

Table 1. Definitions of Complete Revascularization

Anatomical or Traditional	All diseased arterial systems with vessel size 1.5 (2.0-2.25 mm for PCI) with at least one significant stenosis > 50% receive a stent
Functional	All ischemic myocardial territories are grafted (or stented); areas of old infarction with no viable myocardium are not required to be reperfused
Numerical	Number of distal anastomosis number of diseased coronary segments/systems
Score-based	Scoring of stenosis in different vessels. Different weight given to different vessels according to number of myocardial segments supplied. A residual score of 0 is usually considered equivalent to CR
Physiology-Based	All coronary lesions with fractional-flow reserve less than or equal to 0.75-0.80 receive a stent

Table 2. Publications incorporated in the systematic review and meta-analysis

Name	Country	Year	Study type	Complete revascularization definition	Incomplete revascularization definition	Number of patients	ACS%	Follow up years	CR prevalence	% Female	Mean Age, years	NOS
Appleby et al ³²	Canada	2010	Observational study	Anatomic	Greater than 70% stenosis in epicardial vessel, assessed angiographically at the end of the procedure	12662	53	3.7	35	28	63	7
Bourassa et al ³³	USA and Canada	1999	Post-hoc analysis of the BARI trial	Anatomic: Angiographically significant lesions were defined as $\geq 50\%$ stenosis in a vessel ≥ 1.5 mm as measured by electronic calipers	NA	896	63	5	64	23	62	6
Breeman et al ³⁴	Netherlands	2001	Post-hoc analysis of the CABRI trial	Anatomic: If all lesions were successfully dilated - i.e. if there were no remaining lesions with diameter stenosis $< 50\%$ and incomplete otherwise.	NA	267	25	1	38	19	61	6
Capodanno et al ²¹	Italy	2013	Observational study	Score-based: The baseline	Residual SYNTAX	400	62	2	48.75	23	67	6

				SYNTAX score and residual SYNTAX score were derived from the summation of the individual scorings for each lesion (defined as $\geq 50\%$ stenosis in vessel ≥ 1.5 mm) on angiograms	score >1							
Chung et al ³⁵	Korea	2012	Observational study	Anatomic: Absence of diameter stenosis $\geq 50\%$ in major epicardial coronary arteries or their side branches with a diameter ≥ 2.5 mm after successful PCI during index admission irrespective of the function or viability of relevant myocardium	NA	845	28	3.9	66.3	36.8	64	6
D'Oliveira Vieira et al ³⁶	Brazil	2012	Post-hoc analysis of the MASS II trial	Anatomic	NA	192	0	10	36	33	59	8
Deligonul et al ³⁷	USA	1988	Observational study	Anatomic: Successful dilation of all major	NA	397	49	2	59	24	NA	6

				coronary, or branch vessels and absence of residual stenosis $\geq 50\%$ in a major coronary vessel.								
Gao et al ⁷	China	2013	Observational study	Anatomic: Angiographic CR, which entailed successful angioplasty of all diseased lesions in the major epicardial coronary vessels and their first degree side branches (diameter ≥ 2.5 mm);	Patients not meeting the definition of CR were defined as having IR. divided into four subgroups: (1) 1 IR vessel with no total occlusion; (2) 1 IR vessel with total occlusion; (3) ≥ 2 IR vessels with no total occlusion, and (4) 2 IR vessels with total occlusion.	7065	61.2	1.3	16.8	20.94	58	7
Généreux et al ⁶	Multicenter	2015	Post-hoc analysis of the SYNTAX trial	Score-based: The baseline SYNTAX score and residual SYNTAX score were derived from the summation of the individual	The SYNTAX Revascularization Index was calculated with the following formula: (Δ	903	28.5	5	43.5	23.7	65	8

