Supplementary Appendix

1 Appendix A – Full Search Strategy

Set	Search Statement
1.	exp Coronary Disease/
2.	myocardial infarction.mp. or exp Myocardial Infarction/
3.	exp Percutaneous Coronary Intervention/
4.	1 or 2 or 3
5.	(bioresorbable vascular scaffold* or bioresorbable vascular stent* or BVS).mp.
6.	(bioresorbable stent* or BRS).mp.
7.	"Absorbable Implants"/
8.	third generation stent*.mp.
9.	5 or 6 or 7 or 8
10.	(drug eluting stent* or DES).mp. or Drug-Eluting Stents/
11.	(everolimus eluting stent* or EES).mp.
12.	second generation stent*.mp.
13.	10 or 11 or 12
14.	4 and 9 and 13
15.	limit 14 to randomized controlled trial
16.	limit 15 to english language

Figure 1 - Full search strategy exported from Ovid

2 Appendix B: Results

Table 1 – Baseline patient, lesion and procedure characteristics of the included studies.

	ABSORB CHINA		ABSORB II		ABSORB III		ABSORB IV		ABSORB JAPAN		AIDA		COMPARE-ABSORB		COVER-AMI		EVERBIO II	
	BVS	EES	BVS	EES	BVS	EES	BVS	EES	BVS	EES	BVS	EES	BVS	EES	BVS	EES	BVS	EES
Patient Characteristics																		
Patients (n)	241	239	335	166	1322	686	1296	1308	266	134	924	921	848	822	10	12	80	160
Age (yr)	57.2	57.6	61.5	60.9	63.5	63.6	63.1	62.2	67.1	67.3	64.3	64.0	62.0	63.0	56.5	61.4	65.0	65.0
Male (%)	71.8	72.6	75.5	79.5	70.7	70.1	71.5	72.4	78.9	73.9	72.5	76.0	79.5	76.3	90.0	70.0	78.2	80.0
Diabetes (%)	25.2	23.2	24.1	24.1	31.5	32.7	31.6	31.9	36.1	35.8	18.5	16.6	34.6	36.1	10.0	0.0	21.8	24.4
Dyslipidaemia (%)	42.4	38.4	75.2	80.1	86.2	86.3	80.0	79.2	82.0	82.1	37.6	38.3	66.3	66.3	20.0	0.0	56.4	63.8
Hypertension (%)	58.8	60.3	69.0	71.7	84.9	85.3	78.5	78.6	78.2	79.9	50.9	50.5	71.6	69.2	30.0	30.0	55.1	63.1
Current smoker (%)	32.8	35.4	23.6	21.7	21.3	20.7	22.1	23.3	19.9	21.6	28.6	31.7	28.8	26.9	50.0	40.0	35.9	34.4
Prior MI (%)	16.8	16.0	27.8	28.9	21.5	22.0	18.0	19.4	16.0	23.9	18.0	18.7	18.2	20.2	-	-	14.1	18.8
Clinical Presentation:																		
