

Supplementary material

Nicorandil in Patients with ST-Segment Elevation Undergoing Percutaneous Coronary Intervention: A Systematic Review and Meta-Analysis

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Supplementary Table S1: Detailed search strategy of each included database

Database	Search Strategy	Results
MEDLINE (via PubMed)	("Nicorandil" OR "Potassium channel opener" OR "K-ATP channel opener") AND ("ST-segment elevation" OR "ST-segment elevation myocardial infarction" OR "STEMI" OR "Acute myocardial infarction" OR "AMI" OR "Myocardial infarction" OR "MI") AND ("Percutaneous coronary intervention" OR "PCI" OR "Primary PCI" OR "Percutaneous transluminal coronary angioplasty" OR "PTCA" OR "Coronary angioplasty" OR "Stenting" OR "Coronary stenting" OR "Revascularization")	134
EMBASE (via Ovid)	<p>Set #1 Nicorandil.mp. or nicorandil/ (5022 results)</p> <p>Set #2 (ST-segment elevation or ST-segment elevation myocardial infarction or STEMI).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word] (106850 results)</p> <p>Set #3 (PCI or percutaneous coronary intervention).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug</p>	293

	<p>manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word] (147247 results)</p> <p>Set #4 Set #1 AND Set #2 AND Set #3 (293 results)</p>	
Scopus	Nicorandil AND (ST-segment elevation or ST-segment elevation myocardial infarction or STEMI) AND (PCI OR percutaneous coronary intervention)	1,415
Cochrane CENTRAL library	Nicorandil AND (ST-segment elevation or ST-segment elevation myocardial infarction or STEMI) AND (PCI OR percutaneous coronary intervention)	75
clinicaltrials.gov		40
Total		1,960

Supplementary Figure S1: Traffic plot of Risk of Bias Assessment

		Risk of bias domains					
		D1	D2	D3	D4	D5	Overall
Study	Ito et al. 1999						
	Fukuzawa et al. 2000						
	Ikeda et al. 2004						
	Nameki et al. 2004						
	Ono et al. 2004						
	Ishii et al. 2005						
	Kasama et al. 2005						
	Akagi et al. 2006						
	Miyazawa et al. 2006						
	Ota et al. 2006						
	Toyama et al. 2006						
	Fujiwara et al. 2007						
	Kitakaze et al. 2007						
	Lee et al. 2008						
	Yamada et al. 2015						
	Chen et al. 2015						
	Qi et al. 2018						
	Pi et al. 2019						
	Chen et al. 2020						
	Feng et al. 2019						
	Wang et al. 2019						
	Akbari et al. 2020						
	Wang et al. 2021						
	Qian et al. 2022						
Choe et al. 2023							
Ilyas et al. 2024							

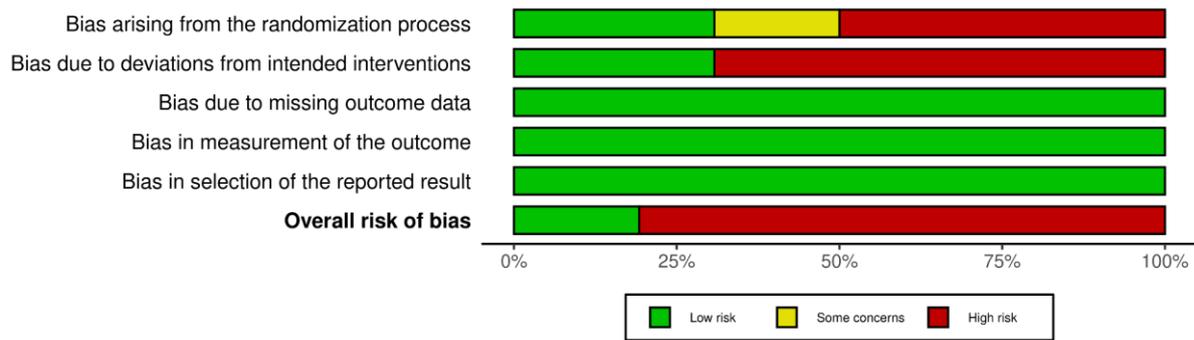
Domains:

- D1: Bias arising from the randomization process.
- D2: Bias due to deviations from intended intervention.
- D3: Bias due to missing outcome data.
- D4: Bias in measurement of the outcome.
- D5: Bias in selection of the reported result.

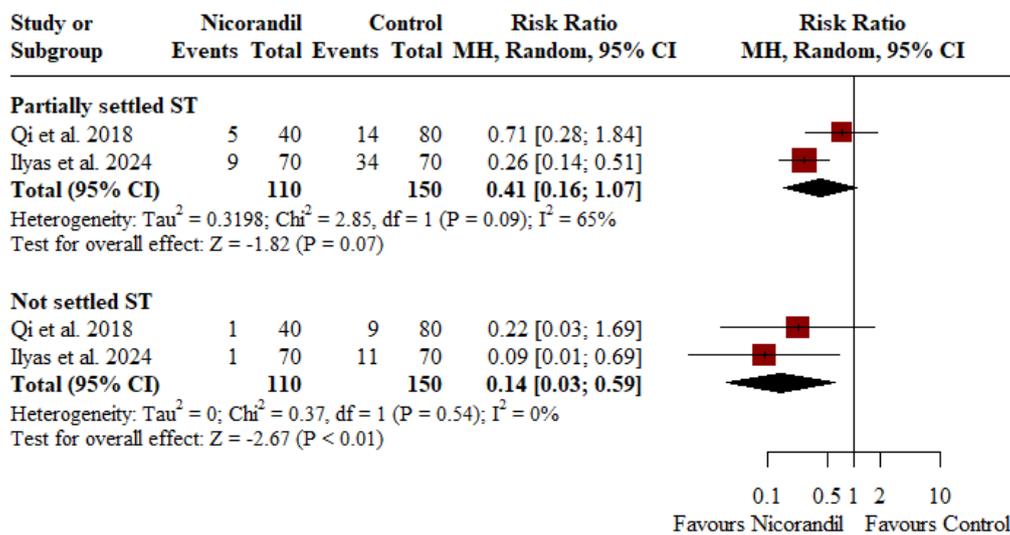
Judgement

- High
- Some concerns
- Low

Supplementary Figure S2: Summary of Risk of Bias Assessment

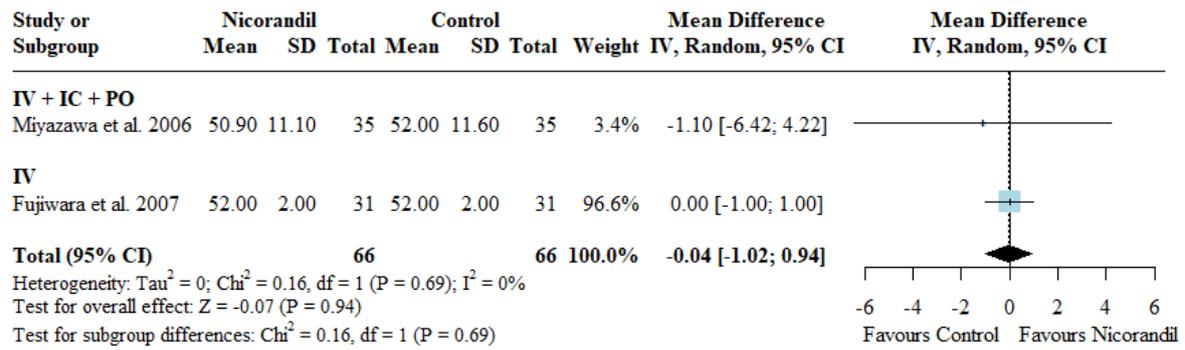


Supplementary Figure S3: Forest plot for non-settled or partially settled ST-segment. No statistically significant difference was observed for partially settled ST segments between nicorandil and control. The incidence of non-settled ST segments was significantly lower in the nicorandil group compared to the control.