				scorings for each lesion (defined as $\geq 50\%$ stenosis in vessel ≥ 1.5 mm) on angiograms	SS/ baseline SYNTAX score $\times 100$. Classified into SRI = 100% SRI 50% to $<100\%$ SRI $<50\%$							
Hambraeus et al ¹³	Sweden	2015	Observational study	Anatomic	Defined as any nontreated significant (at least 60%) stenosis in a coronary artery supplying $>10\%$ of the myocardium	2334 2	80	1	35	27.2	68.1	7
Hannan et al. ⁴	USA	2006	Observational study	Anatomic: defined as attempting all lesions with $\geq 50\%$ stenosis in major epicardial coronary vessels (proximal, mid, and distal right coronary artery, left anterior descending, and left circumflex) either during the index hospitalization or any time within 30 days after discharge from the	Patients not meeting the definition of CR were defined to have IR.	2194 5	NA	3	31	31	NA	6

				index hospitalization but before suffering a new myocardial infarction.								
Hannan et al. ³⁸	USA	2009	Observational study	Anatomic: Defined as successfully attempting all diseased ($\geq 70\%$ stenosis) lesions in major epicardial coronary vessels (proximal, mid, and distal segments; major left anterior descending diagonals; and circumflex marginal branches) with PCI either during the index hospitalization or at any time within 30 days after discharge from the index hospitalization for PCI but before suffering a new MI. Success was defined as a reduction in stenosis of at least 20% and a residual	Patients not meeting the definition of CR were defined to have IR.	11294	37	1.5	31	33	NA	6

				stenosis of less than 50%.								
Ijsselmuiden et al ⁹	Netherlands	2004	RCT	Anatomic: Randomly assigned to undergo PCI of either the coronary artery thought to be responsible for ischemia (culprit vessel) or of all $\geq 50\%$ stenosis (complete revascularization).		219	37	5	50	26	62	9
Kobayashi et al ¹⁸	Multicenter	2016	Post-hoc analysis of FAME trial	Score-based: The baseline SYNTAX score and residual SYNTAX score were derived from the summation of the individual scorings for each lesion (defined as $\geq 50\%$ stenosis in vessel ≥ 1.5 mm) on angiograms	Residual SYNTAX score of 0, >0 to 4, >4 to 8, and >8 , and with SYNTAX revascularization index of 100%, 50% to $<100\%$, and 0 to $<50\%$.	427	31.9	2	14.5	25.5	64.7	8
Kim et al ³⁹	Korea	2011	Observational study	Anatomic: Angiographic CR-1, according to the SYNTAX classification, was defined as angioplasty or grafting in all diseased coronary	Patients not meeting these criteria were considered IR patients.	1400	42	5	41	29	61	6

				segments (≥ 1.5 mm), consisting of the right coronary artery (segments 1, 2, and 3) and its main branches, including the posterior descending artery (segment 4 or 15) and the posterolateral branch (segment 16); the left anterior descending artery (segments 5, 6, 7, and 8) and its major diagonal branches (segment 9 or 10); and the left circumflex artery (segments 11 and 13) and its major obtuse marginal branches (segment 12 or 14).11–13 Angiographic CR-2 was defined as revascularization in all diseased segments ≥ 2.5 mm in diameter.								
Kip et al ⁴⁰	USA	1999	Post-hoc	Anatomic:		2047	NA	5	59	NA	61	6

			analysis of the BARI trial	Angiographically significant lesions were defined as >50% stenoses in a vessel >1.5 mm, as measured by electronic calipers. A reduction in stenosis of $\geq 20\%$ with residual stenosis of <50% and TIMI grade 3 flow defined successful lesion dilation.								
Kloeter et al ⁴¹	Switzerland	2001	Observational study	Anatomic: no remaining main coronary artery stenosis of >50%.		250	NA	2.5	60	18	59	6
Malkin et al ²²	United Kingdom	2013	Observational study	Score-based; SYNTAX score and residual SYNTAX score were derived from the summation of the individual scorings for each lesion (defined as $\geq 50\%$ stenosis in vessel ≥ 1.5 mm) on angiograms	Residual SYNTAX score of >0	353	53	3.4	48.7	NA	68	7
Malkin et al ²³	United Kingdom	2013	Observational study	Score-based; SYNTAX score and residual	Residual SYNTAX score of >0	240	38	2.6	41	26	66.9	7

