.02]	0.002	1.52 [1.16, 1.99]	0.003	0.0%	0.67
- TV-MI	161	49	1.74 [1.27, 2.37]	0.0005	1.69 [1.24, 2.32]	0.0009	0.0%	0.46
- Non-TV-MI	39	21	1.01 [0.60, 1.72]	0.96	1.01 [0.59, 1.72]	0.97	0.0%	0.95
All revascularization	299	138	1.19 [0.99, 1.44]	0.07	1.13 [0.87, 1.48]	0.36	32.3%	0.22
ID-TVR	208	77	1.47 [1.14, 1.90]	0.003	1.47 [1.14, 1.89]	0.003	0.0%	0.70
ID-TLR	137	51	1.47 [1.07, 2.01]	0.02	1.44 [1.05, 1.97]	0.02	0.0%	0.47
Device thrombosis	51	7	3.46 [1.65, 7.25]	0.001	3.27 [1.55, 6.89]	0.002	0.0%	0.84
- Definite	47	6	3.63 [1.64, 8.03]	0.001	3.47 [1.56, 7.68]	0.002	0.0%	0.91
- Probable	4	1	1.19 [0.31, 4.59]	0.80	1.20 [0.25, 5.83]	0.82	0.0%	0.57

*Includes non-cardiac vascular deaths. Abbreviations as in Table 7.

eTable 11. Aggregate level treatment effects between 3 years and 5 years

	Number of events		Fixed Effect		Random Effect		Heterogeneity	
	BVS (n=2161)	EES (n=1223)	RR [95% CI]	P-value	RR [95% CI]	P-value	I^2	P-value
Target lesion failure	82	48	0.91 [0.64, 1.28]	0.58	0.89 [0.63, 1.27]	0.53	0.0%	0.65
POCE	180	100	0.96 [0.76, 1.22]	0.75	0.96 [0.76, 1.21]	0.74	0.0%	0.80
All-cause mortality	65	29	1.21 [0.79, 1.86]	0.39	1.19 [0.77, 1.84]	0.42	0.0%	0.83
- Cardiac	22	18	0.67 [0.36, 1.24]	0.20	0.67 [0.36, 1.24]	0.20	0.0%	0.92
- Non-cardiac*	43	11	2.09 [1.08, 4.04]	0.03	2.07 [1.07, 4.01]	0.03	0.0%	0.98
All myocardial infarction	38	28	0.71 [0.44, 1.15]	0.16	0.71 [0.44, 1.15]	0.16	0.0%	0.97
- TV-MI	27	15	0.95 [0.51, 1.78]	0.88	0.95 [0.51, 1.78]	0.87	0.0%	0.98
- Non-TV-MI	12	14	0.44 [0.21, 0.94]	0.03	0.45 [0.21, 0.95]	0.04	0.0%	0.83
All revascularization	108	67	0.86 [0.64, 1.15]	0.31	0.85 [0.63, 1.15]	0.30	0.0%	0.60
ID-TVR	77	39	1.04 [0.71, 1.52]	0.84	1.02 [0.69, 1.49]	0.93	0.0%	0.58
ID-TLR	43	19	1.17 [0.69, 1.99]	0.57	1.09 [0.64, 1.87]	0.74	0.0%	0.65
Device thrombosis (definite or probable	2	3	0.46 [0.08, 2.55]	0.37	0.46 [0.07, 2.80]	0.40	0.0%	0.47
- Definite	1	2	0.26 [0.02, 2.83]	0.27	0.26 [0.02, 2.83]	0.27	-	-
- Probable	1	1	0.98 [0.06, 15.55]	0.99	0.98 [0.06, 15.55]	0.99	-	-

*Includes non-cardiac vascular deaths. Abbreviations as in Table 8.

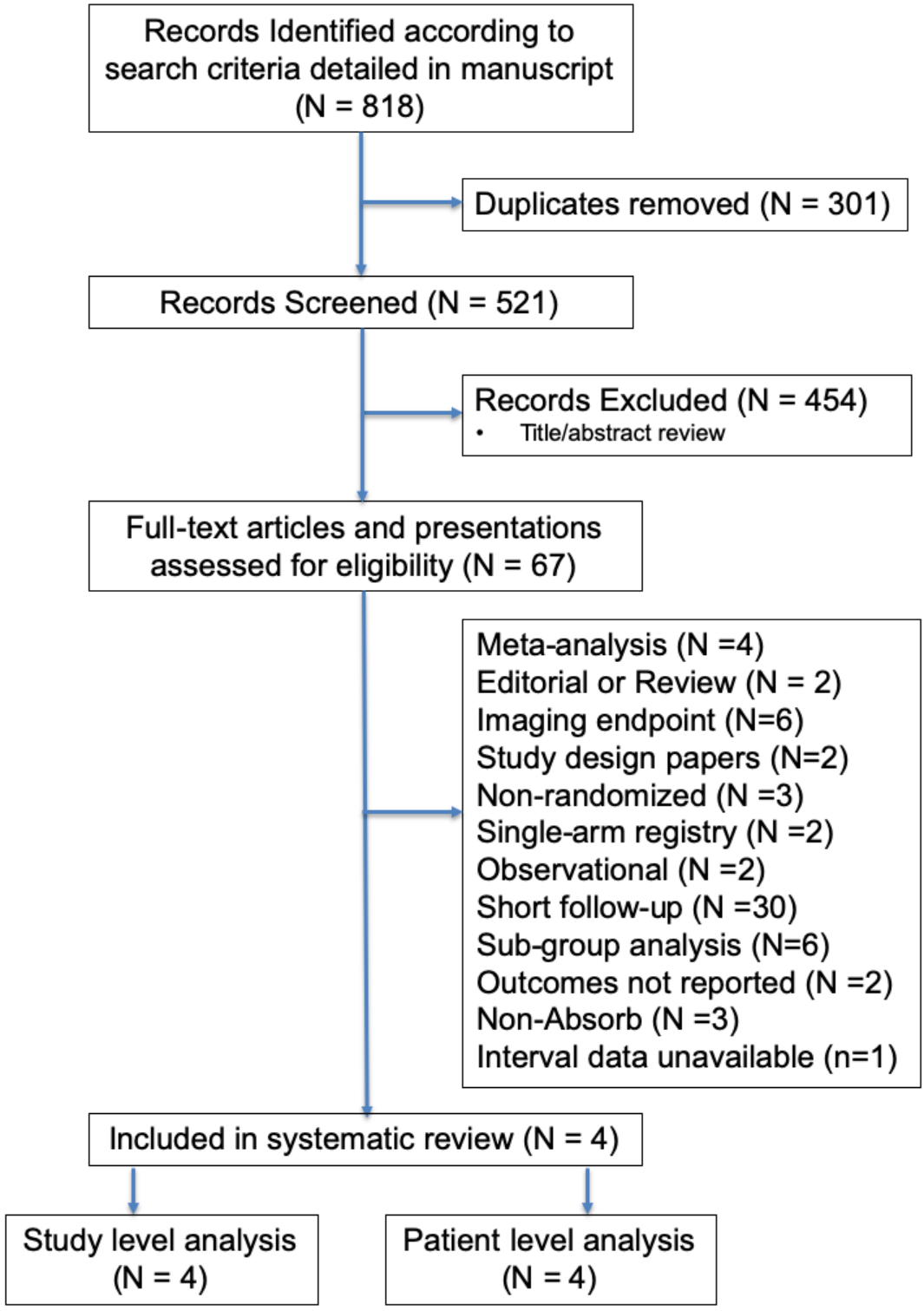
eTable 12. Adverse event rates occurring within the first 3 years and between 3 years and 5 years, with events before 3 years censored at the landmark period

