

Table S1 The search strategy of Medline via PubMed

Search	Query
#1	Tomography, Optical Coherence [mh]
#2	"Coherence Tomography, Optical"[tiab]
#3	"OCT Tomography"[tiab]
#4	"Tomography, OCT"[tiab]
#5	"Optical Coherence Tomography"[tiab]
#6	#1 OR #2 OR #3 OR #4 OR #5
#7	Percutaneous Coronary Intervention [mh]
#9	"Coronary Intervention, Percutaneous"[tiab]
#10	"Coronary Interventions, Percutaneous"[tiab]
#11	"Intervention, Percutaneous Coronary"[tiab]
#12	"Interventions, Percutaneous Coronary"[tiab]
#13	"Percutaneous Coronary Interventions"[tiab]
#14	"Percutaneous Coronary Revascularization"[tiab]
#15	"Coronary Revascularization, Percutaneous"[tiab]
#16	"Coronary Revascularizations, Percutaneous"[tiab]
#17	"Percutaneous Coronary Revascularizations"[tiab]
#18	"Revascularization, Percutaneous Coronary"[tiab]
#19	"Revascularizations, Percutaneous Coronary"[tiab]
#20	#7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19
#21	Coronary Angiography [mh]
#22	"Angiography, Coronary"[tiab]
#23	"Angiographies, Coronary"[tiab]
#24	"Coronary Angiographies"[tiab]
#25	#21 OR #22 OR #23 OR #24
#26	#6 AND #20 AND #25

OCT, optical coherence tomography.

Table S2 The search strategy of Embase

Search	Query
#1	'coronary angiography'/exp OR 'coronary angiography' OR (coronary AND ('angiography'/exp OR angiography)) OR (angiography, AND coronary) OR (arteriography, AND coronary) OR coronarography OR (coronary AND arteriogram) OR (coronary AND arteriography) OR (coronary AND arteriography) OR (coronary AND angiography)
#2	optical coherence tomography'/exp OR 'optical coherence tomography' OR (('optical'/exp OR optical) AND ('coherence'/exp OR coherence) AND ('tomography'/exp OR tomography)) OR (oct AND optical AND coherence AND tomography) OR (tomography, AND optical AND coherence) OR (optical AND coherence AND tomography)
#3	'percutaneous coronary intervention'/exp OR 'percutaneous coronary intervention' OR (percutaneous AND coronary AND ('intervention'/exp OR intervention))
#4	#1 and #2 and #3

Table S3 The search strategy of Cochran Central

Search	Query
#1	Percutaneous Coronary Intervention OR (Interventions, Percutaneous Coronary):ti,ab,kw OR (Percutaneous Coronary Revascularization):ti,ab,kw OR (Coronary Revascularizations, Percutaneous):ti,ab,kw OR (Coronary Interventions, Percutaneous):ti,ab,kw OR (Percutaneous Coronary Interventions):ti,ab,kw OR (Revascularization, Percutaneous Coronary):ti,ab,kw OR (Coronary Revascularization, Percutaneous):ti,ab,kw OR (Coronary Intervention, Percutaneous):ti,ab,kw OR (Intervention, Percutaneous Coronary):ti,ab,kw OR (Revascularizations, Percutaneous Coronary):ti,ab,kw OR Percutaneous Coronary Revascularizations
#2	(Tomography, Optical Coherence):ti,ab,kw OR (OCT Tomography):ti,ab,kw OR (Tomography, OCT):ti,ab,kw OR (Optical Coherence Tomography):ti,ab,kw OR (Coherence Tomography, Optical):ti,ab,kw
#3	(Coronary Angiography):ti,ab,kw OR (Angiographies, Coronary):ti,ab,kw OR (Angiography, Coronary):ti,ab,kw OR (coronary angiographies):ti,ab,kw
#4	#1 and #2 and #3

OCT, optical coherence tomography.

Table S4 Clinical features of the included patients

Study first author, publication year	Age, years	Male, %	Hypertension, %	Dyslipidemia, %	Diabetes, %	Current smoker, %	Prior PCI, %
Holm <i>et al.</i> , 2023 (24)	66.4/66.2	78.8/79	70.3/74.5	76/78.4	17.2/16.1	12.8/14.1	40.7/42.8
Jia <i>et al.</i> , 2022 (26)	54.5/56.4	79.5/79.8	42/39.5	–	25.9/16.7	57.1/64	6.3/1.8
Ali <i>et al.</i> , 2023 (14)	65.5/65.7	78.5/76.2	71.4/74	65.5/68.6	42.4/41.5	19.6/19.7	13.3/13.4
Fallesen <i>et al.</i> , 2022 (21)	61.1/61.7	78.4/81.6	40.5/42.1	40.5/34.2	5.4/10.5	27/31.6	10.8/10.5
Iannaccone <i>et al.</i> , 2017 (25)	60/61	79/79	56/59	49/47	17/18	57/58	–
Ali <i>et al.</i> , 2016 (15)	66/67	69/73	78/75	73/77	33/28	17/23	–
Ali <i>et al.</i> , 2021 (13)	66/67	69/73	78/75	73/77	33/28	17/23	–
Heeger <i>et al.</i> , 2018 (23)	61.4/53.2	66.7/88.2	75/64.7	50/58.8	41.7/11.8	66.7/88.2	41.7/41.2
Khalifa <i>et al.</i> , 2021 (29)	70/73	68/69	84/84	75/75	39/47	30/38	–
Sheth <i>et al.</i> , 2016 (34)	60.9/61.2	78/82.7	–	–	17.8/18.5	43.5/43	10.8/8.4
Meneveau <i>et al.</i> , 2016 (31)	60.8/60.2	79.2/75.8	55.8/41.7	49.2/46.7	21.7/15.8	39.2/42.5	–
Kim <i>et al.</i> , 2015 (30)	58.8/61.6	78/72.5	54/49	66/72.5	32/31.4	32/29.4	–
Zhou <i>et al.</i> , 2020 (37)	57.8/58.7	83.6/81.5	63.6/58.5	–	33.1/32.7	68.7/73.5	16/11.3
Ueki <i>et al.</i> , 2020 (35)	63.3/62.9	79/79	37/58	68/63	21/21	37/32	32/16
Cortese <i>et al.</i> , 2020 (18)	69.4/67	63/70	–	77/66	48/26	–	–
Wang <i>et al.</i> , 2019 (36)	68/67	64.6/67.3	61.9/58.4	62.8/65.5	32.7/30.1	31.9/31	18.6/19.4
Jones <i>et al.</i> , 2018 (27)	62.73/65.21	69.1/74.1	56.5/52.6	55.9/45.3	27.5/12.1	–	45.4/27.4
Antonsen <i>et al.</i> , 2015 (16)	63/63	72/68	56/56	44/38	16/10	46/36	6/4
Prati <i>et al.</i> , 2012 (33)	64.8/67	78.2/75.5	75.5/73.8	64.5/53.3	24.2/29	34.3/33.7	34.3/23.5
Kala <i>et al.</i> , 2018 (28)	57/59	83/87	50/52	–	17/26	64/59	4/4
Di Giorgio <i>et al.</i> , 2013 (20)	67.9/62.7	87.5/77.5	75/80	72.5/47.5	30/32.5	45/55	15/12.5
Chamié <i>et al.</i> , 2021 (17)	59.9/58.6	77.5/60.8	90.2/79.6	70.6/57.2	33.3/44.9	33.3/28.6	23.5/28.6
Hamshere <i>et al.</i> , 2018 (22)	56.26/56.26	67/81	48.8/69.4	55.8/50	32.6/36.1	46.5/44.4	18.6/22.2
Okura <i>et al.</i> , 2019 (32)	69.35/69.65	75/75	57/63	46/45	30/28	32/35	18/18
Cortese <i>et al.</i> , 2022 (19)	69/71	74.3/76.7	83.1/73.4	68.9/48.2	16.7/34.3	39.2/53.4	32.4/40.2