				SYNTAX score were derived from the summation of the individual scorings for each lesion (defined as $\geq 50\%$ stenosis in vessel ≥ 1.5 mm) on angiograms								
Mariani et al ⁷²	Italy	2001	Observational study	Anatomic: defined as successful management of all significant stenoses in major epicardial vessels, while incomplete revascularization (IR) was defined as the residual presence of $>50\%$ stenosis in a major segment after the procedure		208	100	1	24	17	63	6
Nikolsky et al ⁴²	Israel	2004	Observational study	Anatomic	NA	658	22	3	27	27	61	6
Norwa-Otto et al ⁴³	Poland	2010	Observational study	Functional: Complete revascularisation was defined as successful PCI of all coronary artery lesions with significant narrowing not fulfilling the above	Functionally driven IR was defined as dilation of all segments with $>70\%$ stenosis, with the exception of arteries supplying an	908	33	11	31	18	52	6

				criteria.	area of previous transmural myocardial infarction (MI) or a small amount of myocardium.							
Park et al ¹⁷	Korea	2014	Observational study	Score-based: The baseline SYNTAX score and residual SYNTAX score were derived from the summation of the individual scorings for each lesion (defined as $\geq 50\%$ stenosis in vessel ≥ 1.5 mm) on angiograms	Residual SYNTAX score of 0, >0 to <7 , and >7	5088	64.5	1	42.7	32	62	7
Rosner et al ⁸	USA	2012	Post-hoc analysis of ACUITY trial	Anatomic	Was variably defined as any lesion with a final DS ranging from $\geq 30\%$ to $\geq 70\%$ (in 10% increments) with a reference vessel diameter (RVD) ≥ 2.0 mm by QCA was left	2954	100	1	63	31	60	8

					untreated after PCI in any epicardial coronary artery.							
Sarno et al ⁴⁴	The Netherlands	2010	Post-hoc analysis of the ARTS-II Study)	Anatomic: Patients were considered to have complete revascularization if all lesions with >50% diameter stenosis had been successfully treated.	Those patients in whom attempt was made to treat 1 significant lesion or whose treatment resulted in a final diameter stenosis >50% were considered to have incomplete revascularization.	567	45	5	61.2	23	62.5	6
Sohn et al ²⁰	Korea	2014	Observational study	Anatomic: CR was defined as the absence of $\geq 70\%$ diameter stenosis in major epicardial coronary arteries or their branches with a diameter ≥ 2.0 mm after successful PCI		263	29	3.3	57	25.8	67	6
Song et al ⁴⁵	Korea	2012	Observational study	Anatomic: CR strategy was defined as		873	48	1.5	48.9	30	64	6

				attempting all lesions with >50% stenosis in major epicardial coronary vessels and their major branches during the index hospitalization								
Srinivas et al ⁴⁶	USA	2007	Observational study	Anatomic: CR required that at least one lesion had to be treated in each of the major territories with diameter stenosis >50%.		1406	36.5	1	22	33	62	6
Tamburino et al ⁴⁷	Italy.	2008	Observational study	Anatomic: Revascularization was defined as complete, when all lesions with >50% diameter stenosis located in segment of at least 2.25 mm diameter, by quantitative coronary analysis, were successfully treated either during the index hospitalization or staged electively within 3 months after the initial		508	50	3	42	21	62	7

				procedure.								
Valenti et al ⁴⁸	Italy	2008	Observational study	Anatomic: Complete revascularization was defined as a restoration of TIMI grade 3 flow with residual stenosis <30% on visual assessment in the three coronary arteries and their major branches (branch diameter ≥ 2 mm).		486	37.5	2	62	17	68	6
Van den Brand et al ³¹	Multicenter	2002	Post-hoc analysis of the ARTS Trial	Anatomic: if all lesions of $\geq 50\%$ diameter stenosis had been successfully treated.	If no attempt was made to treat one or more significant lesions, or if treatment resulted in a final diameter stenosis $\geq 50\%$, these patients were considered to be incompletely revascularized.	576	38	1	70	21	61.5	8
Wu et al ⁵	USA	2011	Observational study	Anatomic: R was defined as reduction of stenosis to <50%	When a CR was not achieved during a	13016	NA	8	30	31	NA	6