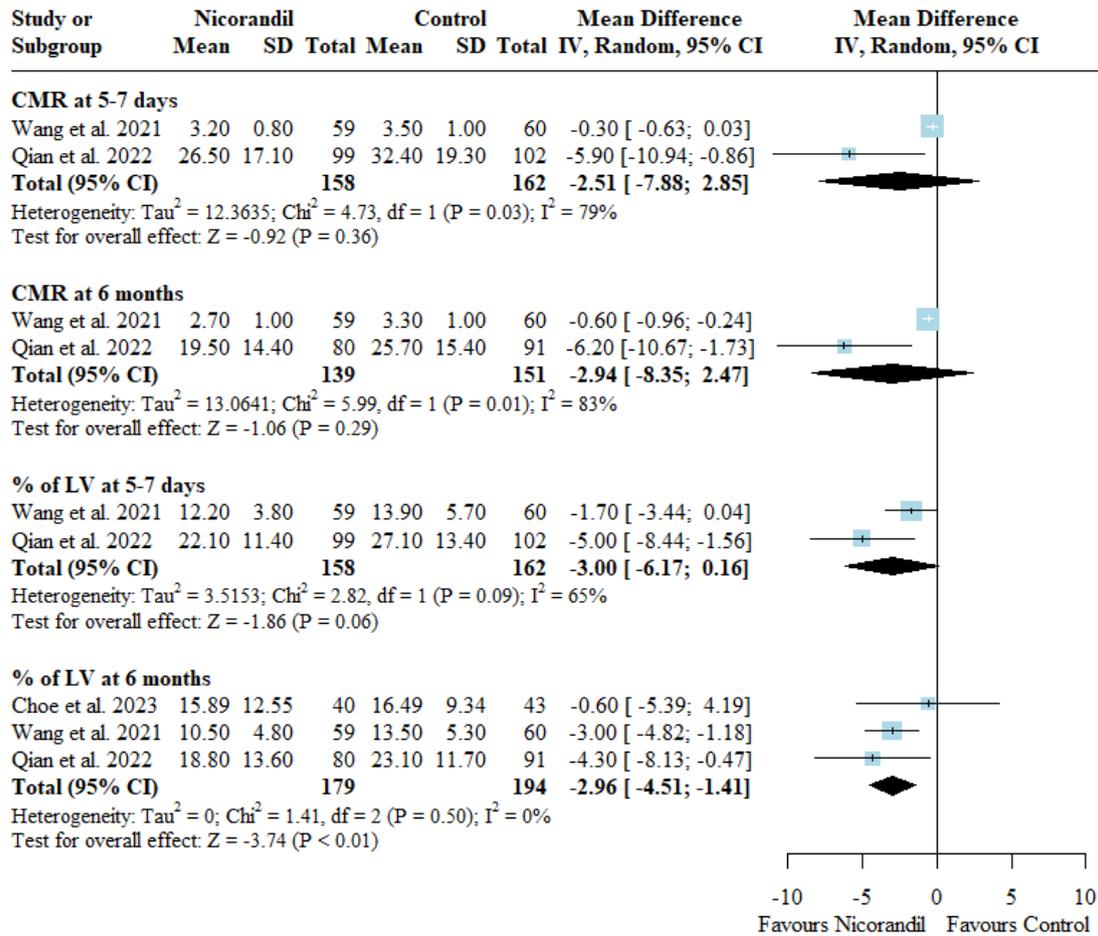
Supplementary Figure S4: Forest plot for left ventricular ejection fraction immediately following percutaneous coronary intervention, showing no significant

statistical difference between subgroups.

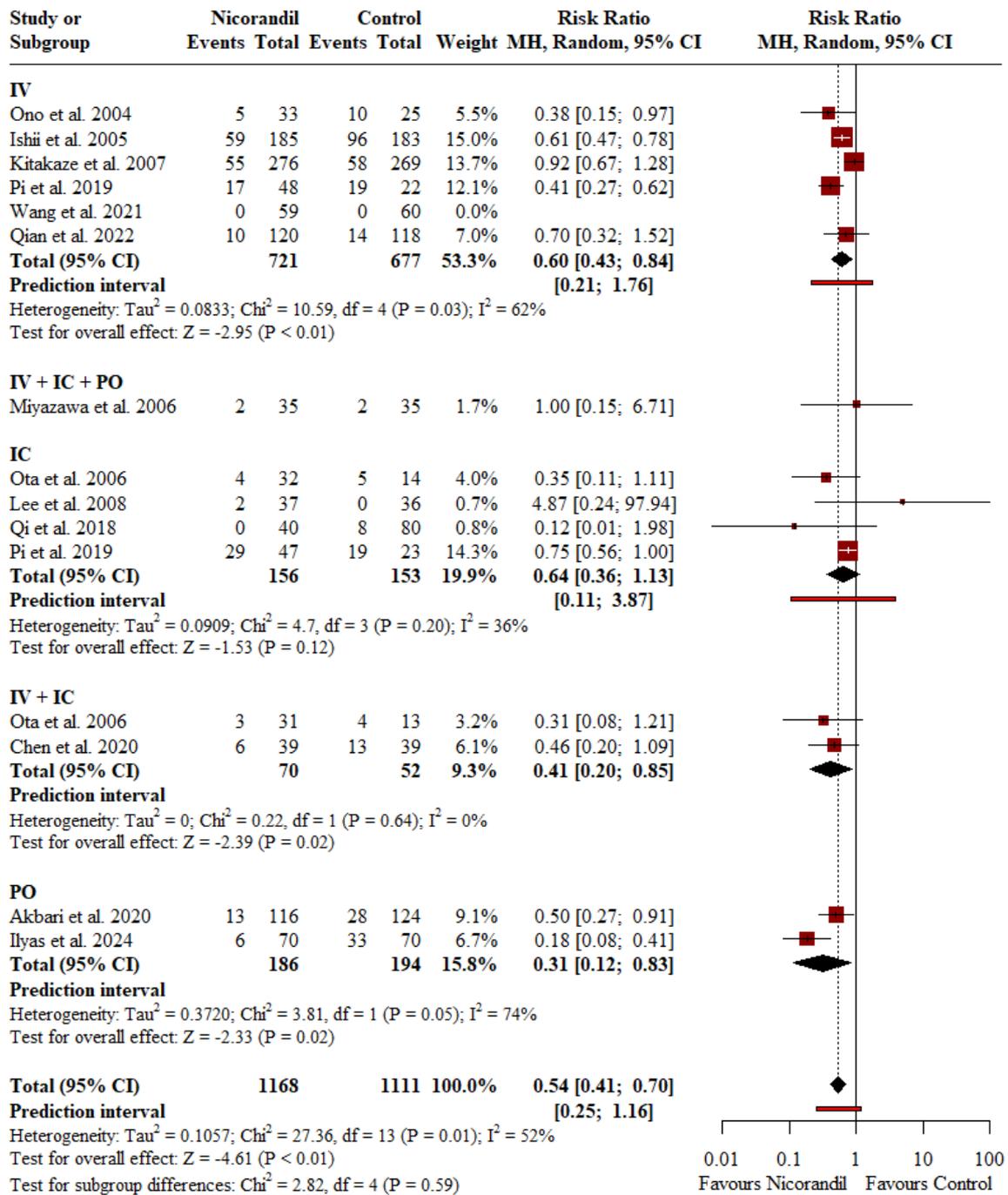


Supplementary Figure S5: Forest plot for left ventricular infarct size reduction (% of LV at 5-7 days and 6 months) and on cardiac magnetic resonance imaging (CMR at 5-7 days and 6 months). There was no statistically significant difference observed on CMR at 5-7 days and 6 months. A significant reduction in left ventricular infarct size