All the data is arranged in OCT/coronary angiography format. PCI, percutaneous coronary intervention; OCT, optical coherence tomography.

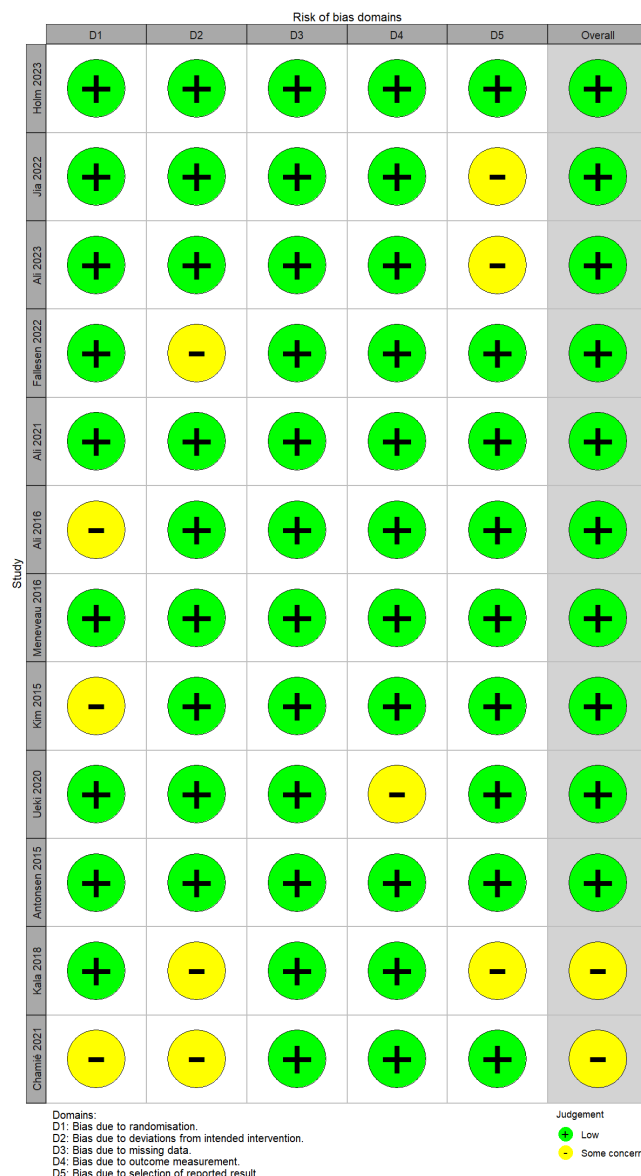


Figure S1 Cochrane risk-of-bias tool for RCTs diagram. RCT, randomized controlled trial.

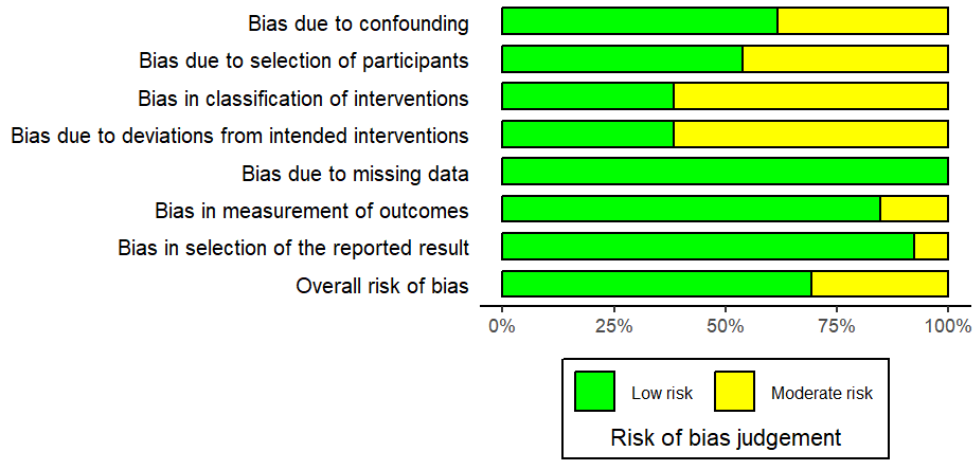


Figure S2 ROBINS-I for observational studies diagram.