	From randomization to 3 years			From 3 years to 5 years			$P_{interaction}$
	BVS (n=2161)	**EES (n=1223)**	**HR [95%CI]**	**BVS (n=1984)**	**EES (n=1121)**	**HR [95%CI]**	
TLF	11.6% (245)	7.9% (95)	1.42 (1.12, 1.80)	4.1% (72)	4.4% (45)	0.89 (0.61, 1.29)	0.046
POCE	19.9% (422)	15.8% (190)	1.23 (1.04, 1.46)	9.3% (153)	9.0% (86)	0.99 (0.76, 1.29)	0.10
All-cause mortality	2.6% (54)	3.0% (35)	0.84 (0.55, 1.29)	3.4% (65)	2.7% (29)	1.22 (0.79, 1.90)	0.23
- Cardiac	1.1% (22)	1.1% (13)	0.94 (0.47, 1.88)	1.2% (22)	1.7% (18)	0.68 (0.36, 1.26)	0.48
- Non-cardiac*	1.5% (32)	1.9% (22)	0.79 (0.46, 1.35)	2.3% (43)	1.0% (11)	2.11 (1.09, 4.10)	0.02
All MI	9.0% (190)	5.5% (66)	1.56 (1.18, 2.06)	1.8% (31)	2.5% (26)	0.65 (0.39, 1.10)	0.004
- TV-MI	7.6% (161)	4.1% (49)	1.76 (1.28, 2.43)	1.3% (23)	1.4% (15)	0.85 (0.44, 1.64)	0.05
- Non-TV-MI	1.9% (39)	1.8% (21)	1.01 (0.59, 1.73)	0.7% (12)	1.3% (14)	0.44 (0.20, 0.96)	0.08
All revascularization	14.3% (299)	11.6% (138)	1.20 (0.98, 1.47)	4.8% (79)	5.3% (51)	0.84 (0.59, 1.19)	0.08
ID-TLR	6.6% (137)	4.3% (51)	1.48 (1.07, 2.04)	2.0% (35)	1.6% (16)	1.18 (0.65, 2.14)	0.52
Device thrombosis, definite/probable	2.4% (51)	0.6% (7)	3.86 (1.75, 8.50)	0.1% (2)	0.3% (3)	0.45 (0.07, 2.73)	0.03

Event rates are Kaplan-Meier time-to-first event estimates expressed as % (n events). Denominators are patients known to be alive and with valid follow-up at the beginning of the interval. Event rates are hierarchical. The 3-year to 5-year landmark period excludes all randomized patients at 3 years who died or had a non-fatal event of the same type before 3 years (day 1095). The results were similar when patients with non-fatal events within the first 3 years were included from the 3-year to 5-year landmark analysis period (Table 4 of the main manuscript). Note that the interaction P values are the same in Table 4 and eTable 11. This is

because the time-to-first event data within 5 years were used to perform the interaction test in both analyses. This was done by fitting an interaction between the log hazard ratio and indicator for time (0 when time <3 years; 1 when time ≥3 years). *Includes non-cardiac vascular deaths.

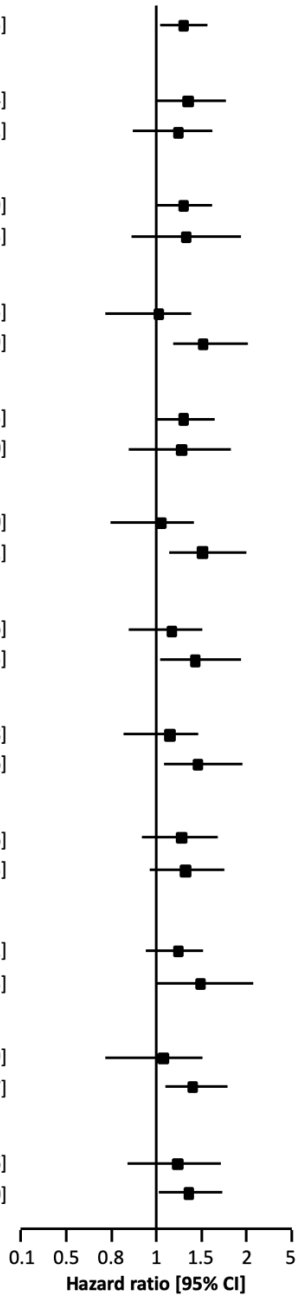
eFigure 1. Search strategy diagram



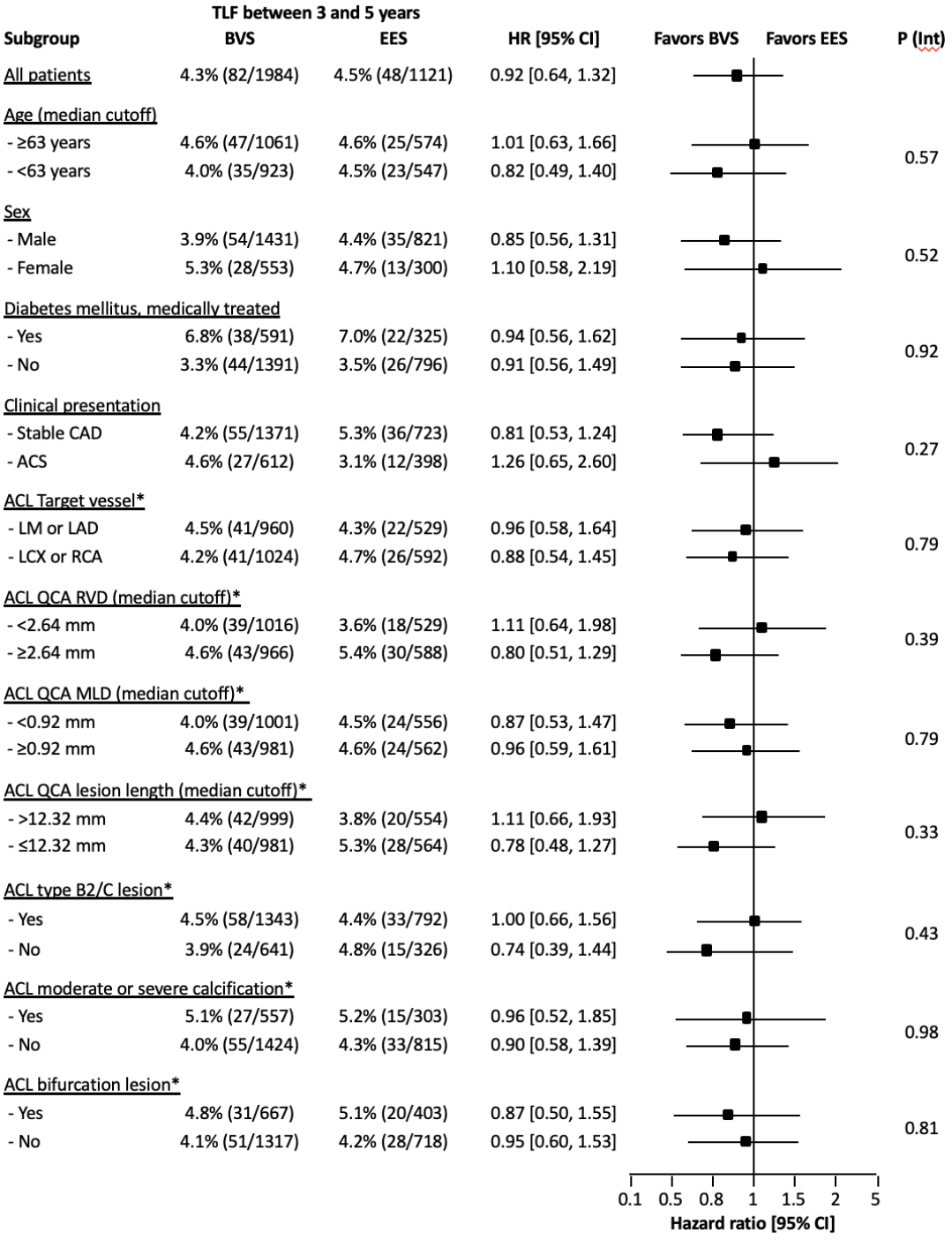
eFigure 2. Subgroup outcomes for target lesion failure between 0 to 5 and 3 to 5 years.
A) Outcomes between 0 and 5 years. B) Outcomes between 3 and 5 years. ACL denotes angiographic core laboratory. LAD denotes left anterior descending coronary artery. LCX denotes left circumflex coronary artery. LM denotes left main coronary artery. MLD denotes minimal luminal diameter. QCA denotes quantitative coronary angiography. RCA denotes right coronary artery. RVD denotes reference vessel diameter. P (Int) denotes P value for interaction between the subgroup and treatment.