Silent Ischaemia (%)	3.8	5.4	12.5	11.4	10.0	10.2	7.3	7.5	26.3	17.9	-	-	7.4	8.9	-	-	11.5	13.1
Stable Angina (%)	21.4	16.9	63.9	64.5	57.3	60.8	51.1	51.2	63.9	65.7	39.1	40.2	40.4	42.5	-	-	52.6	46.3
Unstable Angina (%)	64.7	64.1	20.3	22.3	26.9	24.5	17.5	17.5	9.8	16.4	7.6	9.4	17.6	17.2	-	-	7.7	8.8
NSTEMI (%)	-	-	-	-	-	-	22.3	22.2	-	-	20.0	20.8	21.6	19.0	-	-	16.7	23.1
STEMI (%)	-	-	-	-	-	-	3.3	4.4	-	-	26.0	24.4	13.0	12.5	-	-	11.5	8.8
Lesion Characteristics																		
Treated arteries:																		
LAD (%)	55.4	52.4	55.4	52.4	44.5	42.2	43.6	43.7	46.2	42.3	42.5	43.7	45.8	41.4	-	-	45.8	34.1
LCx (%)	19.5	24.2	19.5	24.2	26.2	30.6	25.9	25.9	22.9	26.3	24.0	26.3	22.6	25.5	-	-	25.0	21.0
RCA (%)	25.1	23.4	25.1	23.4	29.2	27.2	30.5	30.4	30.9	31.4	32.4	28.8	31.5	32.9	-	-	25.0	38.4
ACC-AHA lesion class B2 or C (%)	74.9	72.1	45.5	49.4	68.7	72.5	46.9	45.6	76.0	75.9	54.6	51.0	-	-	-	-	29.2	31.9
Lesion length (mm)	14.1	13.9	13.8	13.8	12.6	13.1	14.8	15.1	13.5	13.3	19.1	18.8	12.5	12.5	23.3	21.0	-	-
RVD (mm)	2.81	2.82	2.59	2.63	2.67	2.65	2.90	2.89	2.72	2.79	3.07	3.03	2.51	2.49	3.40	3.70	2.77	2.46
MLD (mm)	0.98	1.01	1.07	1.05	0.92	0.90	0.82	0.81	0.96	0.99	-	-	0.89	0.89	-	-	0.60	0.55
Pre-PCI diameter stenosis (%)	65.3	64.5	59.0	60.0	65.3	65.9	71.8	71.8	64.6	64.7	-	-	64.3	63.7	-	-	81.3	79.2
Procedure Characteristics																		
Device success (%)	98.0	99.6	99.2	100	94.3	99.3	94.6	99.0	98.9	99.3	-	-	92.4	96.8	90.0	100	-	-
Device length (mm)	22.8	22.3	21.1	20.9	20.5	20.7	20.5	20.1	20.2	19.5	31.1	29.7	28.0	28.0	23.7	21.6	22.8	20.7
Nominal device diameter (mm)	2.84	2.85	3.01	3.05	3.18	3.12	-	-	3.09	3.13	2.73	2.88	3.00	3.00	3.30	3.70	3.10	3.00
Pre-dilation performed (%)	99.6	98.0	100	98.9	-	-	99.9	99.8	100	100	96.9	91.2	96.5	78.6	90.0	40.0	96.9	83.0
Post-dilation performed (%)	63.0	54.4	60.7	58.8	65.5	51.2	84.3	54.7	82.2	77.4	74.0	49.1	92.8	58.0	80.0	10.0	34.4	30.6
Post-PCI diameter stenosis (%)	12.2	8.7	16.0	10.0	11.6	6.4	9.9	7.2	11.8	7.1	-	-	15.5	12.1	15.2	8.2	9.3	7.6