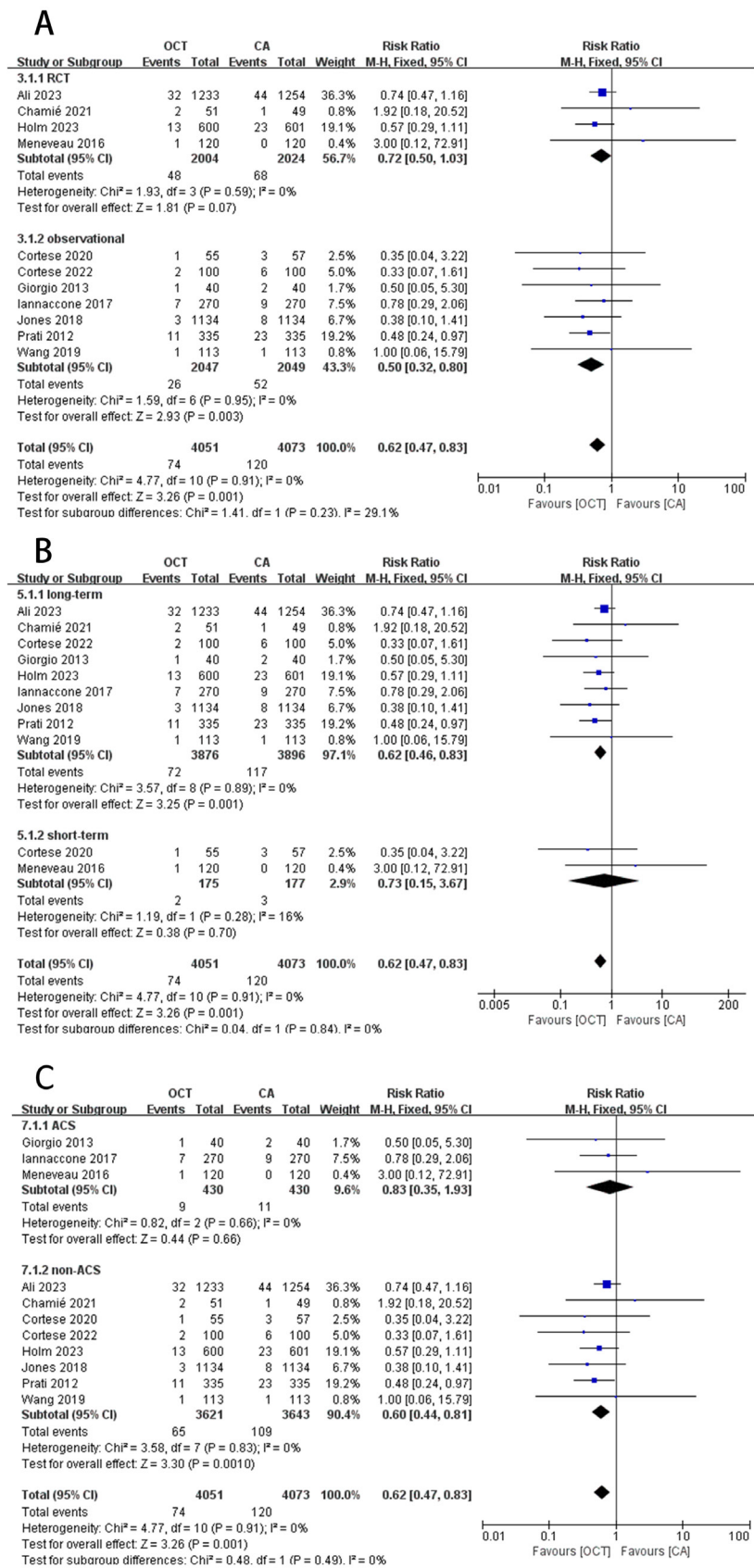
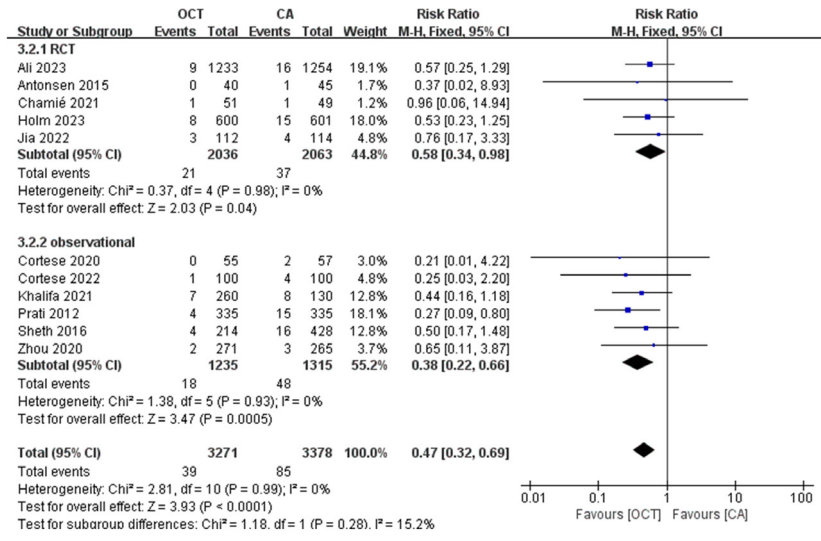
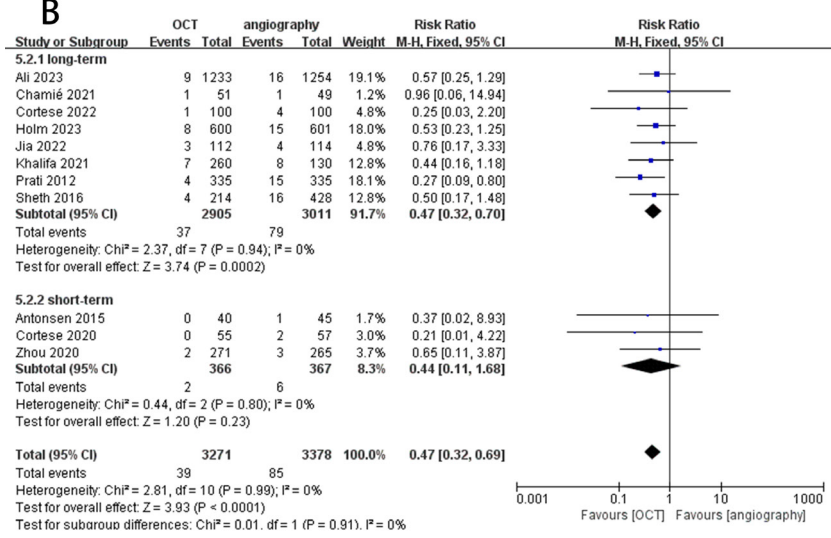


Figure S3 Subgroup analysis for all-cause death. (A) Study type; (B) follow-up time; (C) patient characteristics. ACS, acute coronary syndrome; CA, coronary angiography; OCT, optical coherence tomography; RCT, randomized controlled trial; CI, confidence interval.

A



B



C

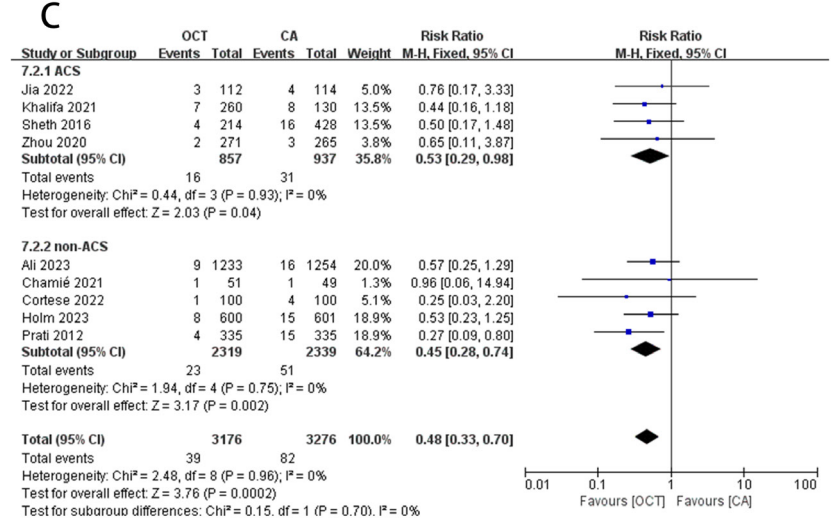


Figure S4 Subgroup analysis for cardiovascular death. (A) Study type; (B) follow-up time; (C) patient characteristics. ACS, acute coronary syndrome; CA, coronary angiography; OCT, optical coherence tomography; RCT, randomized controlled trial; CI, confidence interval.