eFigure 2A. Subgroup outcomes for target lesion failure between 0 and 5 years

Subgroup	TLF between 0 and 5 years BVS	EES	HR [95% CI]	P (Int)
All patients	14.9% (308/2161)	11.6% (135/1223)	1.26 [1.03, 1.55]	
Age (median cutoff)				
- ≥63 years	15.6% (173/1149)	12.1% (72/625)	1.32 [1.00, 1.74]	0.64
- <63 years	14.0% (135/1012)	11.1% (63/598)	1.19 [0.89, 1.62]	
Sex				
- Male	14.8% (222/1568)	11.7% (99/884)	1.25 [0.99, 1.59]	0.89
- Female	15.1% (86/593)	11.2% (36/339)	1.29 [0.88, 1.93]	
Diabetes mellitus, medically treated				
- Yes	19.1% (118/653)	18.8% (65/367)	1.00 [0.74, 1.35]	0.05
- No	13.0% (189/1506)	8.5% (70/856)	1.50 [1.15, 1.99]	
Clinical presentation				
- Stable CAD	15.1% (215/1473)	12.3% (92/787)	1.27 [1.00, 1.63]	0.92
- ACS	14.4% (93/687)	10.3% (43/436)	1.24 [0.87, 1.80]	
ACL Target vessel*				
- LM or LAD	14.0% (140/104)	12.7% (70/575)	1.04 [0.79, 1.40]	0.08
- LCX or RCA	15.7% (168/1115)	10.6% (65/648)	1.50 [1.13, 2.01]	
ACL QCA RVD (median cutoff)*				
- <2.64 mm	15.5% (165/1097)	13.7% (77/589)	1.14 [0.88, 1.46]	0.31
- ≥2.64 mm	14.2% (143/1060)	9.7% (58/629)	1.41 [1.04, 1.93]	
ACL QCA MLD (median cutoff)*				
- <0.92 mm	14.5% (151/1071)	12.9% (76/617)	1.12 [0.85, 1.48]	0.22
- ≥0.92 mm	15.3% (157/1086)	10.3% (59/602)	1.44 [1.07, 1.96]	
ACL QCA lesion length (median cutoff)*				
- >12.32 mm	14.8% (153/1074)	11.4% (67/609)	1.24 [0.93, 1.66]	0.84
- ≤12.32 mm	15.0% (155/1081)	11.6% (67/609)	1.29 [0.97, 1.73]	
ACL type B2/C lesion*				
- Yes	15.2% (213/1461)	12.4% (103/859)	1.19 [0.95, 1.52]	0.37
- No	14.2% (95/698)	9.7% (32/360)	1.47 [1.00, 2.23]	
ACL moderate or severe calcification*				
- Yes	16.3% (95/607)	15.3% (49/336)	1.05 [0.74, 1.49]	0.27
- No	14.3% (212/1549)	10.2% (86/883)	1.37 [1.07, 1.77]	
ACL bifurcation lesion*				
- Yes	16.1% (111/721)	12.9% (54/436)	1.19 [0.86, 1.66]	0.66
- No	14.3% (197/1439)	10.9% (81/787)	1.31 [1.01, 1.70]	



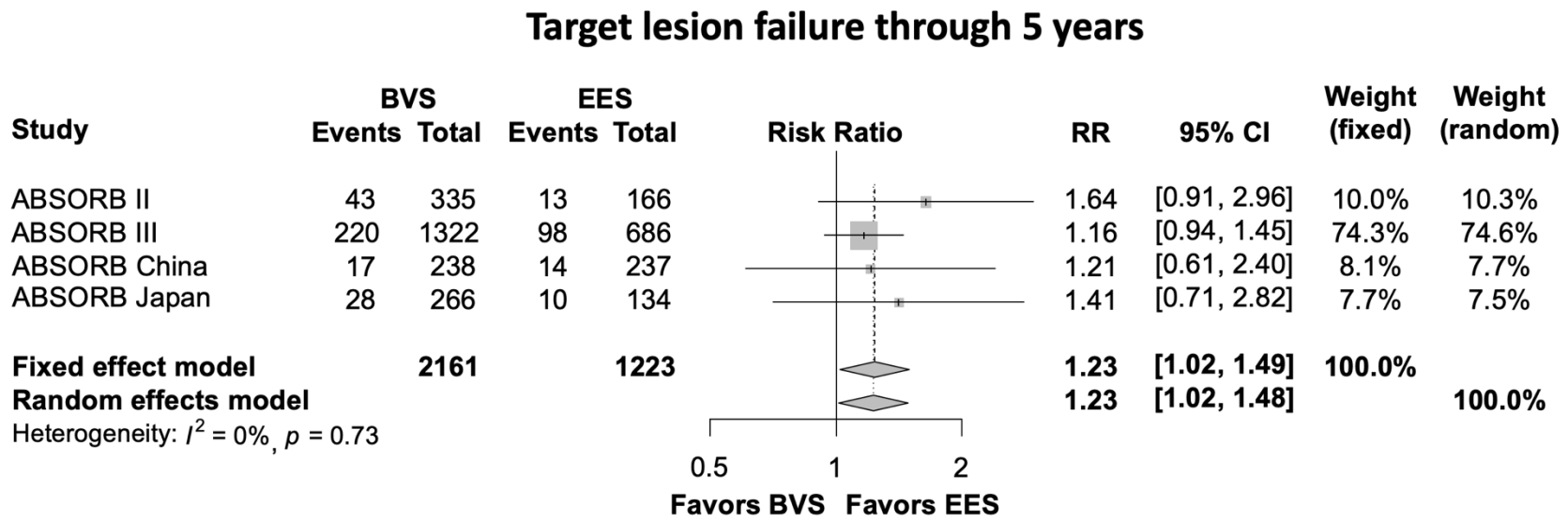
eFigure 2B. Subgroup outcomes for target lesion failure between 3 and 5 years



eFigure 3. Aggregate level meta-analysis, cumulative outcomes through 5 years

A) Target lesion failure (cardiac death, target-vessel-related myocardial infarction or ischemia-driven target lesion revascularization; B) Cardiac death; C) Target-vessel-related myocardial infarction; D) Ischemia-driven target lesion revascularization; E) Patient-oriented composite endpoint (add death, all myocardial infarction or all revascularization; F) Device thrombosis (definite or probable)

eFigure 3A.



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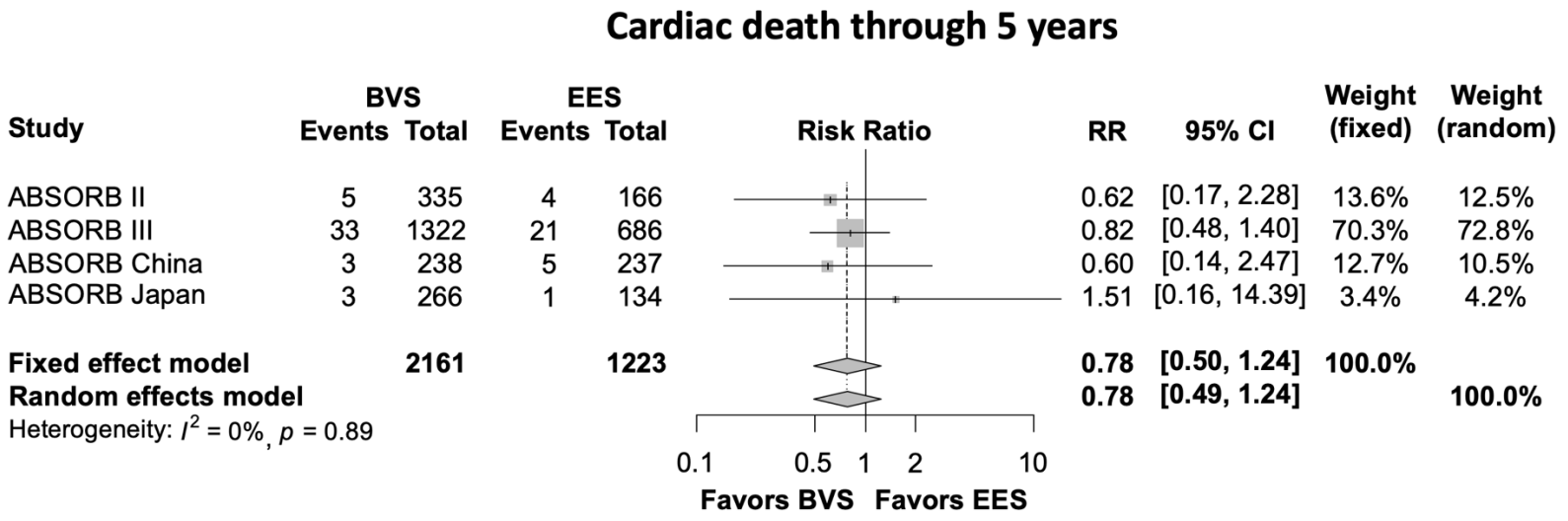