Numbers given as mean unless stated otherwise. NSTEMI: Non-ST elevation myocardial infarction; LAD: Left Anterior Descending artery; LCx: Left Circumflex Artery; RCA: Right Coronary Artery; RVD: Reference vessel diameter; MLD: Minimal lumen diameter.

Table 6 (continued) – Baseline patient, lesion and procedure characteristics of included studies.

	Hernandez et al.		ISAR-ABSORB		MAGSTEMI		NeoVas		PRAGUE-22		Seo et al.		TROFI-II		XINSORB	
	BVS	EES	BVS	EES	BVS	EES	BVS	EES	BVS	EES	BVS	EES	BVS	EES	BVS	EES
Patient Characteristics																
Patients (n)	100	100	173	89	74	76	278	282	25	25	171	170	95	96	200	195
Age (yr)	60.8	61.3	61.7	63.3	58.8	59.2	58.5	58.9	57.0	55.5	63.0	62.0	59.1	58.2	60.2	60.0
Male (%)	79.0	76.0	79.8	73.0	85.1	93.4	67.6	68.1	64.0	76.0	75.4	81.2	76.8	87.5	67.5	67.2
Diabetes (%)	16.0	20.0	21.6	19.3	13.5	18.4	19.1	19.9	12.0	32.0	31.0	31.2	18.9	14.6	24.5	21.5
Dyslipidaemia (%)	58.0	62.0	43.5	47.6	67.6	48.7	19.4	16.7	-	-	80.7	84.7	63.2	57.3	14.5	12.3
Hypertension (%)	56.0	61.0	53.5	62.1	44.6	42.1	54.3	52.8	-	-	51.5	57.1	43.2	36.5	60.5	53.8
Current smoker (%)	21.0	19.0	44.5	43.2	55.4	56.6	24.5	30.5	72.0	56.0	18.7	18.8	48.4	49.0	27.0	28.7
Prior MI (%)	18.0	22.0	6.9	6.7	6.8	3.9	5.4	7.1	-	-	-	-	2.1	3.1	-	-
Clinical Presentation																
Silent Ischaemia (%)	-	-	-	-	-	-	2.2	1.4	-	-	-	-	-	-	-	-
Stable Angina (%)	-	-	-	-	-	-	16.5	15.2	-	-	54.4	55.9	-	-	30.0	27.7
Unstable Angina (%)	-	-	-	-	-	-	79.1	79.8	4.0	16.0	40.4	37.1	-	-	39.5	39.5
NSTEMI (%)	-	-	23.7	27.0	-	-	0.4	0.4	24.0	28.0	5.3	7.1	-	-	14.0	14.4
STEMI (%)	-	-	76.3	73.0	100	100	1.8	3.2	72.0	56.0			100	100		
Lesion Characteristics																
Treated arteries:																
LAD (%)	52.8	54.6	47.4	48.3	48.6	47.4	65.1	63.3	44.0	52.0	57.4	56.8	35.8	41.8	-	-
LCx (%)	15.2	16.9	17.3	11.2	21.6	14.5	12.9	18.7	20.0	20.0	14.4	19.2	17.9	13.3	-	-
RCA (%)	32.0	28.5	35.3	40.4	29.7	38.2	21.9	18.0	36.0	28.0	28.2	23.9	46.3	44.9	-	-
ACC-AHA lesion class B2 or C (%)	-	-	-	-	-	-	10.4	7.1	-	-	-	-	100	100	4.3	7.4
Lesion length (mm)	17.6	18.1	-	-	-	-	14.4	14.3	-	-	31.1	33.7	12.9	13.4	14.4	14.8
RVD (mm)	2.91	2.89	2.89	2.95	2.86	2.90	2.95	2.93	-	-	2.95	2.87	2.86	2.76	3.04	2.94
MLD (mm)	-	-	0.35	0.28	0.25	0.21	1.07	1.03	-	-	0.94	0.83	0.29	0.28	1.14	1.15
Pre-PCI diameter stenosis (%)	73.0	74.0	87.7	90.6	91.1	92.4	63.6	64.8	-	-	67.7	71.0	89.5	89.9	62.6	60.9
Procedure Characteristics																
Device success (%)	-	-	-	-	98.6	100	96.2	99.6	-	-	-	-	95.8	100	96.8	100
Device length (mm)	19.3	20.6	25.7	28.6	20.7	20.3	20.2	19.6	24.6	27.6	32.0	36.6	20.6	20.7	20.6	21.8
Nominal device diameter (mm)	3.08	3.01	3.20	3.20	3.50	3.30	3.18	3.14	3.10	3.11	3.31	3.19	3.25	3.12	3.15	3.11
Pre-dilation performed (%)	97.6	25.4	94.8	80.9	91.1	86.4	99.6	100	100	80.0	-	-	55.8	51.0	99.0	91.2
Post-dilation performed (%)	64.8	38.5	56.6	34.8	88.6	24.7	83.5	74.2	92.0	72.0	66.5	54.0	50.5	25.5	94.8	73.1
Post-PCI diameter stenosis (%)	11.0	10.0	13.9	10.6	10.8	6.8	12.9	8.0	7.0	10.2	17.1	14.2	14.1	13.4	10.6	10.3

Numbers given as mean unless stated otherwise. NSTEMI: Non-ST elevation myocardial infarction; LAD: Left Anterior Descending artery; LCx: Left Circumflex Artery; RCA: Right Coronary Artery; RVD: Reference vessel diameter; MLD: Minimal lumen diameter.