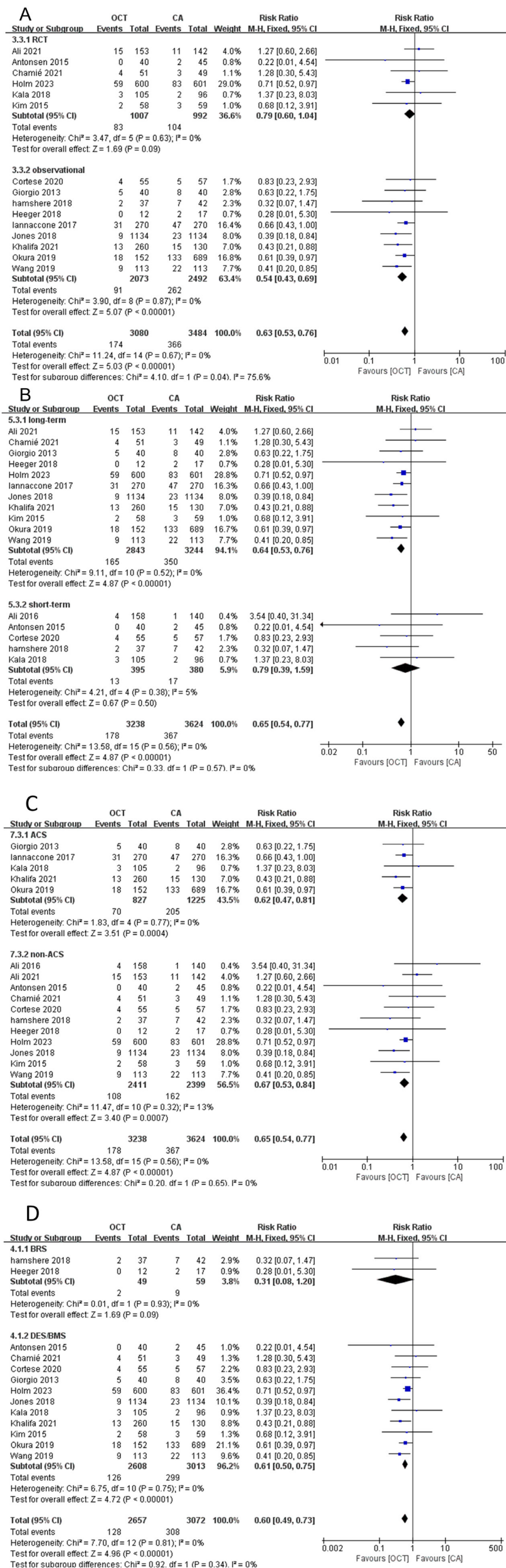


Figure S5 Subgroup analysis for MACE. (A) Study type; (B) follow-up time; (C) patient characteristics; (D) stent type. ACS, acute coronary syndrome; BMS, bare-metal stent; BRS, bioabsorbable stent; CA, coronary angiography; DES, drug-eluting stent; MACE, major adverse cardiovascular events; OCT, optical coherence tomography; RCT, randomized controlled trial; CI, confidence interval.

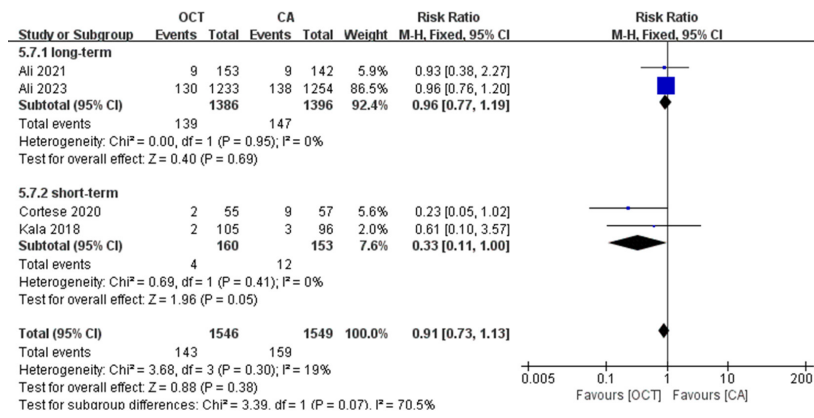


Figure S6 Subgroup analysis for restenosis, follow-up time. CA, coronary angiography; OCT, optical coherence tomography; CI, confidence interval.