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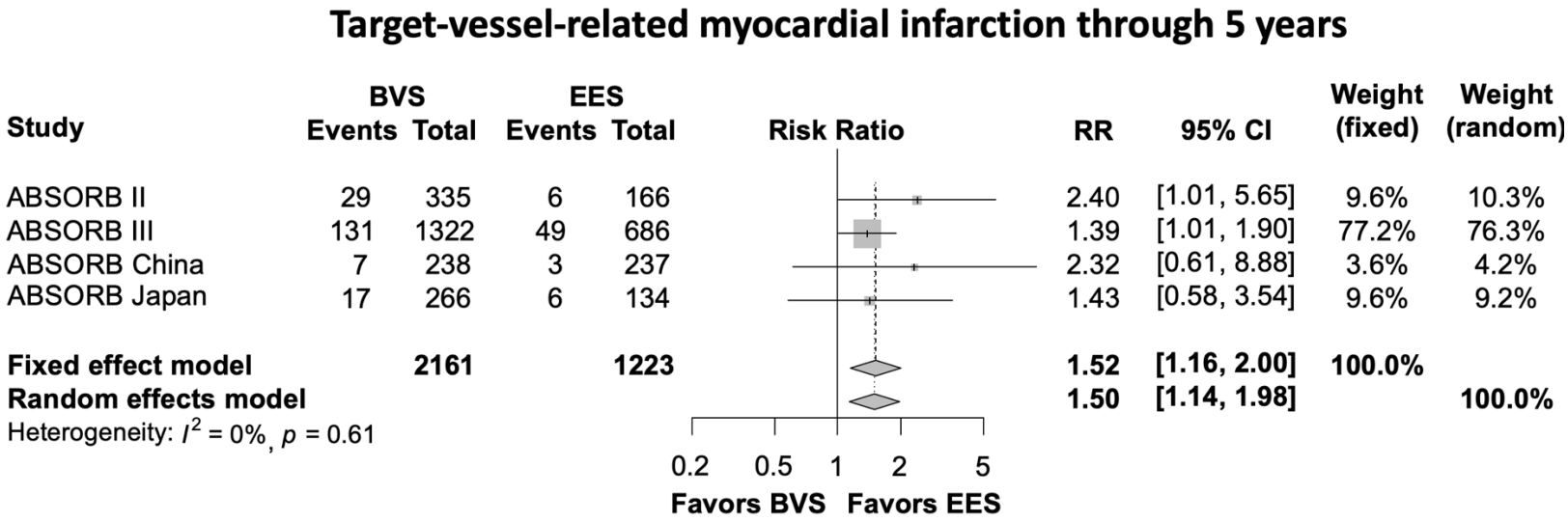
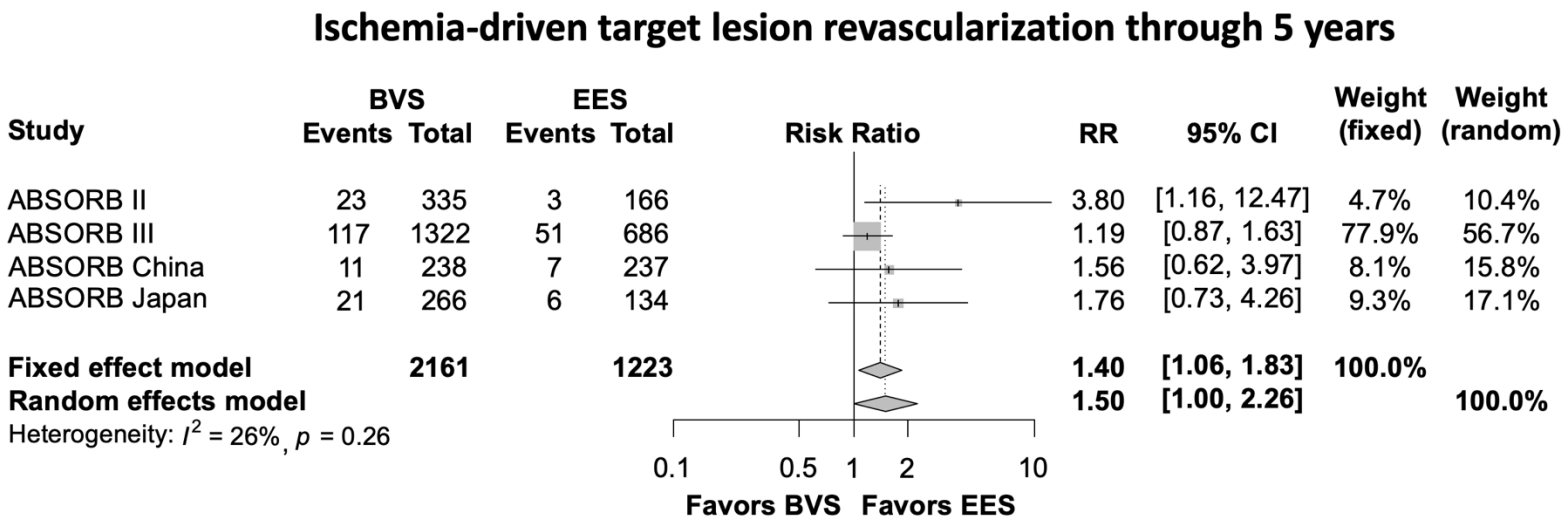
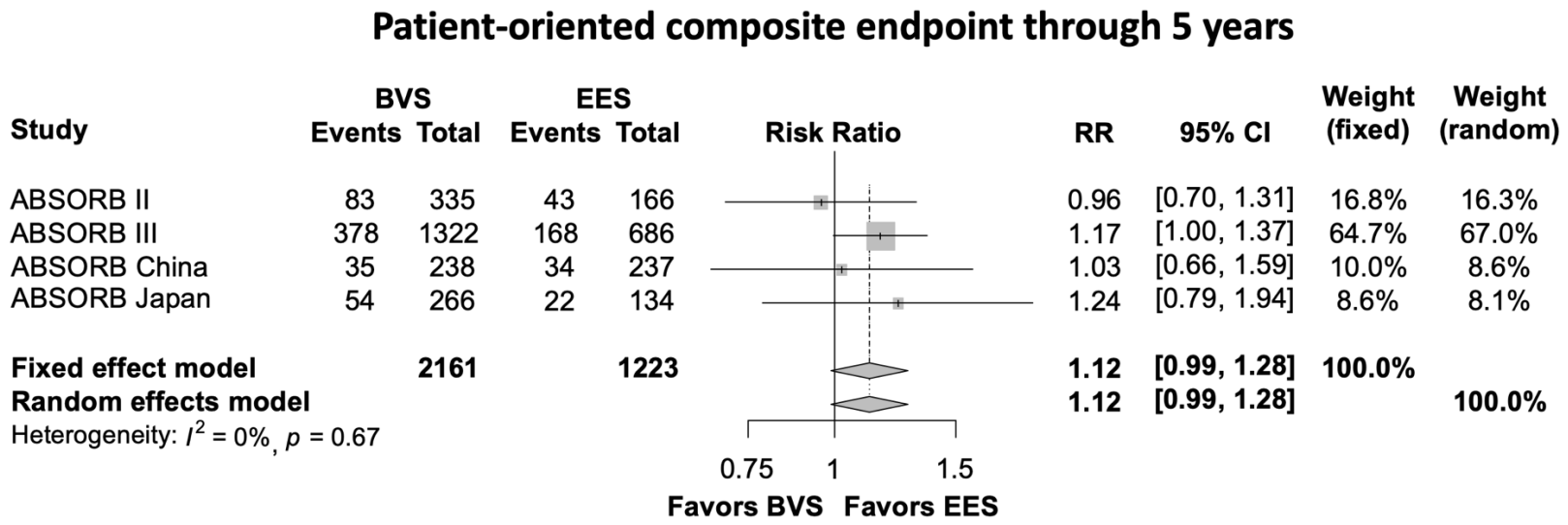