				in all diseased ($\geq 70\%$ stenosis) lesions in major epicardial coronary vessels (left anterior descending artery and major diagonals; left circumflex artery and large marginal branches; and right coronary artery and right posterior descending artery) in the index hospitalization or within 30 days after discharge from the index hospitalization before having a new MI. However, if they had an MI before the CR was completed, this was not regarded as CR because of the occurrence of an adverse event before CR was attained.	stenting procedure, it was defined as a procedure with IR.							
Wu et al ⁴⁹	USA	2014	Observational study	Anatomic: CR was defined when the post-procedural	When CR was not achieved after the	2176 7	NA	5	31.4	33.5	NA	7

				stenosis in each of the lesions was reduced to < 50% in the index hospitalization or within 30 days in staged PCI procedures following discharge from the index hospitalization before the occurrence of a new MI.	stenting procedure in the index admission or within 30 days of discharge, the revascularization was defined as incomplete revascularization (IR)							
Yang et al ⁵⁰	China	2010	Observational study	Anatomic: Clinical lesions were defined as > 50% stenosis of a main coronary artery, or > 70% stenosis of its primary branches. The definition of CR was the treatment of all lesions in the main coronary artery and primary branches.	Incomplete coronary revascularization (ICR) was defined as treatment of main culprit lesions but not other clinical lesions.	324	92	1.5	22	22	61	6
George et al ⁵¹	UK	2014	Observational study	Successful PCI to the target CTO and post-procedural obstruction of <50% in all major epicardial coronary	Successful PCI to the target CTO but with residual obstruction of >50% in \$1	13443	NA	2.65	NA	21	63.5	6

				arteries.	other vessels.							
Hannan et al ⁵²	USA	2016	Observational study	Defined as a residual stenosis of <50% for all lesions with preprocedural stenoses of at least 70%. The reference category for the variable was successful CTO PCI and CR of all other lesions with preprocedural stenosis of at least 70%. Also, if a CTO or non-CTO PCI was successful in a staged admission, that patient was regarded as having undergone a successful PCI.	NA	4030	NA	1.8	61	22.4	63.2	6
Danzi et al ⁵³	Italy	2013	Observational study	Defined as a TIMI flow grade 3 with residual stenosis of <30% on visual assessment in the 3 coronary arteries and their major branches (branch diameter of >2 mm).	NA	120	33.3	2	63.3	7.5	68	6

Chang et al ⁵⁴	South Korea	2016	Prospective cohort study	Absence of diameter stenosis $\geq 50\%$ in major epicardial coronary arteries or their side branches with a diameter ≥ 2.5 mm after successful stent implantation during index hospitalization irrespective of the function or viability of relevant myocardium	Not meeting the CR criteria	3901	54.1	4.9	50	30	63	8
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Table 3. Results of studies that evaluated incomplete revascularization and adverse outcomes