2.1 Stent Thrombosis

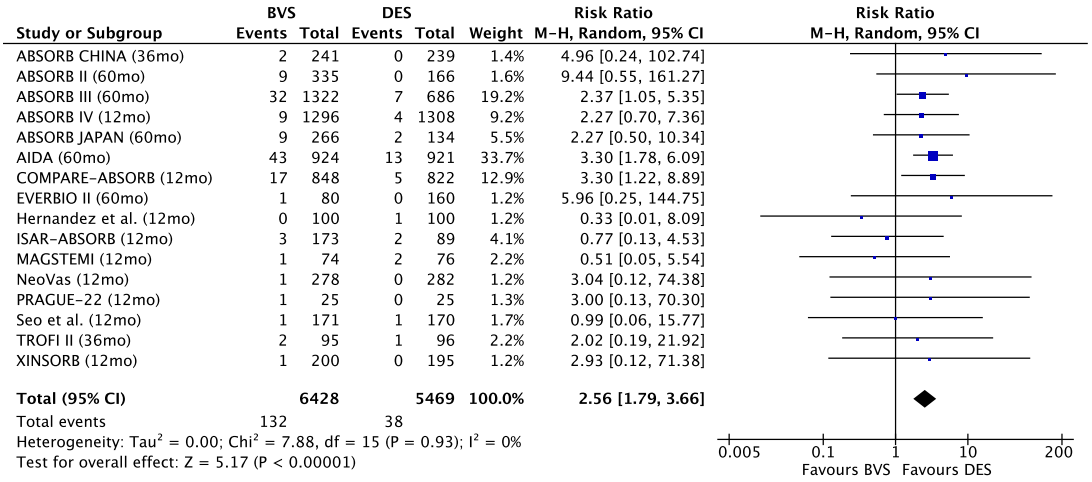

Figure 2 - Forest plot for stent thrombosis (ST) at latest follow-up.

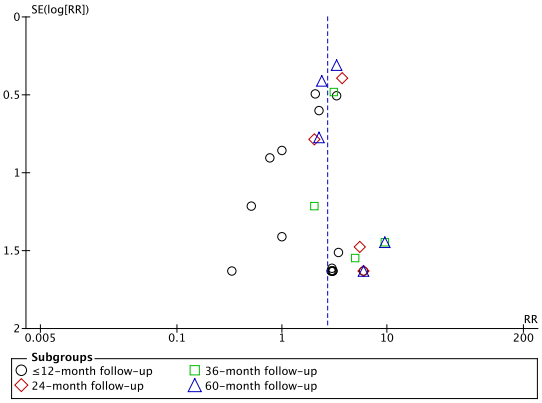

Figure 3 - Funnel plot of ST data, grouped by duration of follow-up.

2.2 TLF

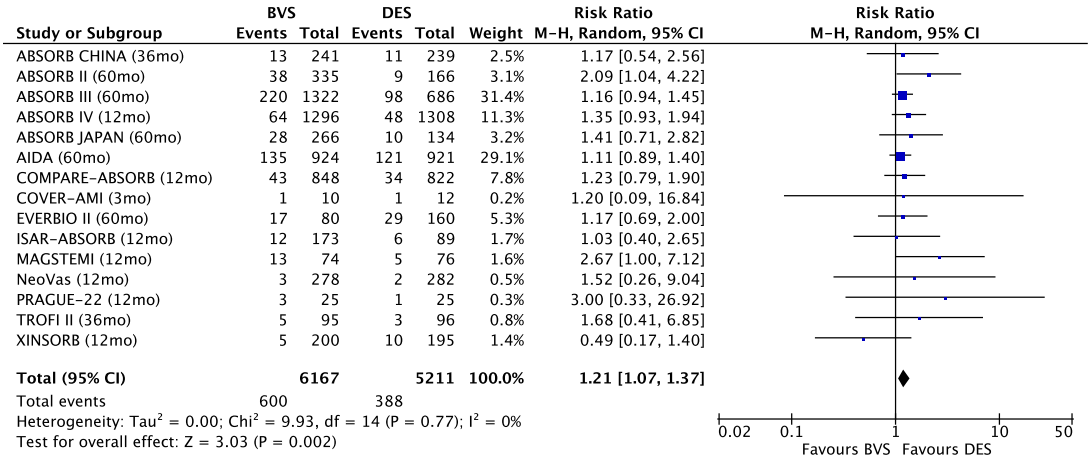

Figure 4 - Forest plot for Target Lesion Failure (TLF) at latest follow-up.