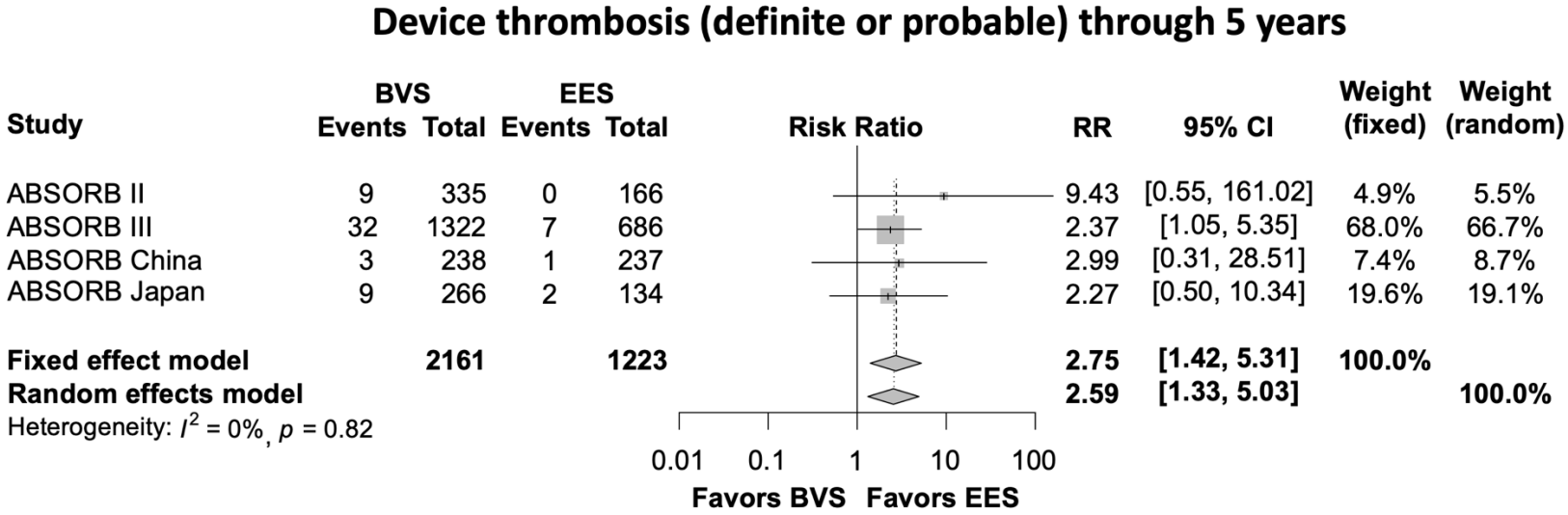
eFigure 3D.



eFigure 3E.



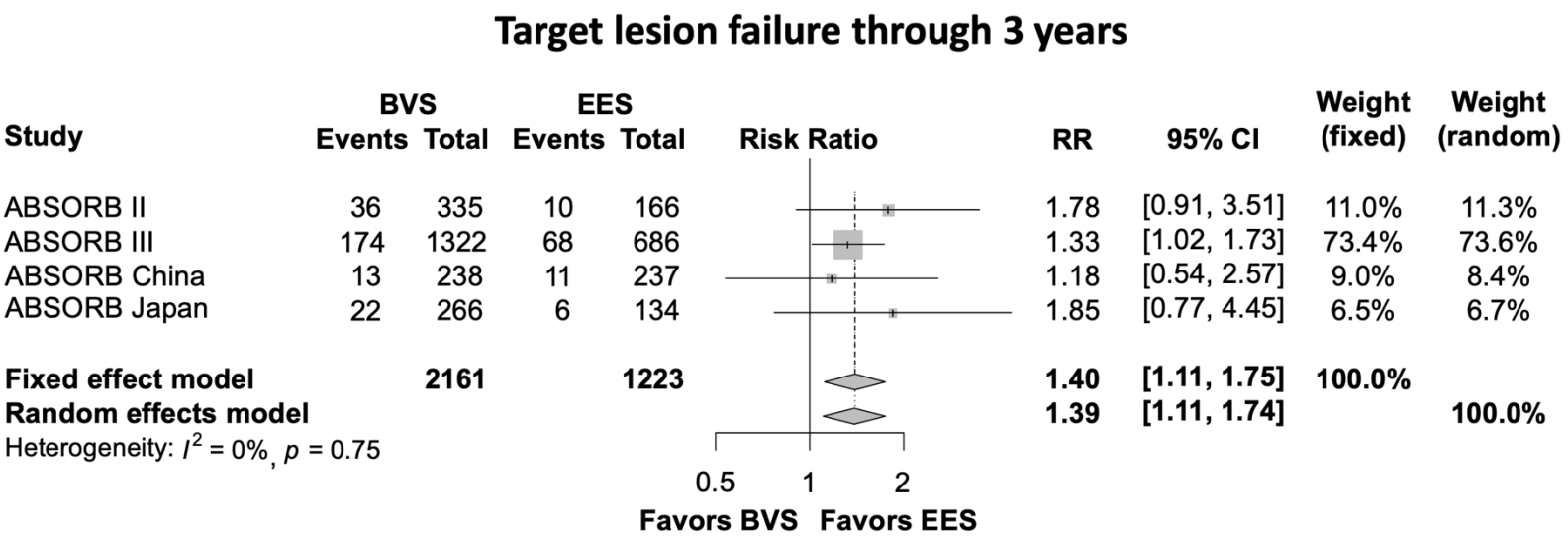
eFigure 3F.



eFigure 4. Aggregate level meta-analysis, cumulative outcomes through 3 years

A) Target lesion failure (cardiac death, target-vessel-related myocardial infarction or ischemia-driven target lesion revascularization; B) Cardiac death; C) Target-vessel-related myocardial infarction; D) Ischemia-driven target lesion revascularization; E) Patient-oriented composite endpoint (add death, all myocardial infarction or all revascularization; F) Device thrombosis (definite or probable)

eFigure 4A.