Name	Results
Appleby et al ³²	Better survival with complete revascularization (87±1% versus 78±1%, P<0.001). Residual disease significant independent predictors of the need for repeat procedures.
Bourassa et al ³³	CR (n 579) (%) IR (n 317) (%) p Value Death 87.5 84.0 0.13 MI 83.8 84.1 0.91 Repeat revascularization 46.3 42.8 0.48 Angina 79.8 75.6 0.22
Breeman et al ³⁴	At one month PTCA Remaining lesions 0 1 2 ≥3 Death (%) 2.1 0.7 0.8 2.5 MI (%) 4.9 2.8 3.3 5.0 (Repeat revascularization) CABG (%) 2.8 1.4 7.4 20.2 (Repeat revascularization) PTCA (%) 4.2 3.5 5.7 5.9 At one year PTCA Remaining lesions 0 1 2 ≥3 Death (%) 5.4 2.0 3.3 5.0 MI (%) 5.4 3.4 4.9 6.7 (Repeat revascularization) CABG (%) 7.4 9.5 18.0 37.0 (Repeat revascularization) PTCA (%) 25.0 22.5 23.8 19.3
Capodanno et al ²¹	Cardiac mortality at 2 years were 3.3%, 4.5%, and 19.8% in the complete revascularization.
Chung et al ³⁵	Propensity score-matched (n=550) Adjusted HR [95% CI] Death 0.66 [0.34–1.28] Death and MI 0.51 [0.28–0.95] Death, MI, and repeat revascularization 0.84 [0.60–1.19] Cardiac death 0.50 [0.18–1.40] Cardiac death and MI 0.39 [0.16–0.96] Any adverse cardiac events 0.93 [0.64–1.35]
D'Oliveira Vieira et al ³⁶	A statistically significant difference was observed for the PCI group (CR, 6 individuals died, IR 20 individuals died)
Deligonul et al ³⁷	Outcomes Events/CR Total Events/IR Total Repeat revascularization CABG/PTCA 24/118, 73/255 MI 3/118, 9/255 Death 6/118, 14/255
Gao et al ⁷	At 36 months, cardiac death was significantly greater in the IR cohort (2.55% vs. 1.13%, log-rank test: P=0.016), but there was no difference in the 3-year rates of MI, TVR, and MACE between the two cohorts. Angiographic IR had a greater risk of cardiac death (adjusted hazard ratio [HR]: 2.56, 95% confidence interval [CI]: 1.03–6.41)
Généreux et al ⁶	At 60 months, rates of MACE were linked with IR.

Hambraeus et al ¹³	Unadjusted HR (IR compared with CR) repeat revascularization 2.05 (95% CI: 1.80 to 2.32; p < 0.0001), combined endpoint of death/MI, HR was 1.92 (95% CI: 1.77 to 2.09; p<0.0001) for IR compared with CR.												
Hannan et al. ⁴	Adjusted HR for IR patients comparative to CR patients for death was 1.15 (95% CI, 1.01 to 1.30). Repeat revascularization: 10.09% for CR patients and 11.46% for IR patients (P=0.16).												
Hannan et al. ³⁸	(IR vs CR) 18-month mortality (adjusted HR: 1.23, 95% CI: 1.04 to 1.45) and 18-month MI/mortality (adjusted HR: 1.27, 95% CI: 1.09 to 1.47). The adjusted survival rates for CR and IR were 94.9% and 93.8% (p=0.01) and the freedom from MI rate was 93.3% and 91.7% (p = 0.002).												
Ijsselmuiden et al ⁹	(IR vs CR) MACE rates at 1 month (14.4% vs 9.3%), 1 year (32.4% vs 26.9%), and 4.6 ±1.2 years (40.4% vs 34.6%) were similar in both cohort.												
Kobayashi et al ¹⁸	Patients with MACE had comparable RSS and SRI after PCI (RSS: 6.0 [IQR: 3.0 to 10.0] vs. 5.0 [IQR: 2.0 to 9.5], p =0.51 and SRI: 60.0% [IQR: 40.9% to 78.9%] vs. 58.8% [IQR: 26.7% to 81.8%], p = 0.24, correspondingly). Kaplan-Meier analysis showed comparable 12-month rate of MACE with different RSS/SRI (log-rank p = 0.55 and p = 0.54, correspondingly).												
Kim et al ³⁹	(CR vs IR) MACE HR 0.82 (95% CI: 0.58-1.15), MACCE HR 0.90 (95% CI: 0.75-1.09)												
Kip et al ⁴⁰	<table border="0"> <tr> <td>Outcomes</td> <td>Events/CR Total</td> <td>Events/IR Total</td> </tr> <tr> <td>Repeat revascularization</td> <td>328/59</td> <td>237/399</td> </tr> <tr> <td>Death</td> <td>55/595</td> <td>47/399</td> </tr> </table>	Outcomes	Events/CR Total	Events/IR Total	Repeat revascularization	328/59	237/399	Death	55/595	47/399			
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Malkin et al ²²	Complete revascularization was significantly linked with survival (Adjusted OR 3.1 95%CI: 1.7–5.6)												
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Nikolsky et al ⁴²	Survival in CR was 94.5%, rivaled to 83.0% for those												