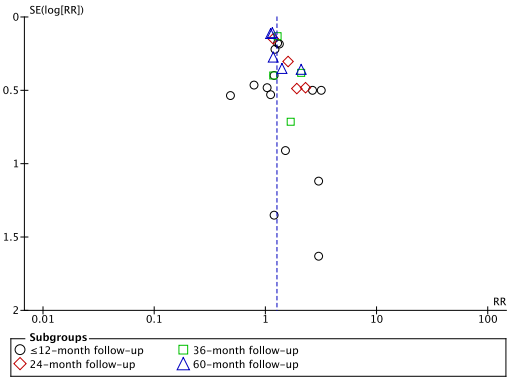

Figure 5 - Funnel plot of TLF data, grouped by duration of follow-up.

2.3 Secondary Outcomes

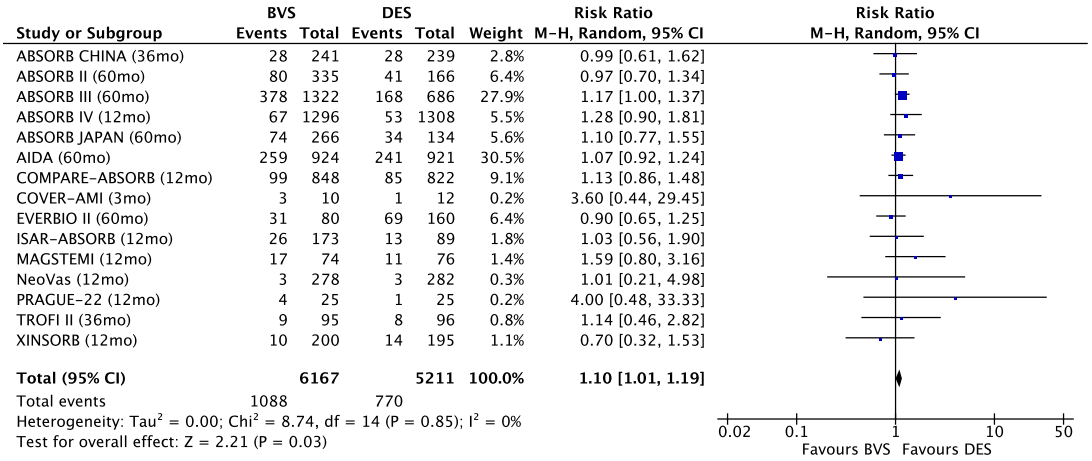

Figure 6 - Forest plot for POCE (patient oriented composite endpoint) at latest follow-up.

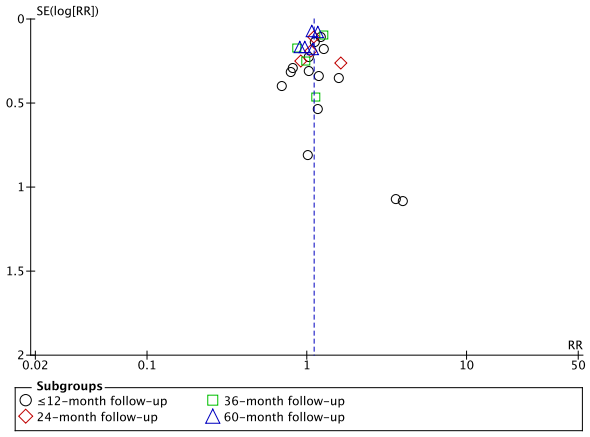

Figure 7 - Funnel plot of POCE data, grouped by duration of follow-up.