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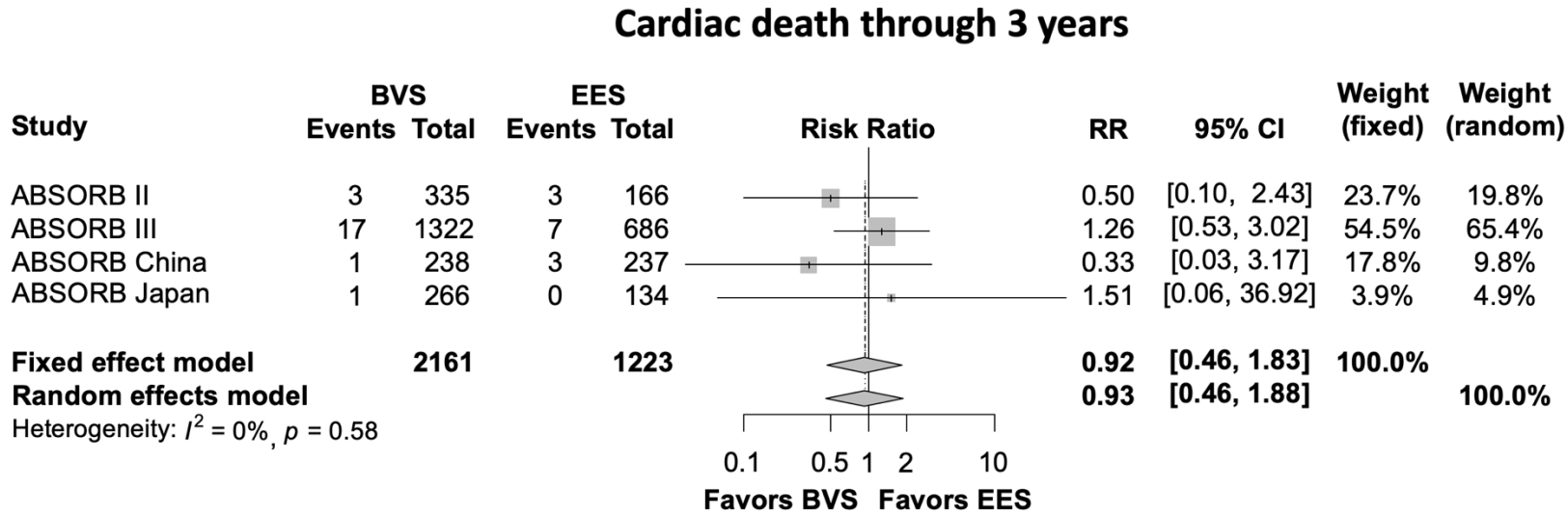
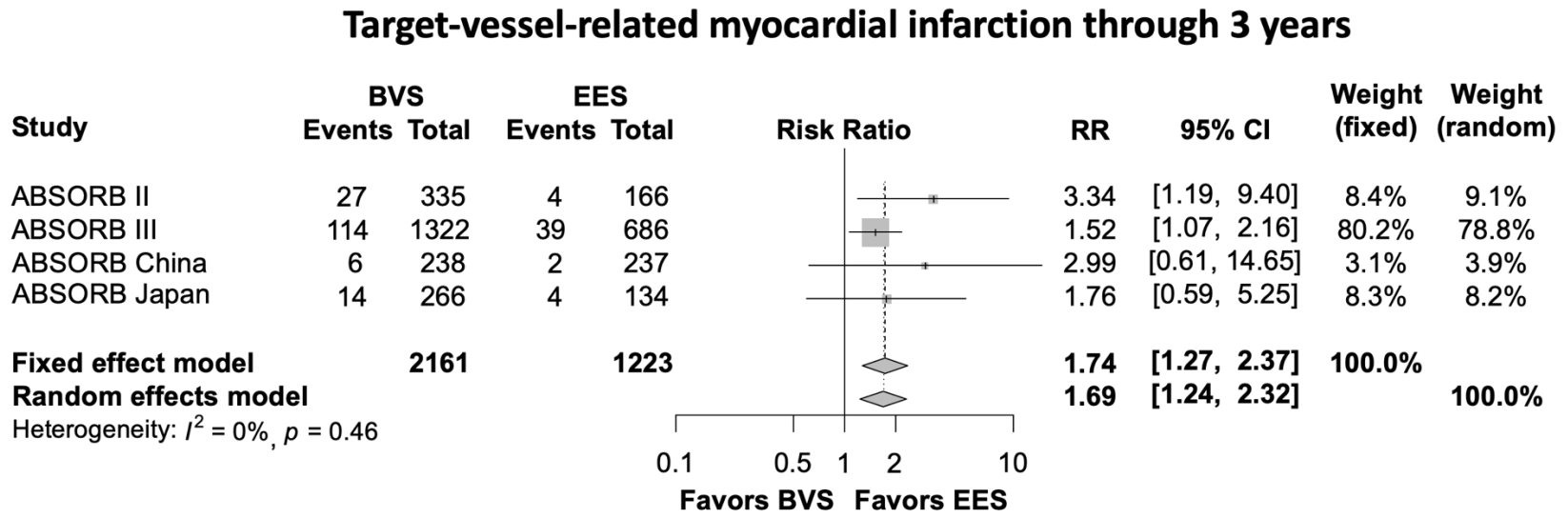


eFigure 4C.



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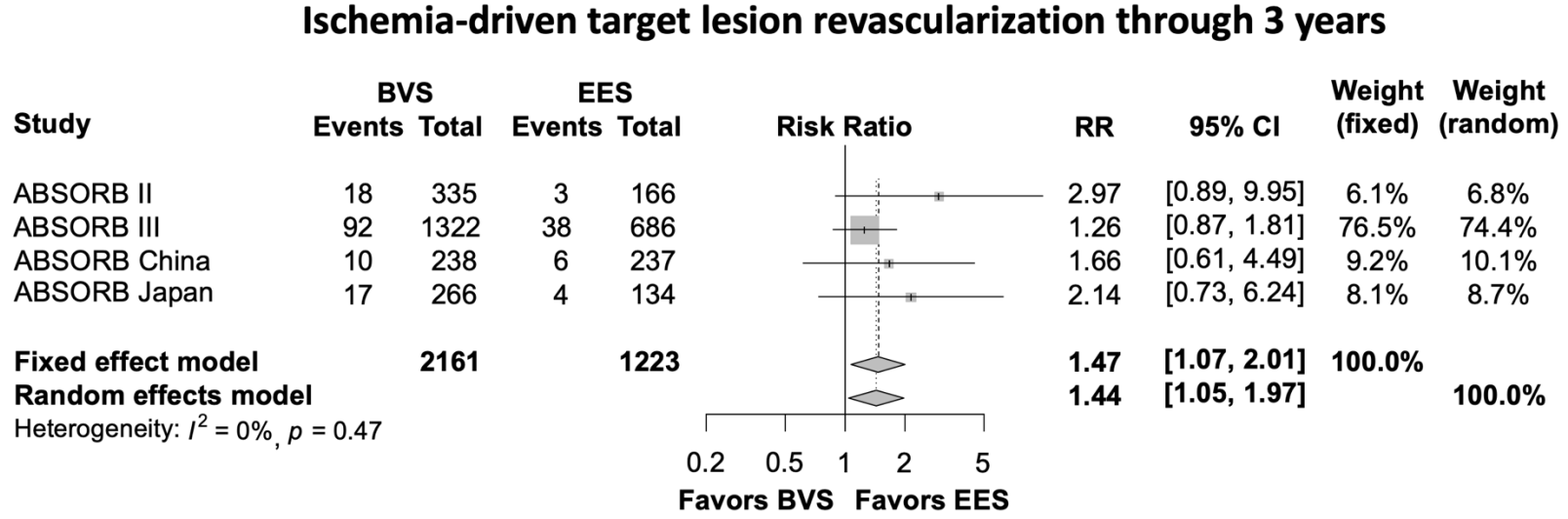

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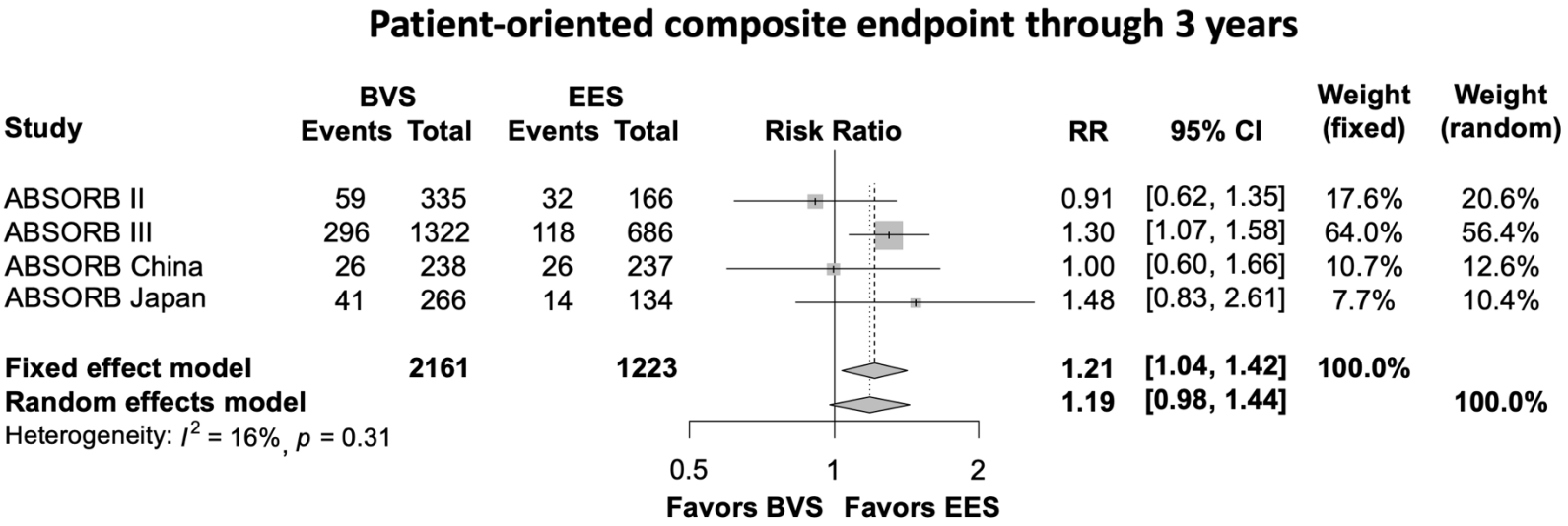