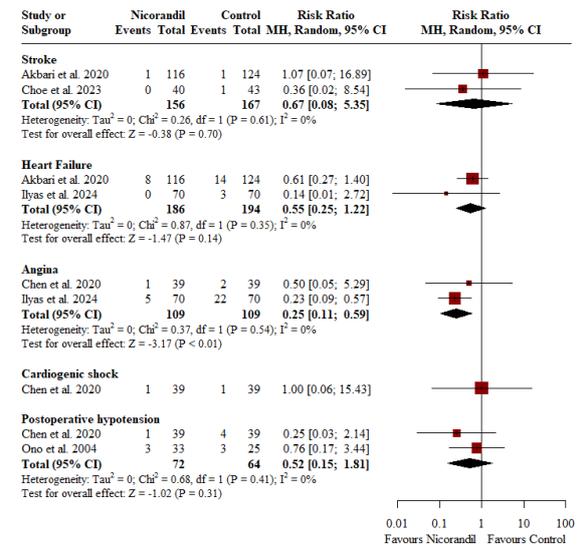
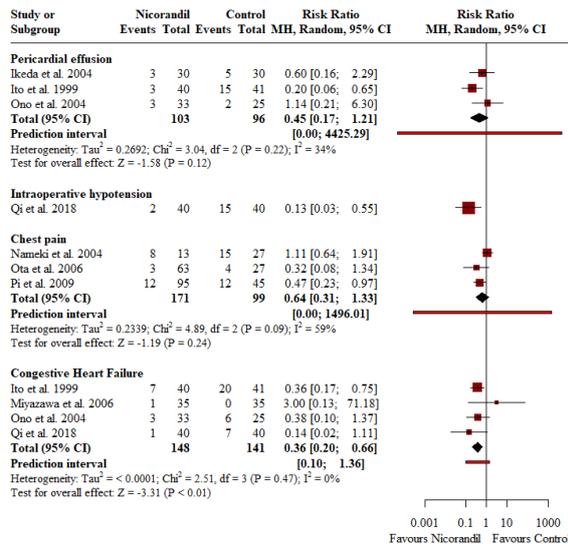
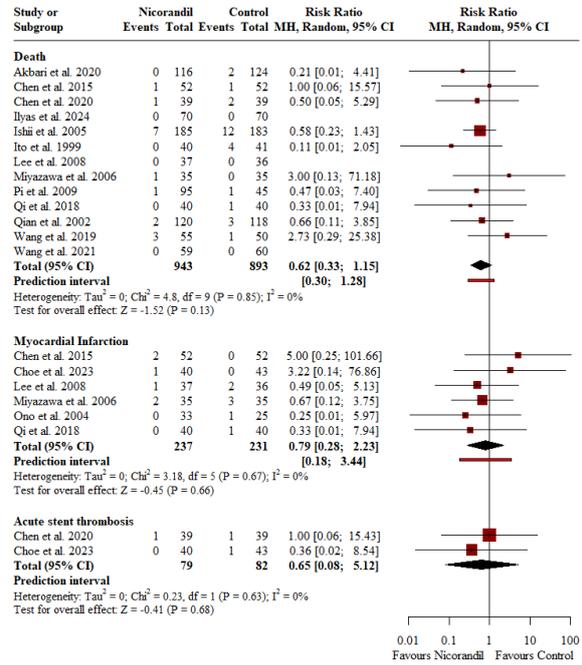
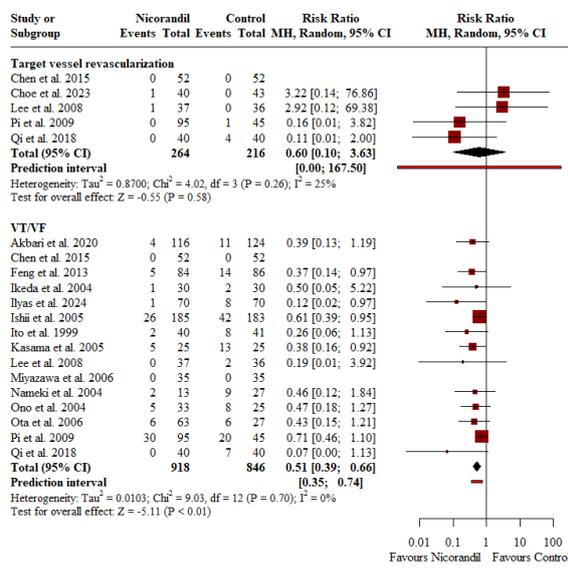
was observed at 6 months.



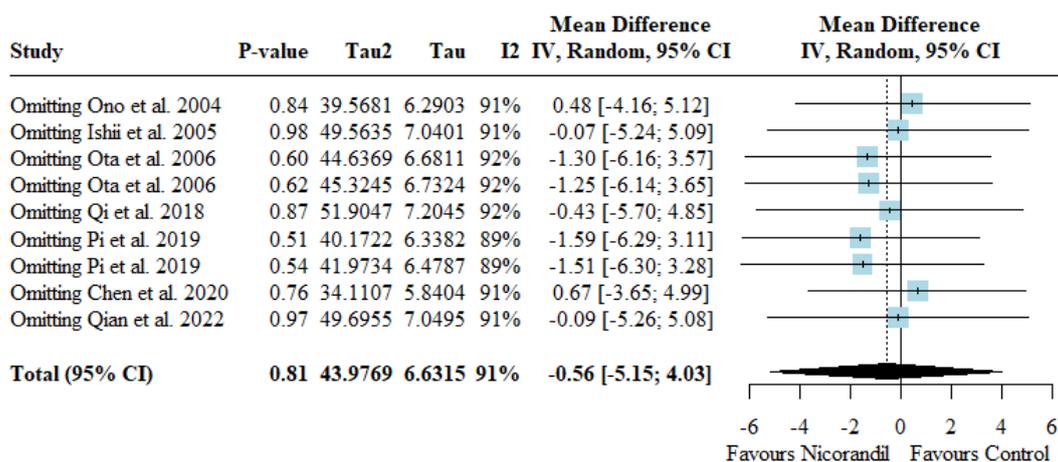
Supplementary Figure S6: Forest plot with subgroup analysis for major adverse cardiovascular events based on mode of administration



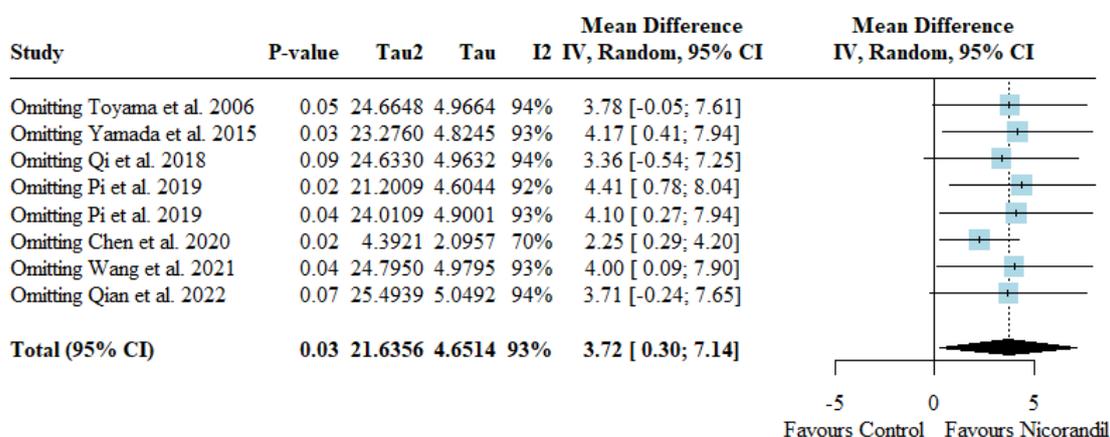
Supplementary Figure S7: Forest plot for individual major adverse cardiovascular events (MACEs)