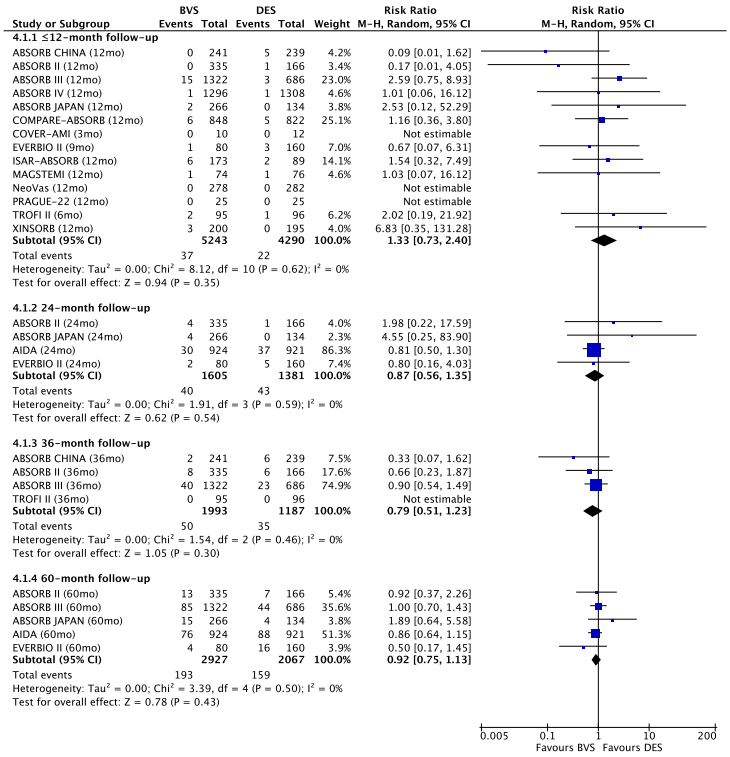

Figure 8 – Forest plot of all-cause mortality grouped by duration of follow-up.

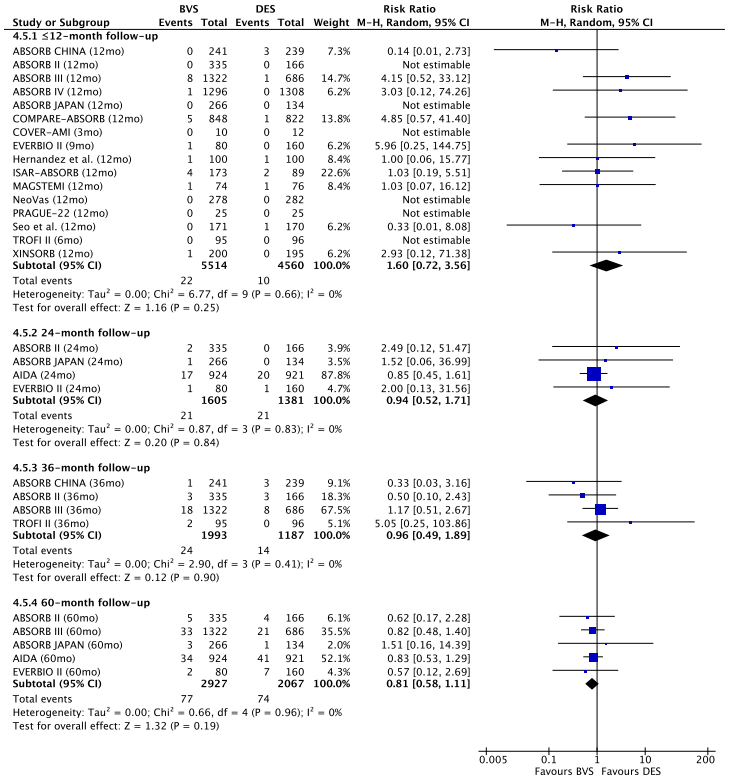

Figure 9 - Forest plot of cardiac death grouped by duration of follow-up.