	with IR ($p < 0.001$). MI-free survival was considerably greater in patients with CR against IR (92.9% vs. 79.9%, correspondingly). IR was prognosticator of mortality (95% CI, 1.54-7.69; $p = 0.003$).																		
Norwa-Otto et al ⁴³	There was no difference in mortality, cardiovascular deaths or MI between CR and IR cohorts. The IR had a higher rate of repeat revascularization.																		
Park et al ¹⁷	<table border="0"> <thead> <tr> <th>Outcomes</th> <th>Events/CR Total</th> <th>Events/IR Total</th> </tr> </thead> <tbody> <tr> <td>MACCE</td> <td>114/2173</td> <td>297/2915</td> </tr> <tr> <td>Death</td> <td>28/2173</td> <td>65/2915</td> </tr> <tr> <td>Myocardial infarction</td> <td>4/2173</td> <td>19/2915</td> </tr> <tr> <td>Unplanned revascularization</td> <td>86/2173</td> <td>225/2915</td> </tr> <tr> <td>Definite/probable stent thrombosis</td> <td>11/2173</td> <td>21/2915</td> </tr> </tbody> </table>	Outcomes	Events/CR Total	Events/IR Total	MACCE	114/2173	297/2915	Death	28/2173	65/2915	Myocardial infarction	4/2173	19/2915	Unplanned revascularization	86/2173	225/2915	Definite/probable stent thrombosis	11/2173	21/2915
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Rosner et al ⁸	(IR vs CR) Unadjusted HR (95% CI) for IR vs CR: Death 1.43 (0.90–2.27) Repeat revascularization 1.58 (1.28–1.96), Myocardial infarction 1.50 (1.18–1.89), MACE 1.47 (1.24–1.74)																		
Sarno et al ⁴⁴	MACCEs in the 87% of the CR cohort at 24 months and 75% at 60 months. Definite stent thrombosis occurred in 2.6% of the IR cohort and 3.9% of the CR cohort ($p = 0.45$), definite or probable stent thrombosis occurred in 6.5% in the IR cohort versus 8.6% in the CR cohort ($p = 0.41$).																		
Sohn et al ²⁰	(CR versus IR) MACCE (34.7% vs. 45.1%; adjusted hazard ratio [HR], 0.65; 95% CI: 0.44-0.95, $P = 0.03$), all-cause death adjusted HR, 0.48; 95% CI, 0.29-0.80, $P < 0.01$).																		
Song et al ⁴⁵	(CR versus IR) MACE (HR 0.64; 95% CI 0.46–0.88; $p = 0.01$) and revascularization (HR 0.61; 95% CI 0.42–0.90; $p = 0.01$) death (HR 0.87; 95% CI 0.48–1.57; $p = 0.64$) and MI (HR 0.62; 95% CI 0.23–1.67; $p = 0.35$). The rate of periprocedural MI and stent thrombosis was comparable in two cohorts (4.7% in the CR group vs. 3.6% in the IR group, $p = 0.42$; 1.6 vs. 1.3%, $p = 0.72$, respectively).																		
Srinivas et al ⁴⁶	(CR versus IR) mortality HR: 1.10 (95% CI: 0.58-2.10) and repeat revascularization HR:0.92 (0.66-1.29)																		
Tamburino et al ⁴⁷	(CR vs IR) primary composite endpoint HR:0.43 (0.29–0.63, $P < 0.0001$), cardiac death HR: 0.37 (0.15–0.92, $P = 0.03$), combination of cardiac death or MI HR:0.34 (0.16–0.75 $P = 0.008$) and repeat revascularization HR:0.45 (0.29–0.69, $P = 0.0003$)																		
Valenti et al ⁴⁸	The survival rates were 91.6 and 87.4% in the CR and IR cohorts respectively ($P = 0.025$). CR was inversely proportional to mortality (HR 0.44; 95% CI 0.22–0.87; $P = 0.021$).																		
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Wu et al ⁵	Death (HR=1.12; 95% CI, 1.01–1.26, P=0.04). 8-year survival was 78.5% and 80.8% for IR and CR (P=0.04). Mortality IR vs. CR (adjusted HR=1.16; 95% CI, 1.06–1.26, P=0.001).												
Wu et al ⁴⁹	Among 6511 propensity-matched individuals (IR compared to CR) (79.3% vs. 81.4%, P=0.004), and death (HR=1.16, 95% CI: 1.06–1.27). 5-year survival rate (IR: 79.3% vs. CR: 81.4%, P=0.004)												
Yang et al ⁵⁰	No differences in outcomes between the two cohorts at follow-up. <table border="0" data-bbox="560 562 1327 707"> <tr> <td style="text-align: left;">Outcomes</td> <td style="text-align: center;">Events/CR Total</td> <td style="text-align: center;">Events/IR Total</td> </tr> <tr> <td>Repeat revascularization</td> <td style="text-align: center;">4/99</td> <td style="text-align: center;">17/255</td> </tr> <tr> <td>MI</td> <td style="text-align: center;">1/99</td> <td style="text-align: center;">4/255</td> </tr> <tr> <td>Death</td> <td style="text-align: center;">3/99</td> <td style="text-align: center;">7/255</td> </tr> </table>	Outcomes	Events/CR Total	Events/IR Total	Repeat revascularization	4/99	17/255	MI	1/99	4/255	Death	3/99	7/255
Outcomes	Events/CR Total	Events/IR Total											
Repeat revascularization	4/99	17/255											
MI	1/99	4/255											
Death	3/99	7/255											
George et al ⁵¹	(CR versus IR) Mortality (adjusted HR: 0.70; 95% CI: 0.56 to 0.87; p = 0.002)												
Hannan et al ⁵²	2.5-year Mortality Complete rev vs Complete rev for CTO, incomplete for ≥1 other lesions adjusted HR 1.11 (0.74, 1.68). 2.5-year Mortality Complete rev vs Incomplete rev for CTO adjusted HR 1.63 (1.28, 2.08) <0.0001												
Danzi et al ⁵³	2-year cardiac death free survival was better the complete revascularization cohort compared to incomplete revascularization (96 vs 78 p = 0.002)												
Chang et al ⁵⁴	IR with drug-eluting stents in multivessel disease was associated with increased MI risk (HR, 1.86; 95% CI, 1.08-3.19; P = 0.024) and similar risk of death (HR:1.03; 95% CI, 0.80-1.32; P = .83) compared to CR.												