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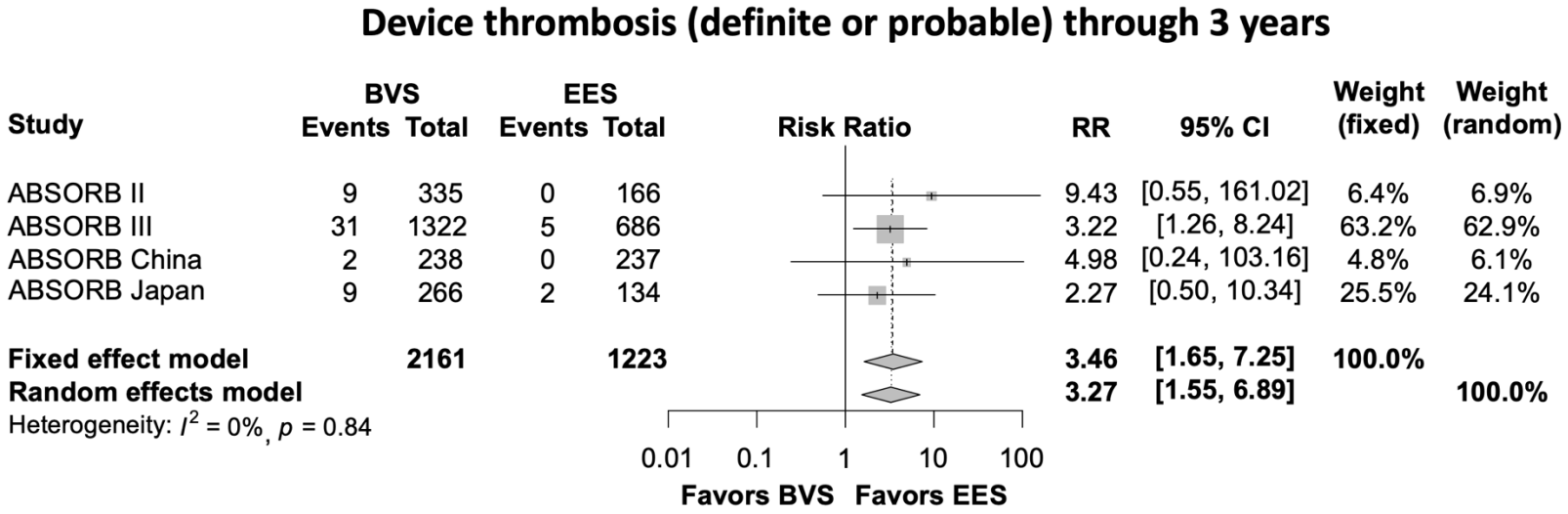
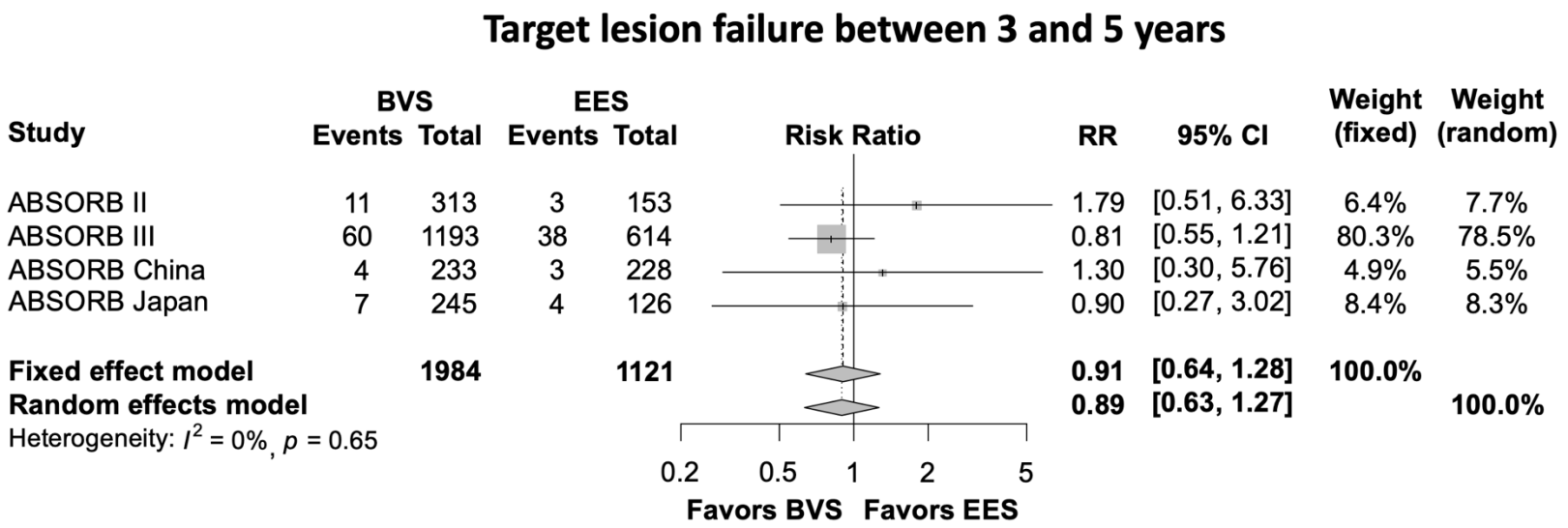


eFigure 5. Aggregate level meta-analysis, cumulative outcomes between 3 and 5 years

A) Target lesion failure (cardiac death, target-vessel-related myocardial infarction or ischemia-driven target lesion revascularization; B) Cardiac death; C) Target-vessel-related myocardial infarction; D) Ischemia-driven target lesion revascularization; E) Patient-oriented composite endpoint (add death, all myocardial infarction or all revascularization; F) Device thrombosis (definite or probable)

eFigure 5A.



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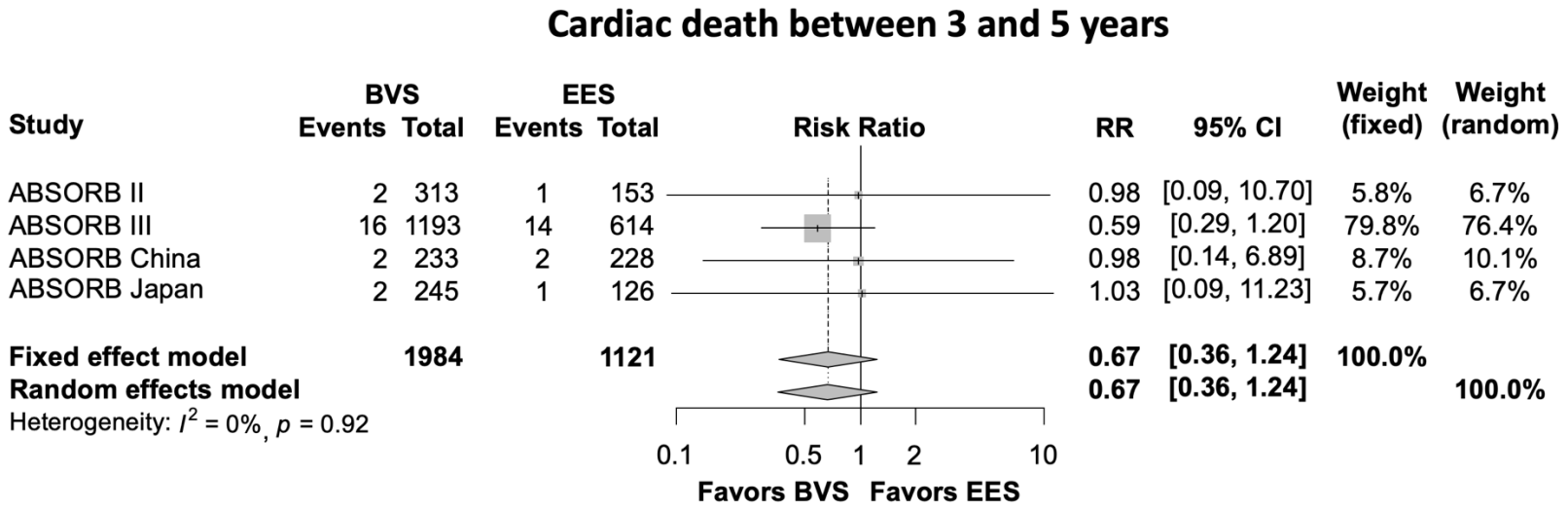