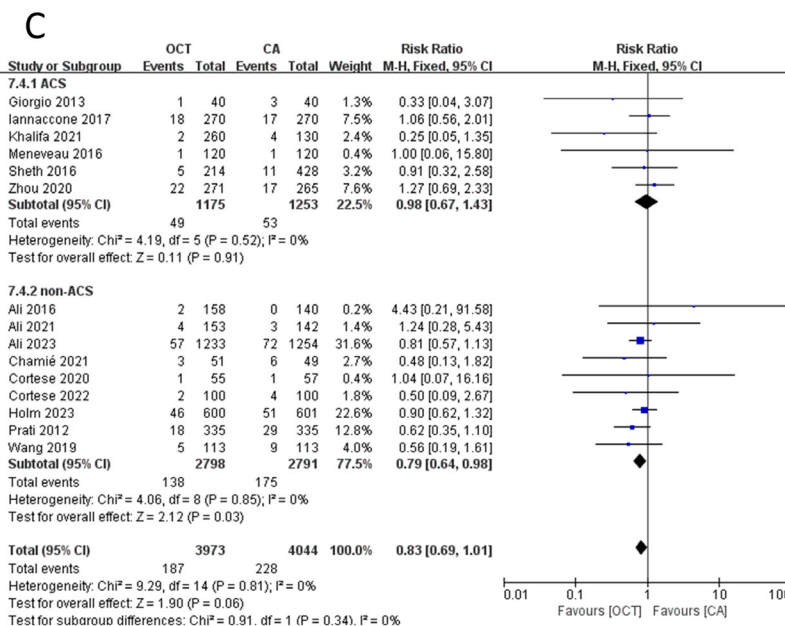
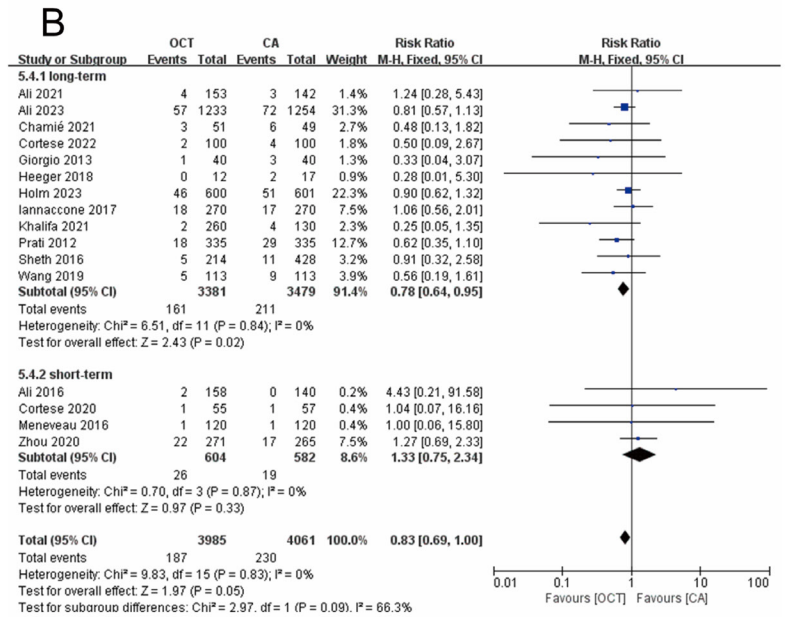
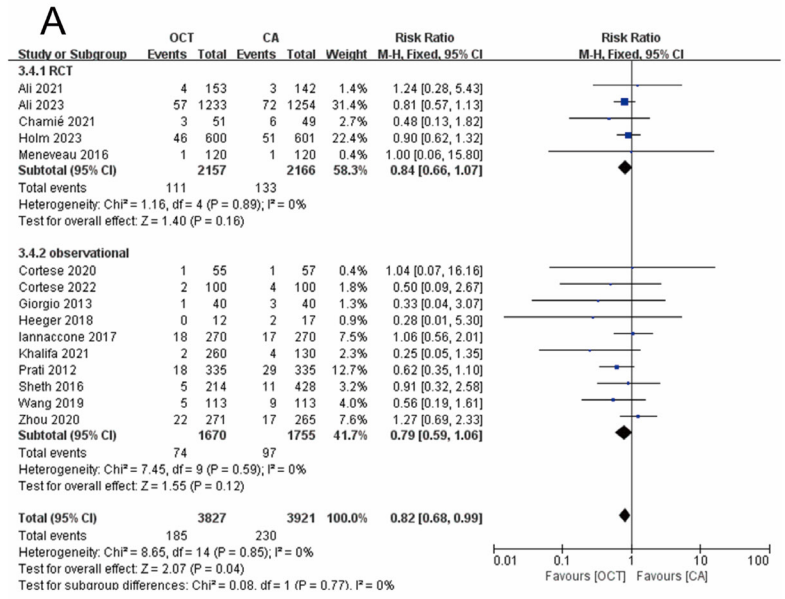


Figure S7 Subgroup analysis for MI. (A) Study type; (B) follow-up time; (C) patient characteristics. ACS, acute coronary syndrome; CA, coronary angiography; MI, myocardial infarction; OCT, optical coherence tomography; RCT, randomized controlled trial; CI, confidence interval.

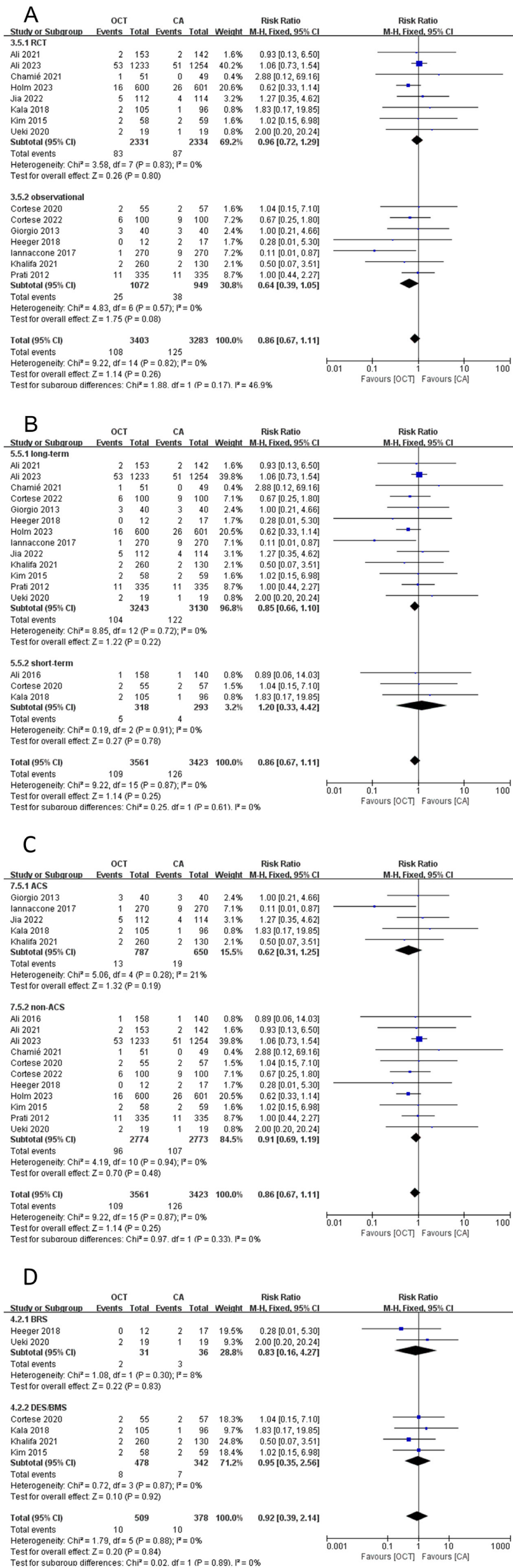


Figure S8 Subgroup analysis for TLR. (A) Study type; (B) follow-up time; (C) patient characteristics; (D) stent type. ACS, acute coronary syndrome; BMS, bare-metal stent; BRS, bioabsorbable stent; CA, coronary angiography; DES, drug-eluting stent; OCT, optical coherence tomography; RCT, randomized controlled trial; TLR, target lesion revascularization; CI, confidence interval.