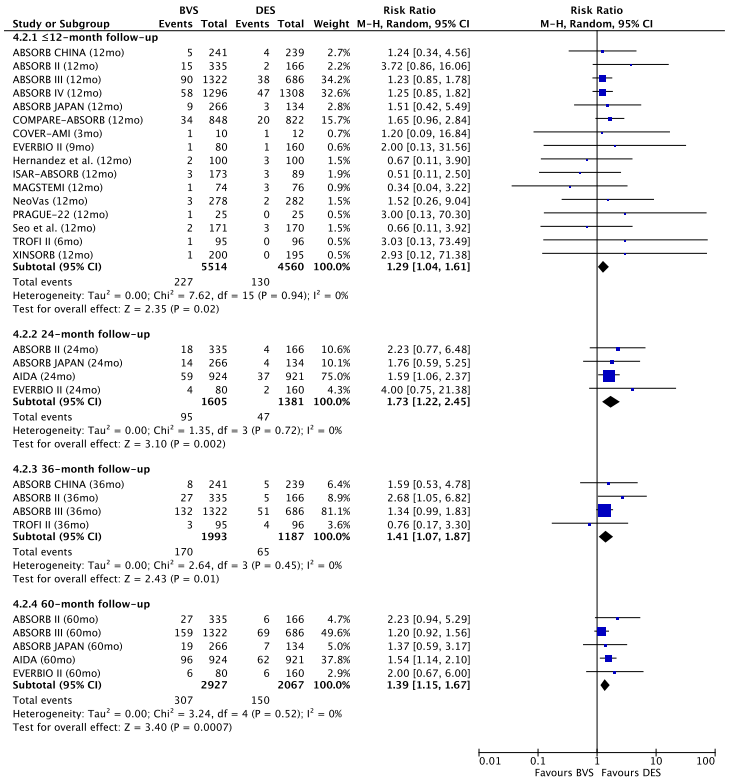

Figure 10 - Forest plot of all-myocardial infarction (MI) grouped by duration of follow-up.

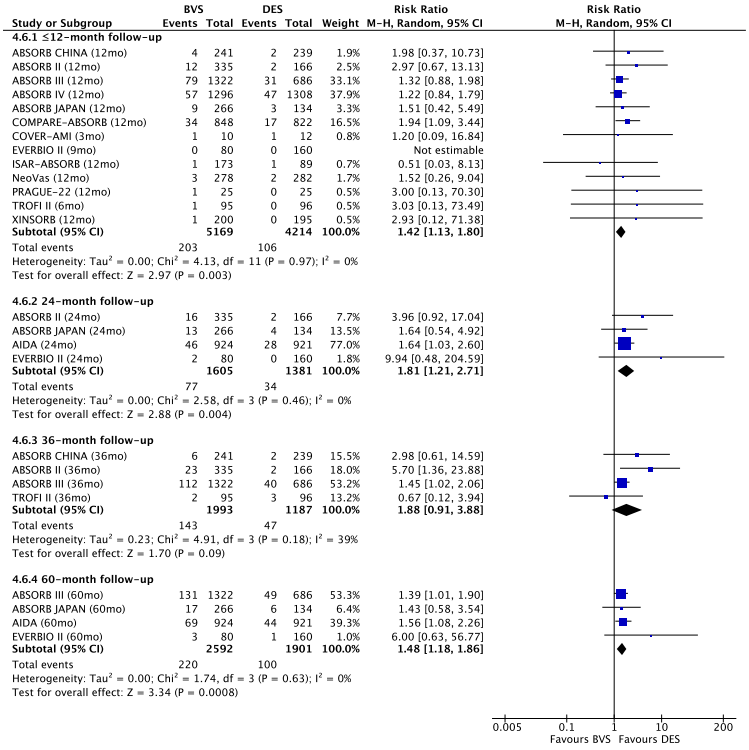

Figure 11 – Forest plot of target-vessel myocardial infarction (TVMI) grouped by duration of follow-up.