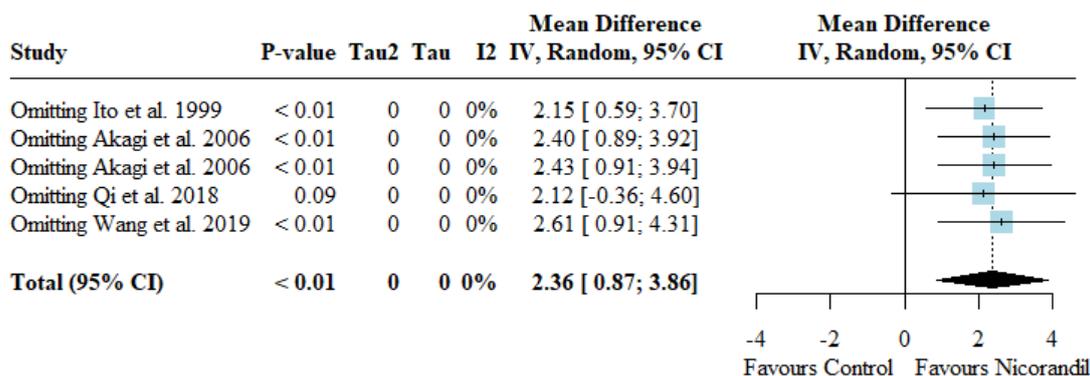
Supplementary Figure S8: Leave-one-out analysis for corrected Thrombolysis in Myocardial Infarction (TIMI) Frame Count



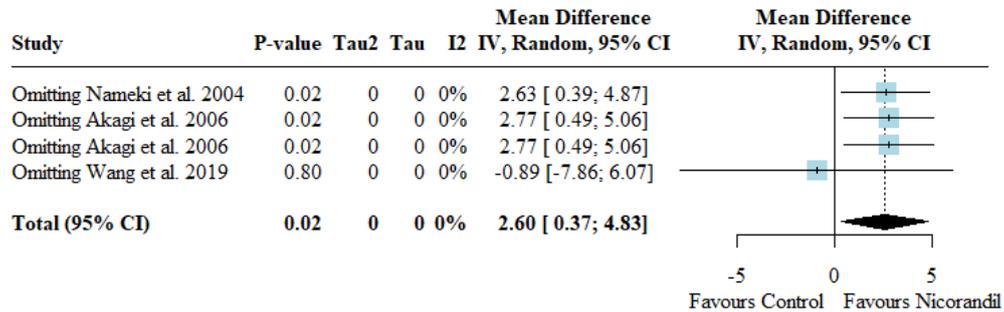
Supplementary Figure S9: Leave-one-out analysis for left ventricular ejection fraction at 1 week following percutaneous coronary intervention



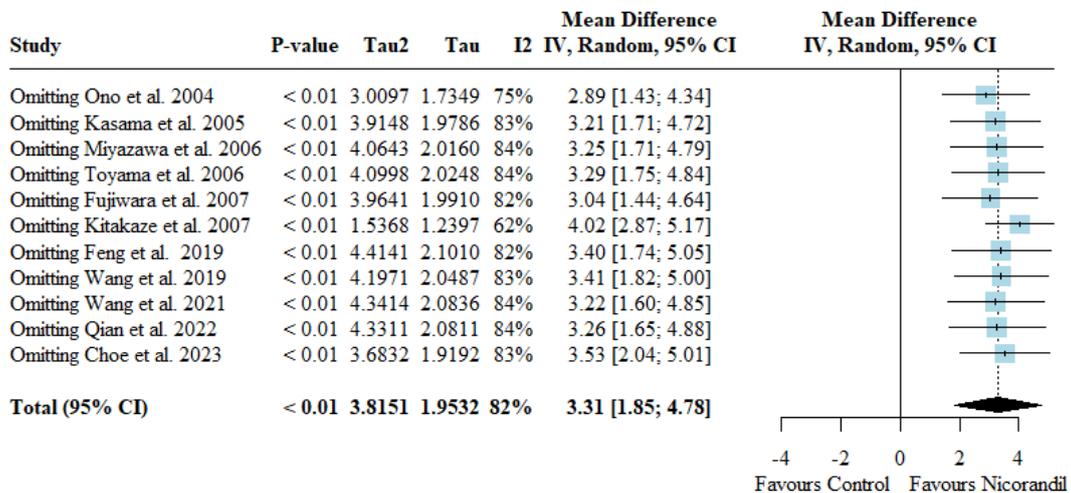
Supplementary Figure S10: Leave-one-out analysis for left ventricular ejection fraction at 1 month following percutaneous coronary intervention



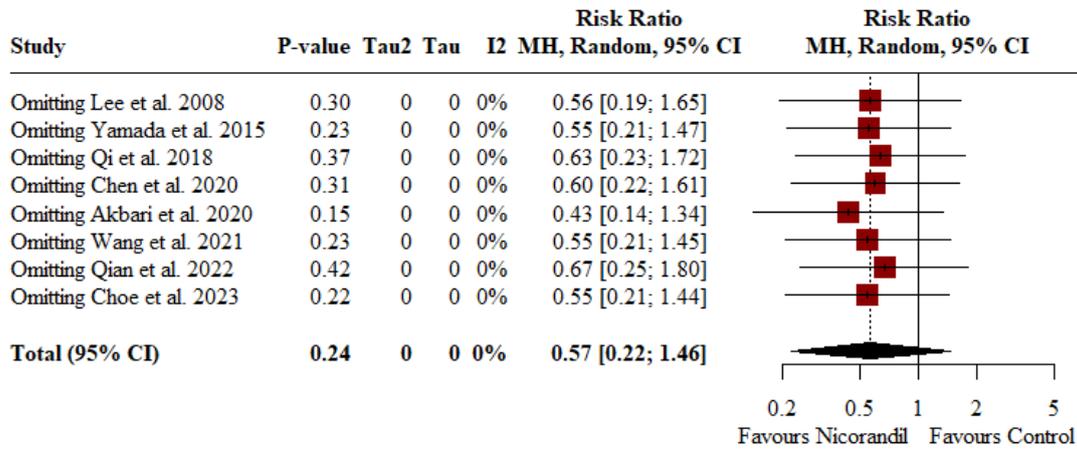
Supplementary Figure S11: Leave-one-out analysis for left ventricular ejection fraction at 3 months following percutaneous coronary intervention