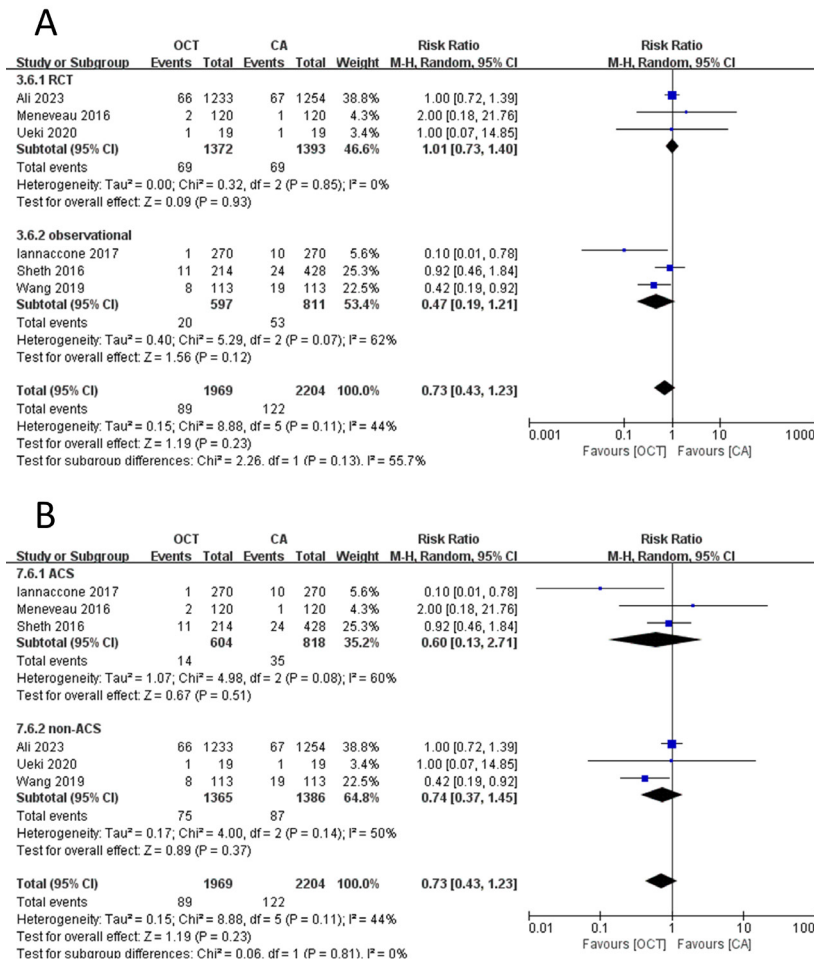


Figure S9 Subgroup analysis for TVR. (A) Study type; (B) patient characteristics. ACS, acute coronary syndrome; CA, coronary angiography; OCT, optical coherence tomography; RCT, randomized controlled trial; TVR, target vessel revascularization; CI, confidence interval.

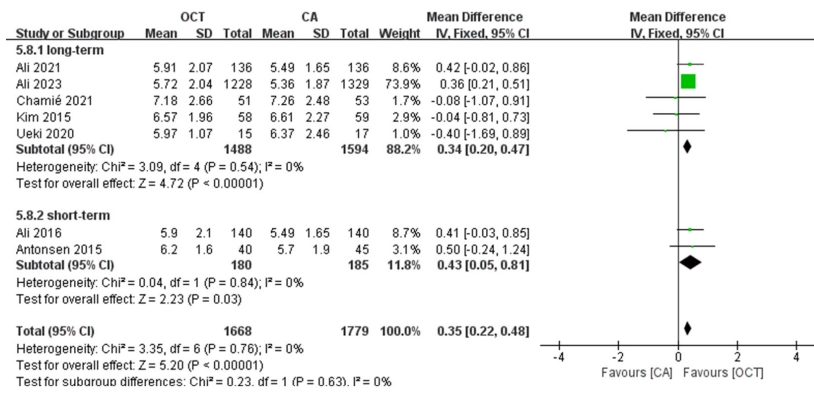


Figure S10 Subgroup analysis for MSA, follow-up time. CA, coronary angiography; MSA, minimum stent area; OCT, optical coherence tomography; CI, confidence interval.

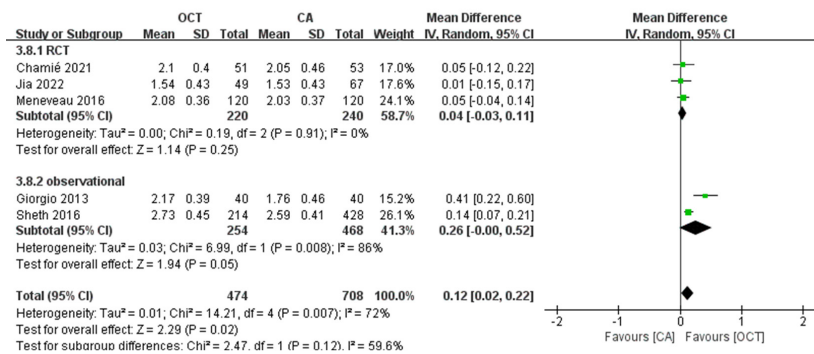


Figure S11 Subgroup analysis for follow-up MLD, study type. CA, coronary angiography; MLD, minimum lumen diameter; OCT, optical coherence tomography; RCT, randomized controlled trial; CI, confidence interval.

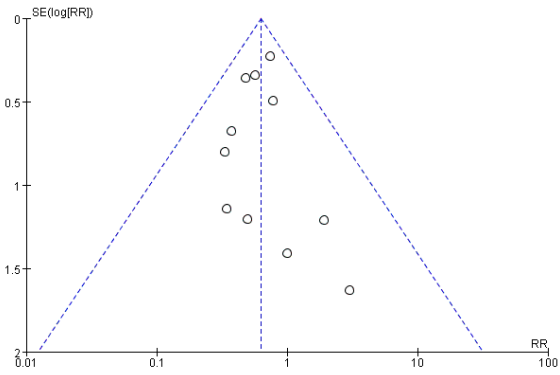


Figure S12 Funnel plot of all-cause death. SE, standard error; RR, risk ratio.

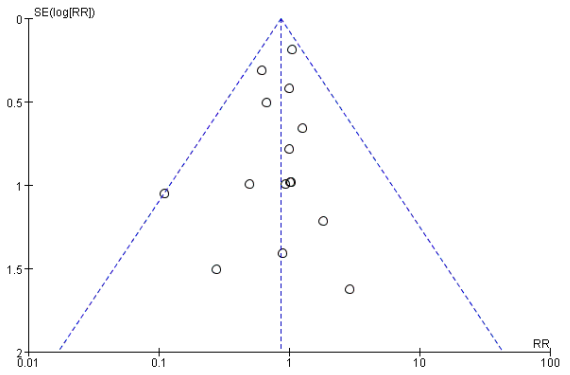


Figure S17 Funnel plot of TLR. SE, standard error; RR, risk ratio; TLR, target lesion revascularization.