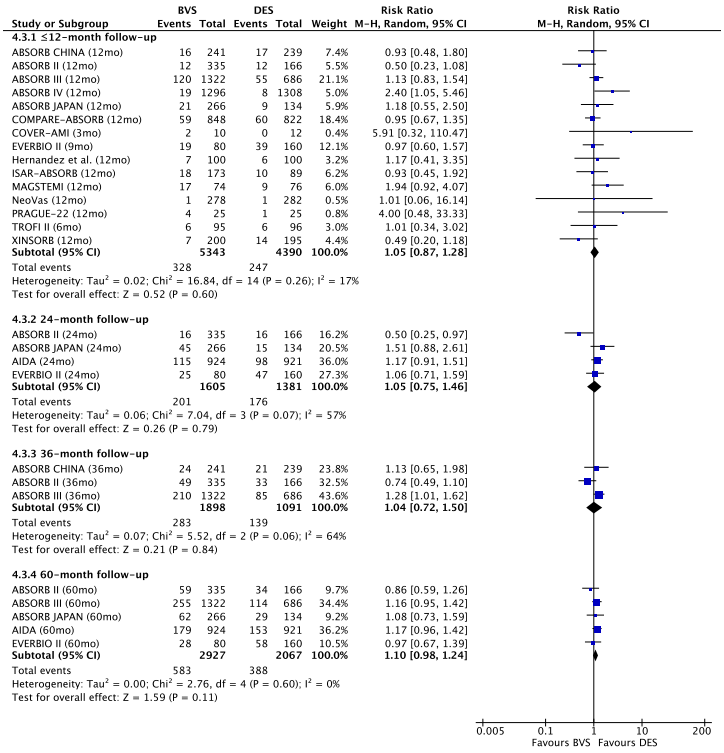

Figure 12 - Forest plot of all-revascularisation grouped by duration of follow-up.

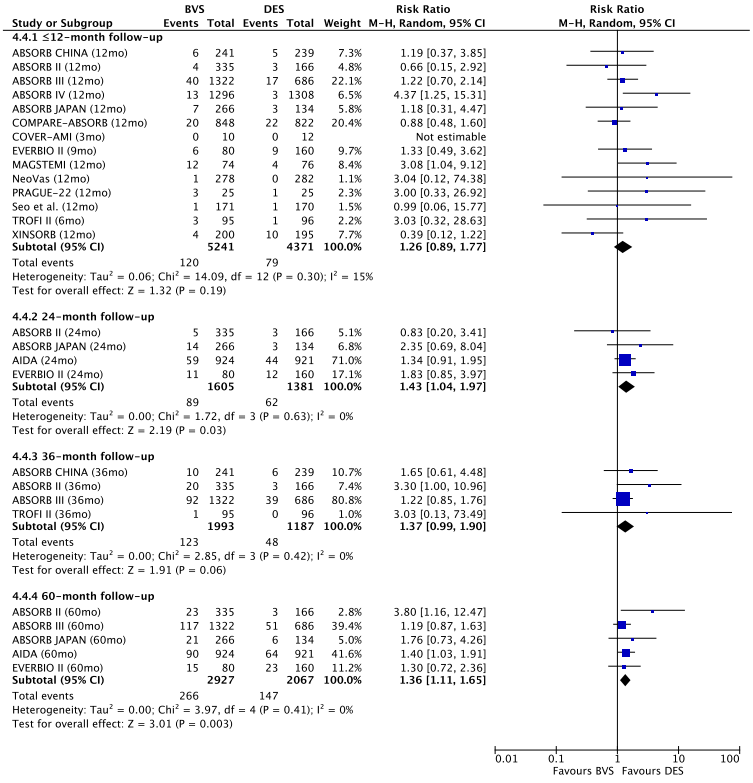

Figure 13 - Forest plot of ischaemia-driven target lesion revascularisation (ID-TLR) grouped by duration of follow-up.

3 Appendix C: PRISMA Checklist

Section and Topic	Item #	Checklist item	Reported on page
TITLE			
Title	1	Identify the report as a systematic review.	0
ABSTRACT			
Abstract	2	Structured summary including: background, objectives, data sources, study eligibility criteria, study appraisal and synthesis methods, results, limitations, conclusions and implications of key findings, and systematic review registration number.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	2-3
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	3
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	4,5
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	7
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	5, App. A
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	5
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	5
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	4, 8
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	App. B
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	6
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	5
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	8
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	4
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	5
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	5
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	5, 6
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	5, 6

Section and Topic	Item #	Checklist item	Reported on page
Bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	6
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	5, 6
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	7
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	7
Study characteristics	17	Cite each included study and present its characteristics.	8
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	9
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	11-15
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	9
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	11-15, App. B
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	10
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	10
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	9
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	11-15, App. B
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	16
	23b	Discuss any limitations of the evidence included in the review.	16-17
	23c	Discuss any limitations of the review processes used.	17
	23d	Discuss implications of the results for practice, policy, and future research.	17-18
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	4
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	4
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	NA
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	18
Competing interests	26	Declare any competing interests of review authors.	18
Availability of data	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	18

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71