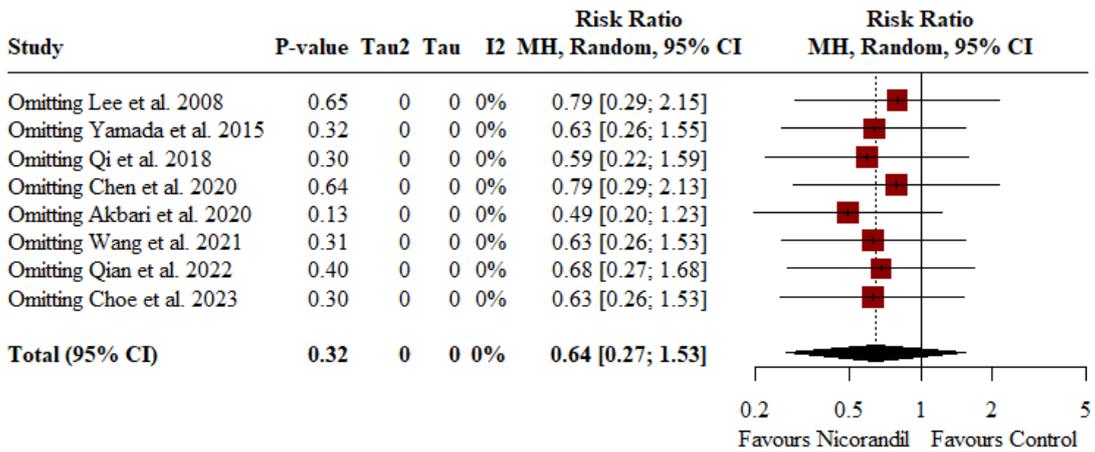
Supplementary Figure S12: Leave-one-out analysis for left ventricular ejection fraction at 6 months following percutaneous coronary intervention



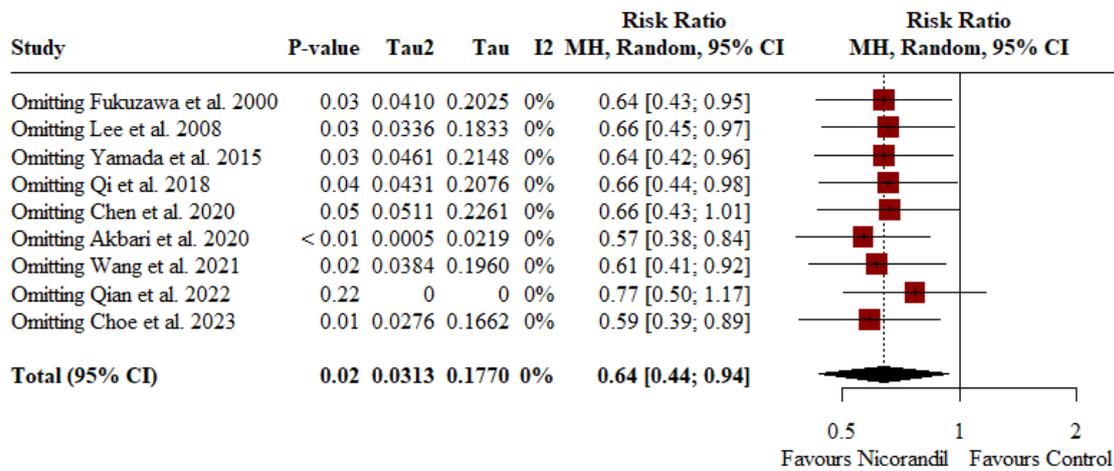
Supplementary Figure S13: Leave-one-out analysis for Thrombolysis in Myocardial Infarction grade 0



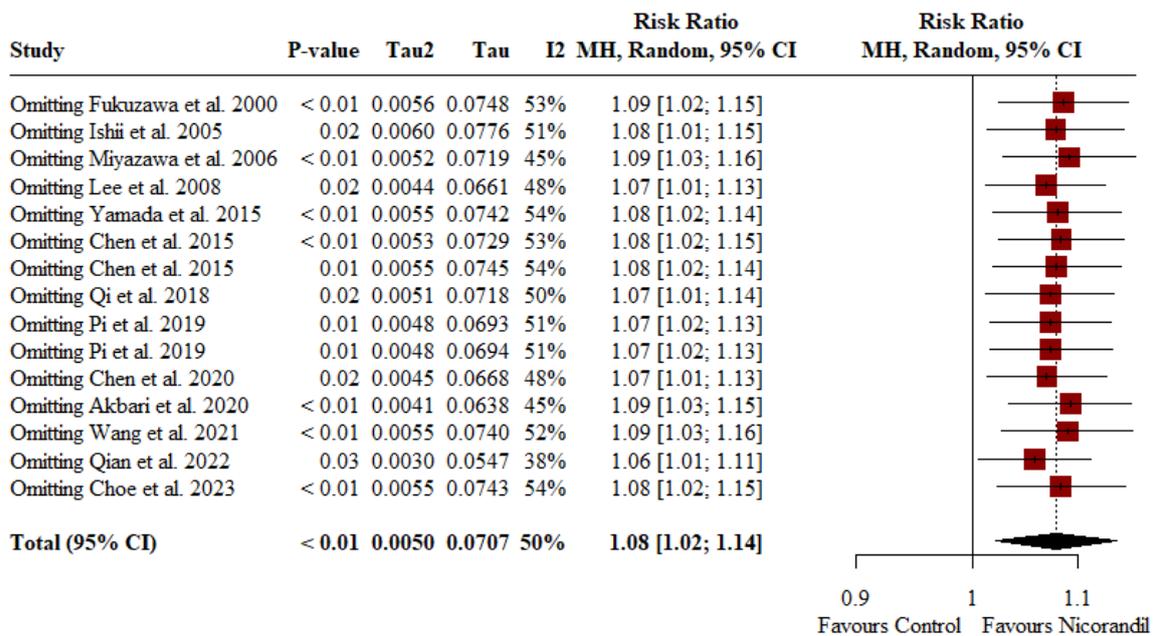
Supplementary Figure S14: Leave-one-out analysis for Thrombolysis in Myocardial Infarction grade 1



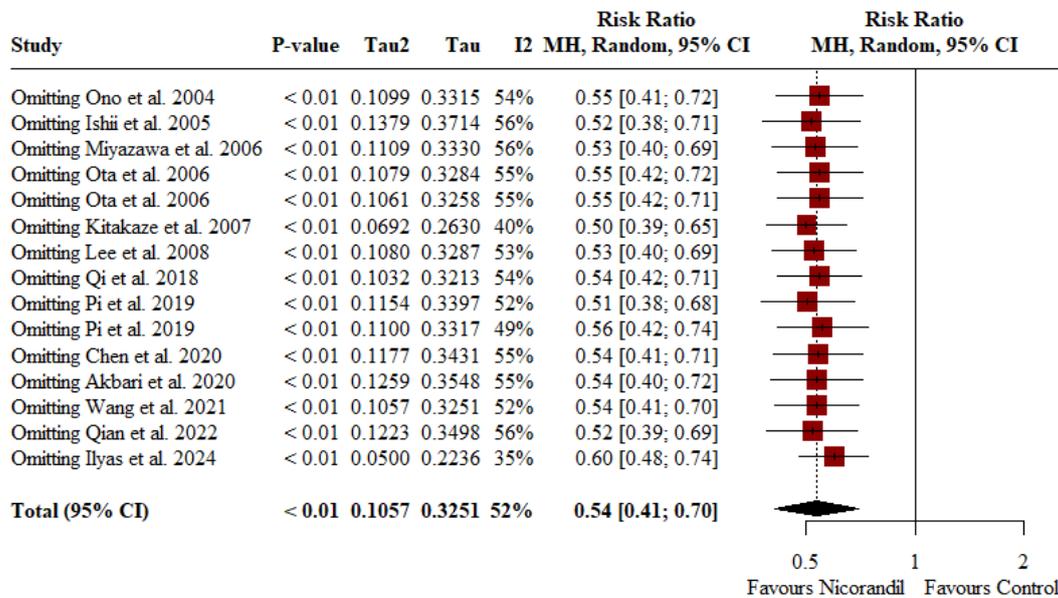
Supplementary Figure S15: Leave-one-out analysis for Thrombolysis in Myocardial Infarction grade 2