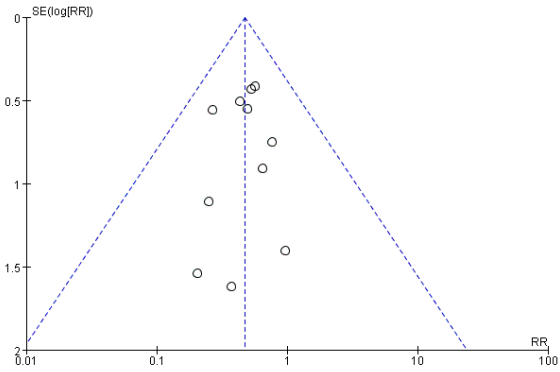


Figure S13 Funnel plot of cardiovascular death. SE, standard error; RR, risk ratio.

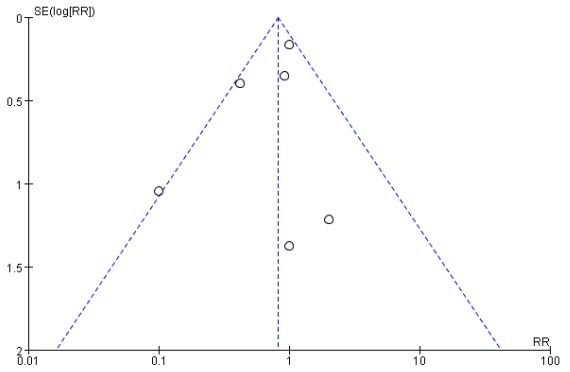


Figure S18 Funnel plot of TVR. SE, standard error; RR, risk ratio; TVR, target vessel revascularization.

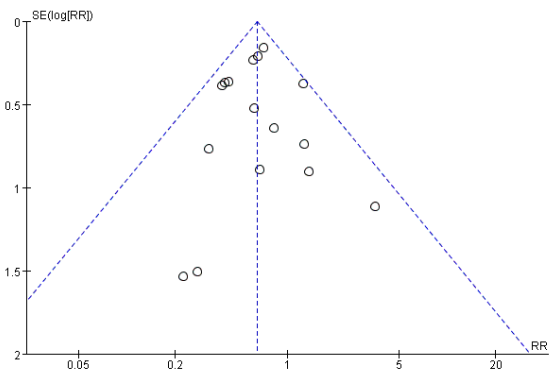


Figure S14 Funnel plot of MACE. SE, standard error; RR, risk ratio; MACE, major adverse cardiovascular events.

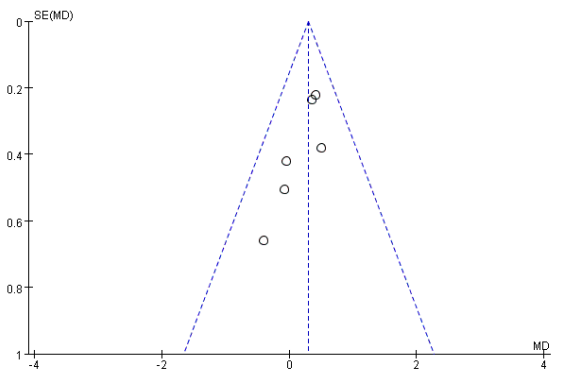


Figure S19 Funnel plot of MSA. SE, standard error; MD, mean deviation; MSA, minimum stent area.

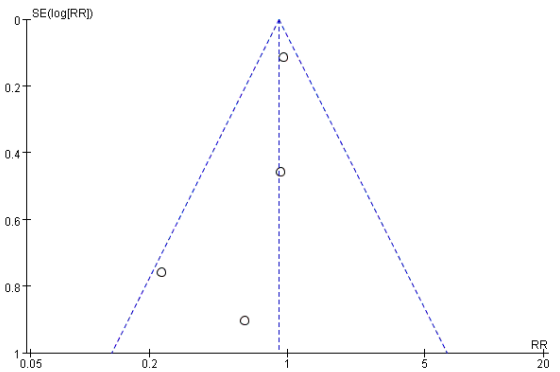


Figure S15 Funnel plot of restenosis. SE, standard error; RR, risk ratio.

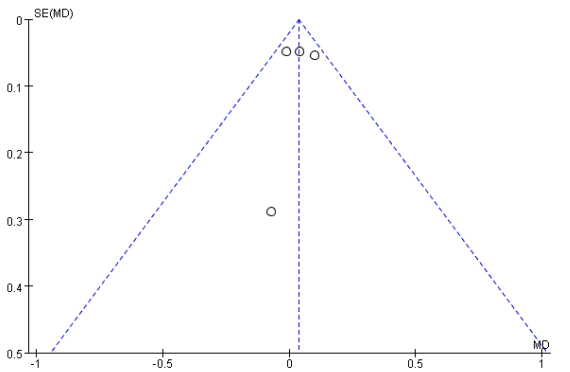


Figure S20 Funnel plot of post-intervention MLD. SE, standard error; MD, mean deviation; MLD, minimum lumen diameter.

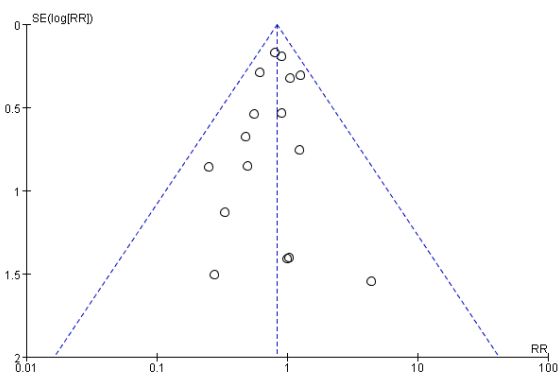


Figure S16 Funnel plot of MI. SE, standard error; RR, risk ratio; MI, myocardial infarction.

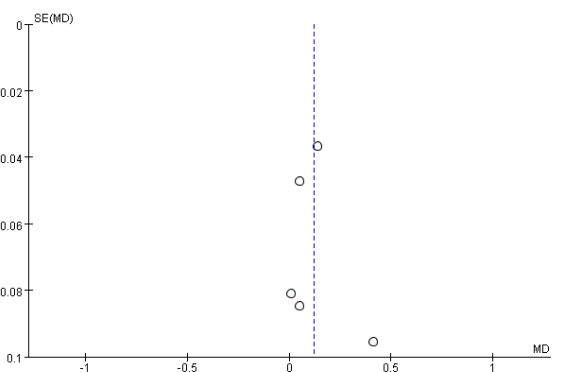


Figure S21 Funnel plot of follow-up MLD. SE, standard error; MD, mean deviation; MLD, minimum lumen diameter.

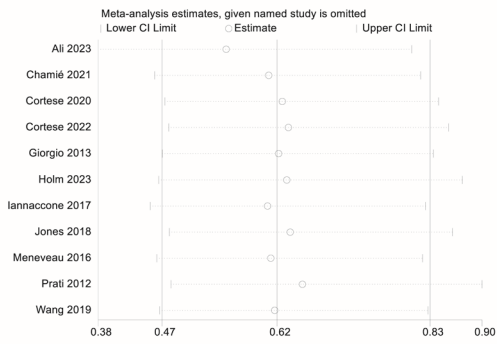


Figure S22 Sensitivity analysis of all-cause death. CI, confidence interval.