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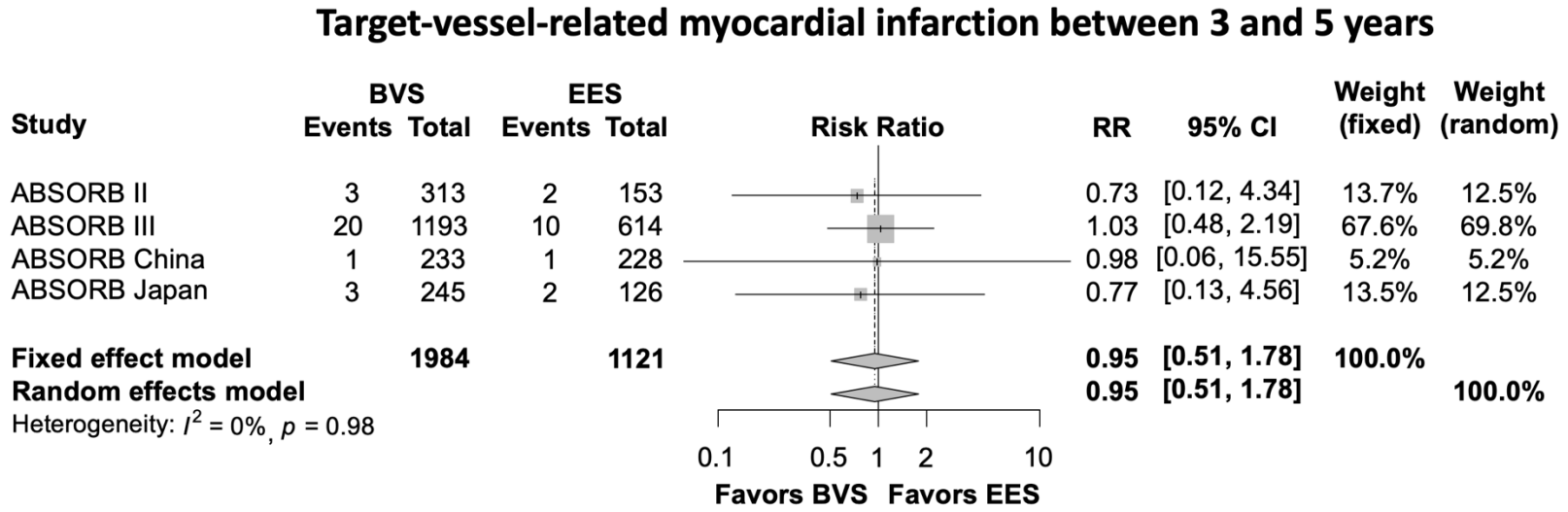

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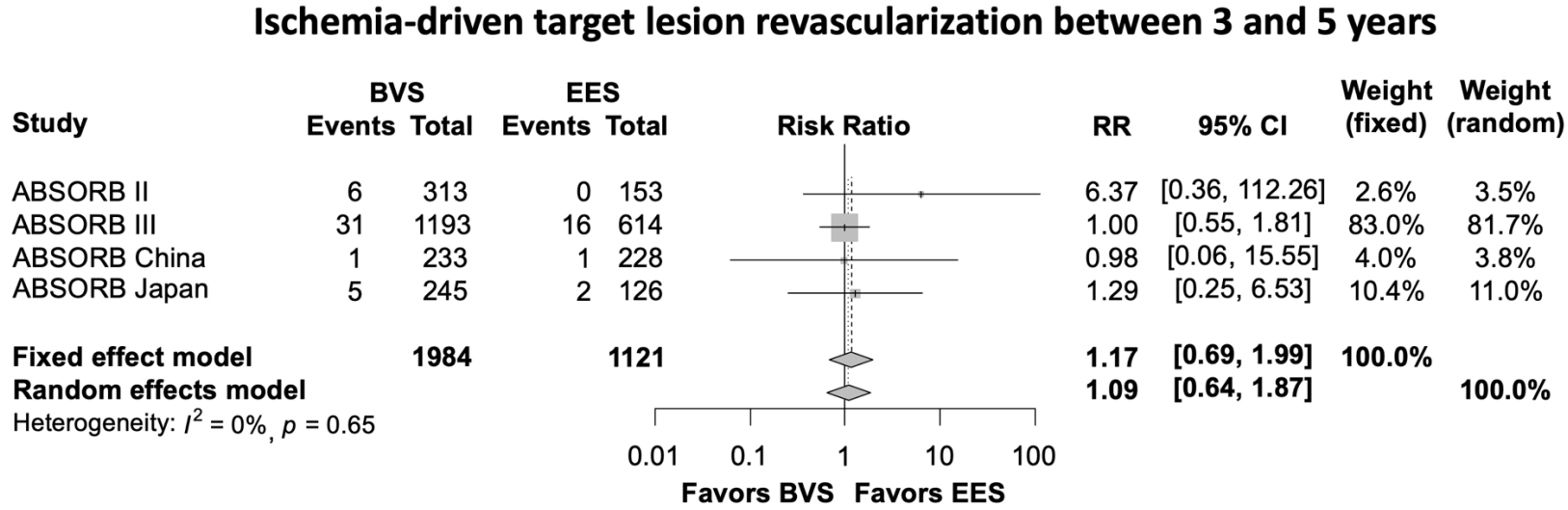

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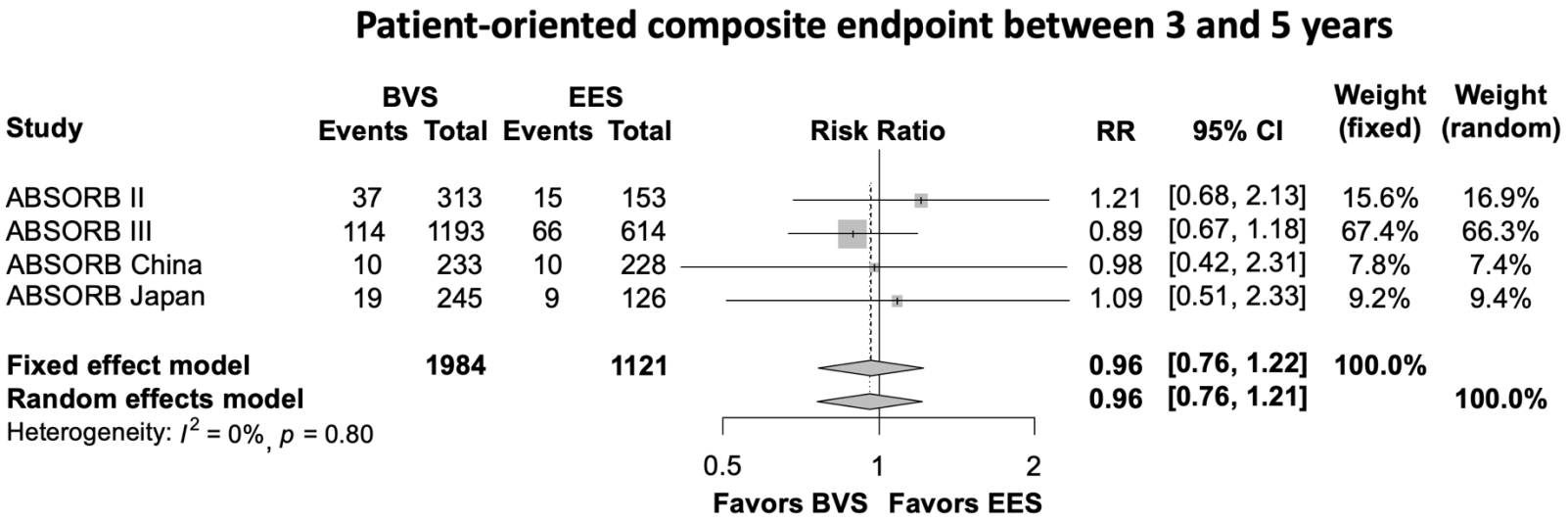

eFigure 5F.