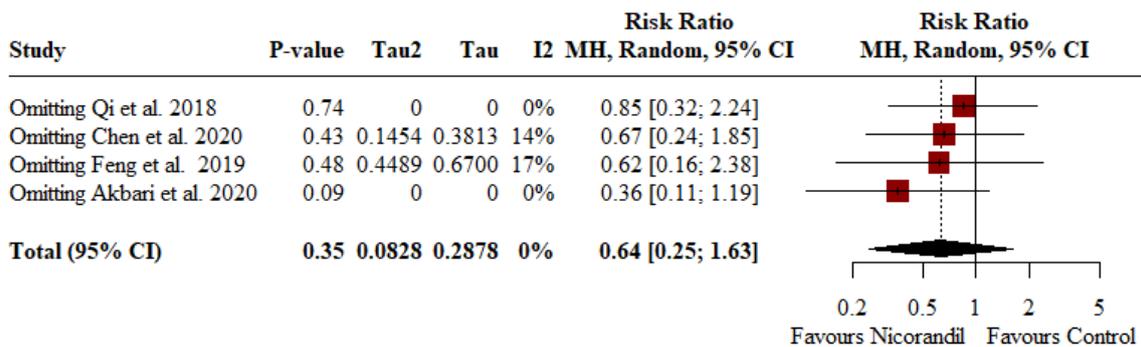
Supplementary Figure S16: Leave-one-out analysis for Thrombolysis in Myocardial Infarction grade 3



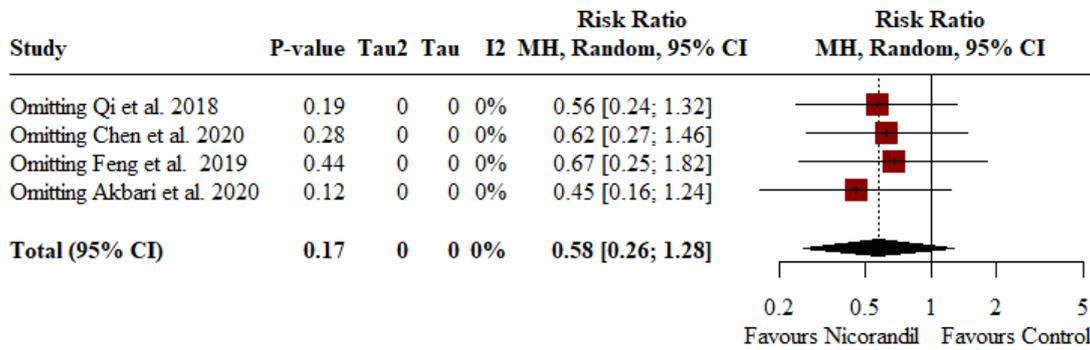
Supplementary Figure S17: Leave-one-out analysis for major adverse cardiovascular events (MACEs)



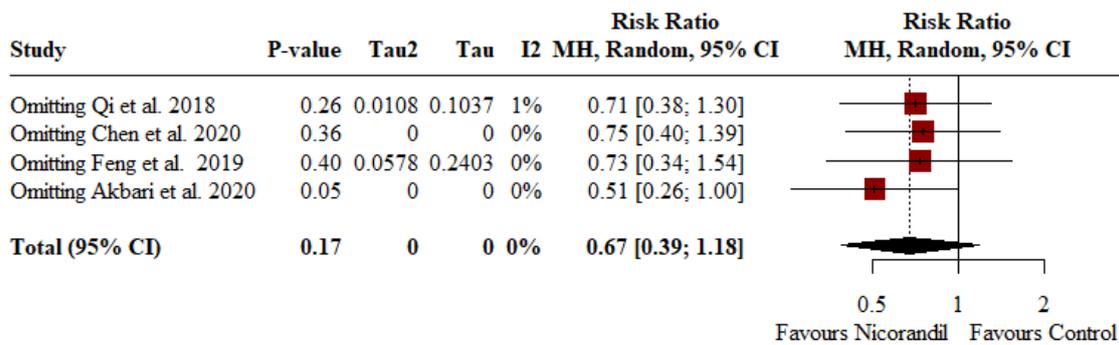
Supplementary Figure S18: Leave-one-out analysis for Thrombolysis in Myocardial Infarction Myocardial Perfusion Grade 0



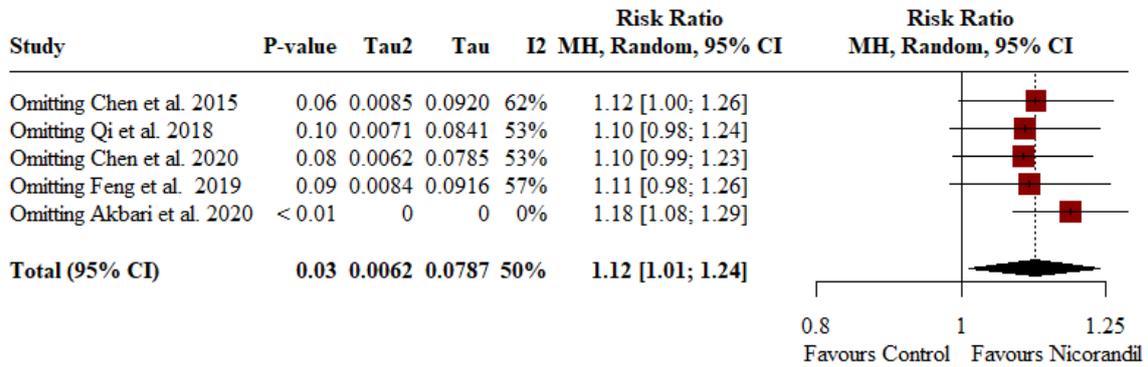
Supplementary Figure S19: Leave-one-out analysis for Thrombolysis in Myocardial Infarction Myocardial Perfusion Grade 1



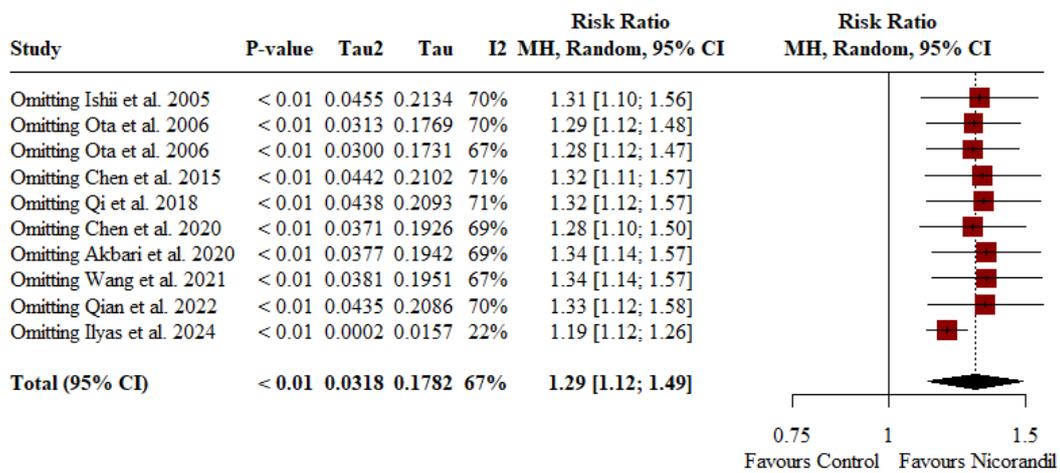
Supplementary Figure S20: Leave-one-out analysis for Thrombolysis in Myocardial Infarction Myocardial Perfusion Grade 2