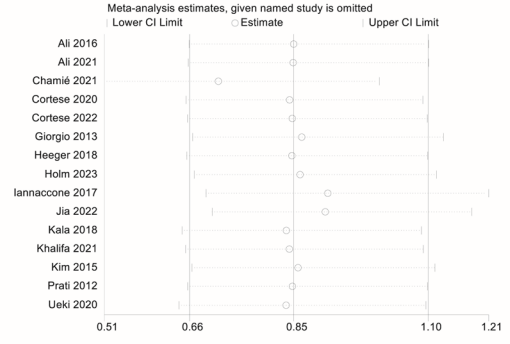


Figure S27 Sensitivity analysis of TLR. CI, confidence interval; TLR, target lesion revascularization.

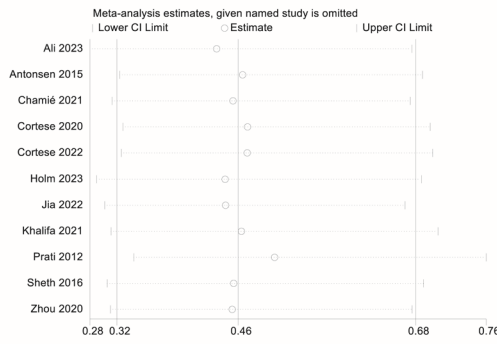


Figure S23 Sensitivity analysis of cardiovascular death. CI, confidence interval.

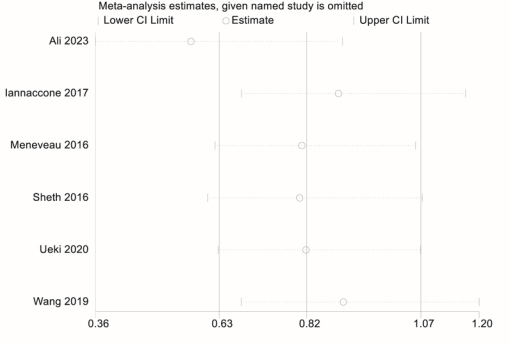


Figure S28 Sensitivity analysis of TVR. CI, confidence interval; TVR, target vessel revascularization.

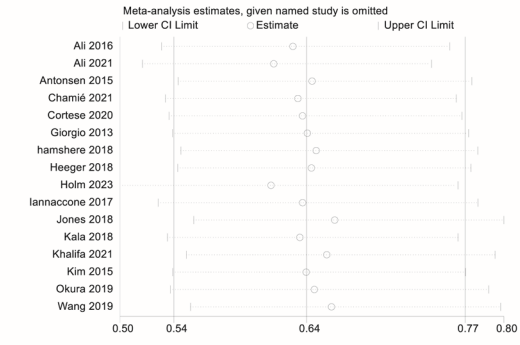


Figure S24 Sensitivity analysis of MACE. CI, confidence interval; MACE, major adverse cardiovascular events.

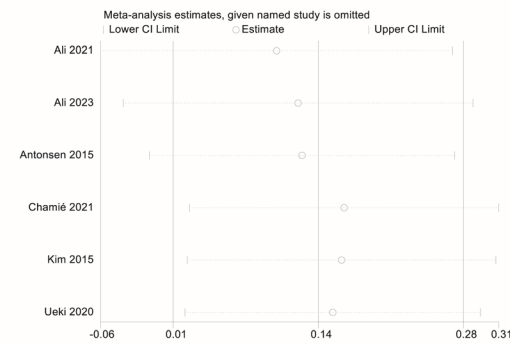


Figure S29 Sensitivity analysis of MSA. CI, confidence interval; MSA, minimum stent area.

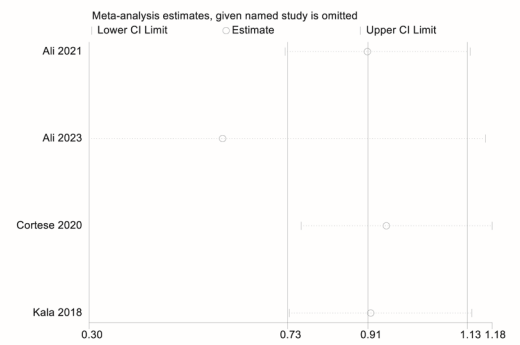


Figure S25 Sensitivity analysis of restenosis. CI, confidence interval.

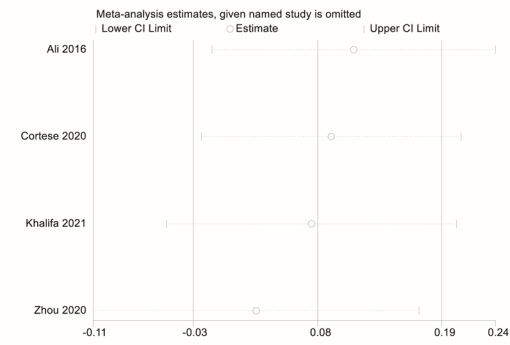


Figure S30 Sensitivity analysis of post-intervention MLD. CI, confidence interval; MLD, minimum lumen diameter.

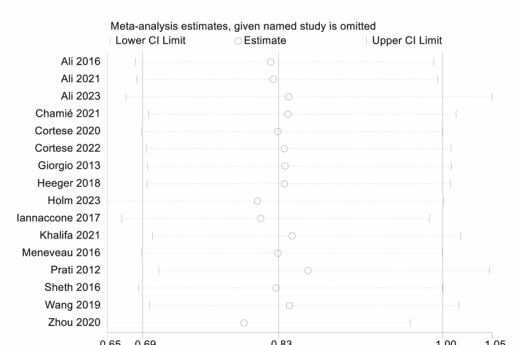


Figure S26 Sensitivity analysis of MI. CI, confidence interval; MI, myocardial infarction.

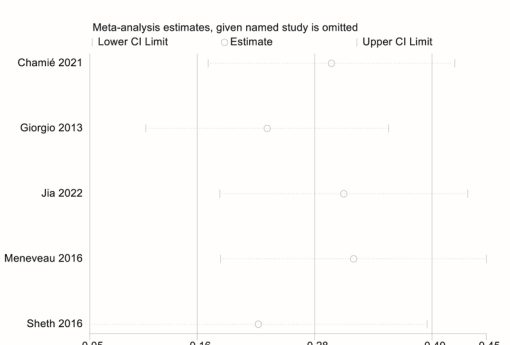


Figure S31 Sensitivity analysis of follow-up MLD. CI, confidence interval; MLD, minimum lumen diameter.