Table 4. Pooled OR and 95% CI for the studies included in the meta-analysis

Outcome	Subgroup analysis	OR	95% CI	I ²	P value
Death	All	0.69	0.61-0.78	77.03	<0.001
	Anatomic	0.69	0.61-0.79	80.60	<0.001
	Scored based	0.73	0.50-1.07	60.81	0.03
	CTO	0.65	0.53-0.80	68.13	<0.001
	Non CTO	0.71	0.61-0.82	78.6	<0.001
	ACS	0.71	0.44-1.11	0	0.95
Repeat revascularization	All	0.60	0.45-0.80	92.87	<0.001
	Anatomic	0.58	0.41-0.82	94.23	<0.001
	Scored based	0.64	0.54-0.76	0	0.59
Myocardial Infraction	All	0.63	0.50-0.79	62.4	<0.001
	Anatomic	0.60	0.45-0.81	65.86	0.07
	Scored based	0.64	0.51-0.79	0.00	0.72
MACE	All	0.66	0.51-0.85	93.29	<0.001
	Anatomic	0.64	0.46-0.89	94.5	<0.001
	Scored based	0.68	0.50-0.93	70.87	0.02
	ACS	0.79	0.54-1.17	81.86	0.02
Stent thrombosis	All	0.81	0.49-1.33	49.2	0.14