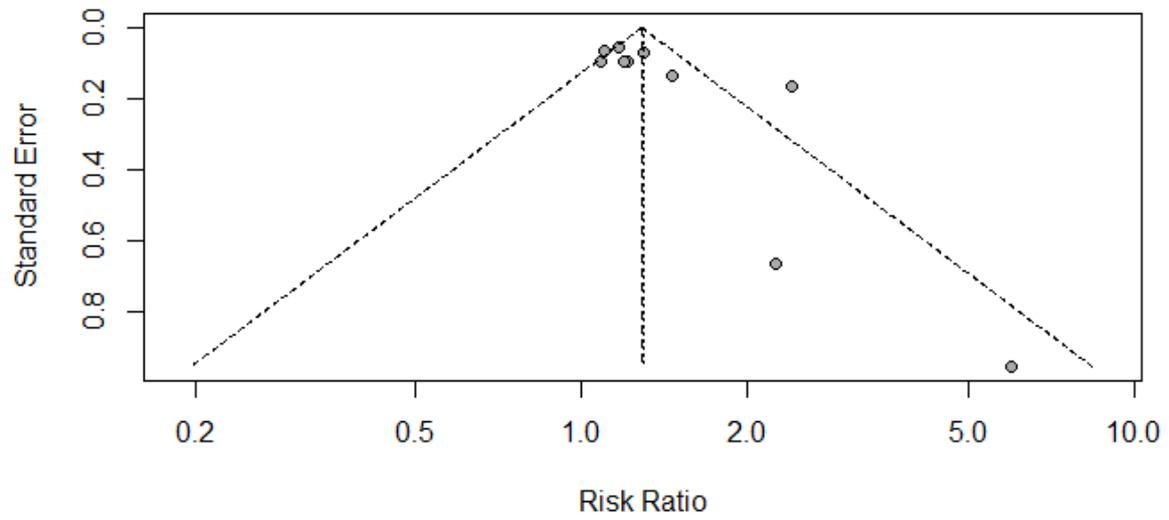
Supplementary Figure S21: Leave-one-out analysis for Thrombolysis in Myocardial Infarction Myocardial Perfusion Grade 3



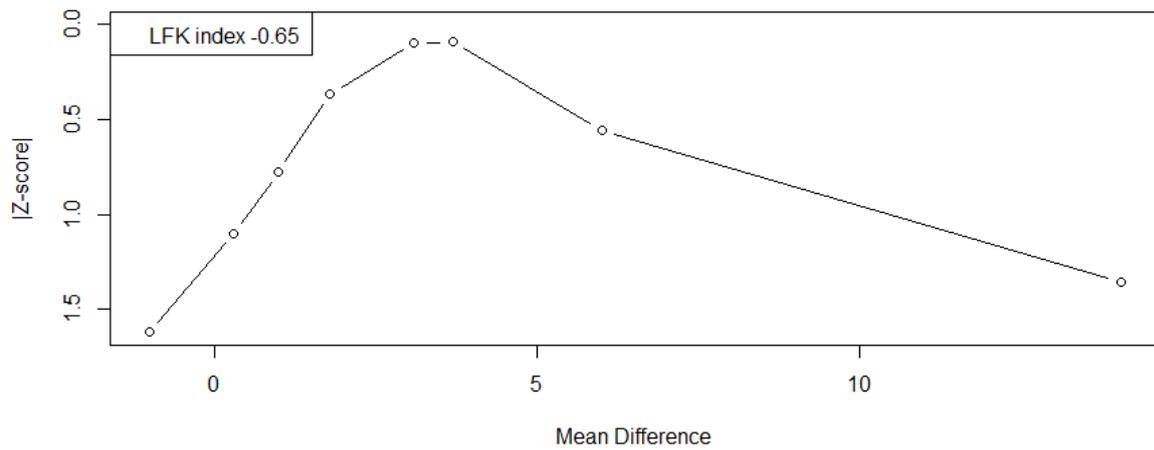
Supplementary Figure S22: Leave-one-out analysis for completely settled ST-segment



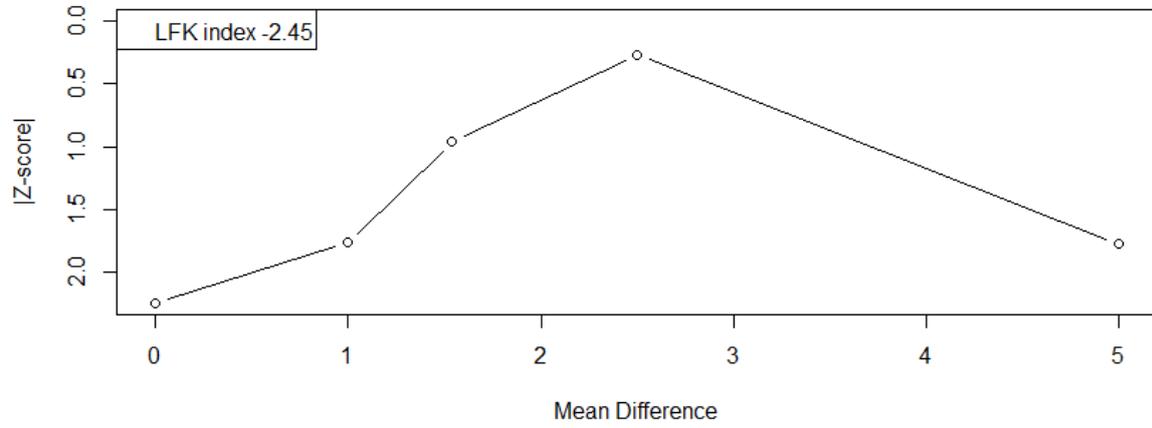
Supplementary Figure S23: Funnel plot for completely settled ST segment



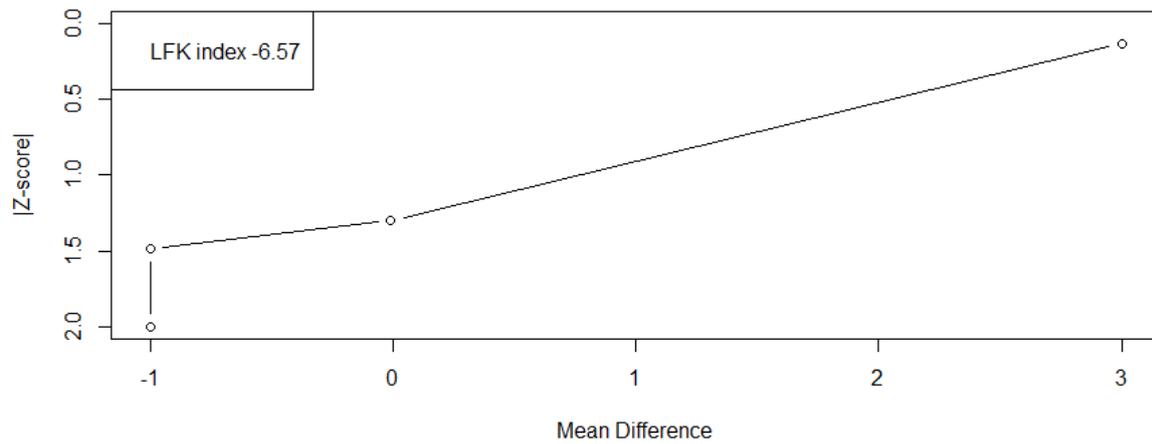
Supplementary Figure S24: Doi plot for left ventricular ejection fraction at 1 week following percutaneous coronary intervention



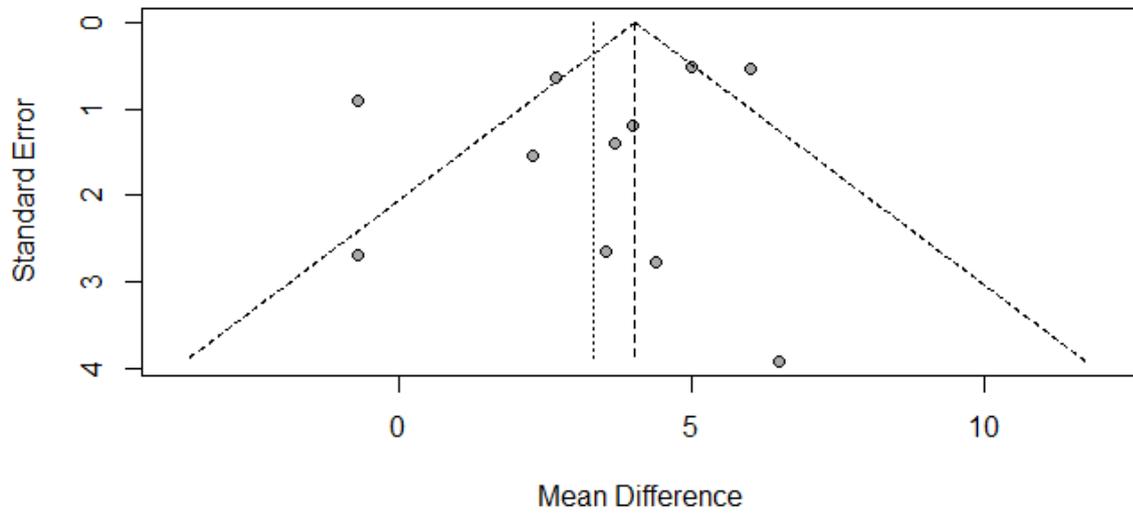
Supplementary Figure S25: Doi plot for left ventricular ejection fraction at 1 month following percutaneous coronary intervention



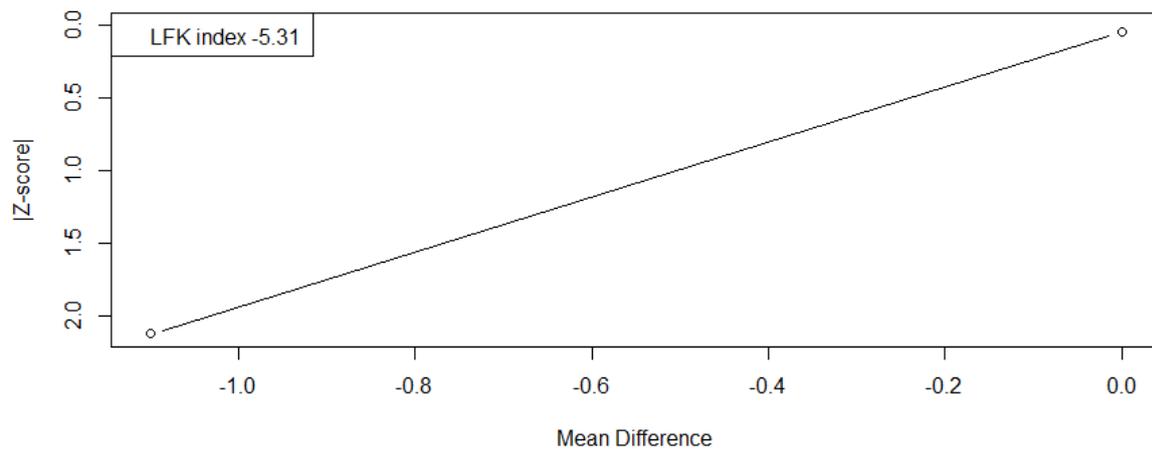
Supplementary Figure S26: Doi plot for left ventricular ejection fraction at 3 months following percutaneous coronary intervention



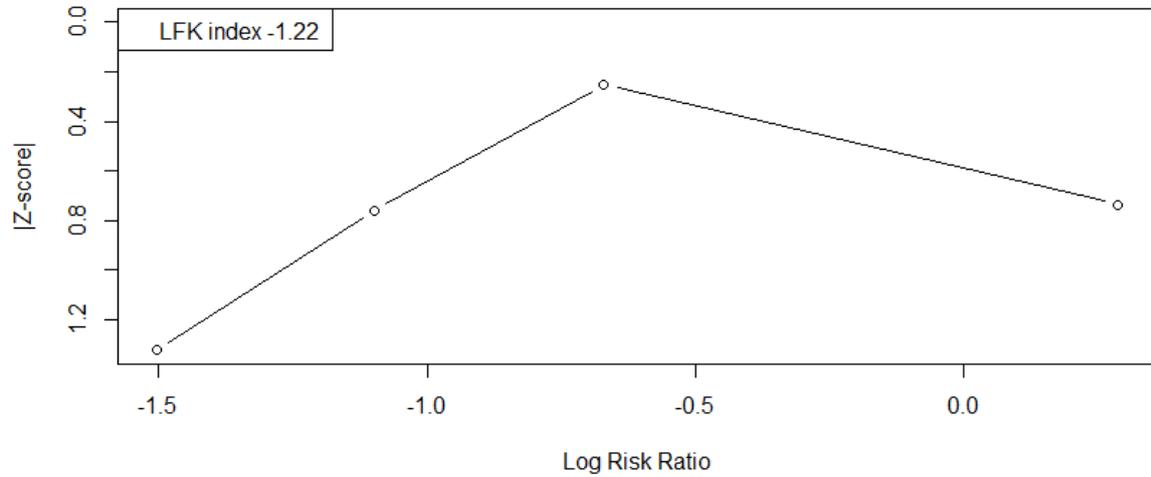
Supplementary Figure S27: Funnel plot for left ventricular ejection fraction at 6 months following percutaneous coronary intervention



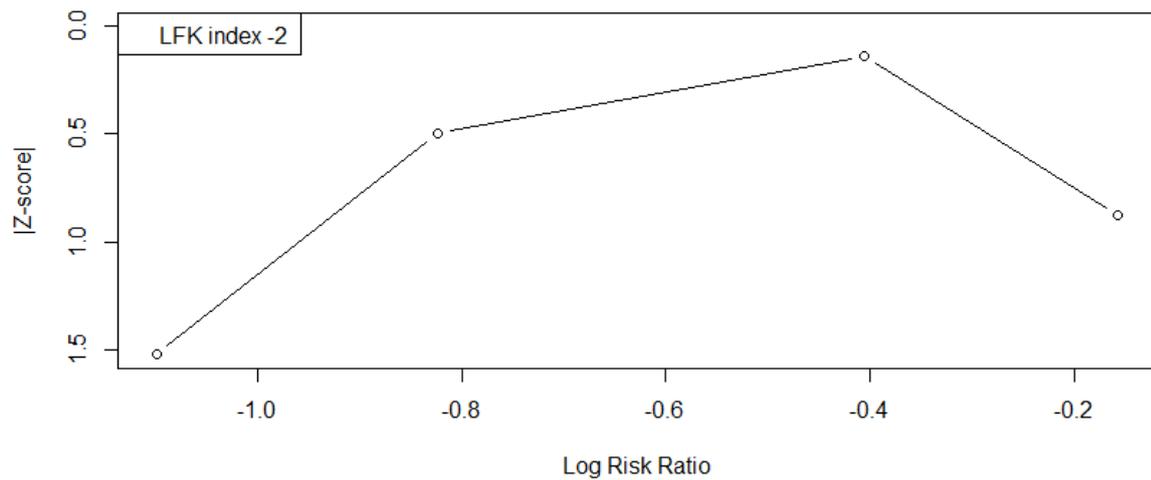
Supplementary Figure S28: Doi plot for left ventricular ejection fraction at immediately following percutaneous coronary intervention



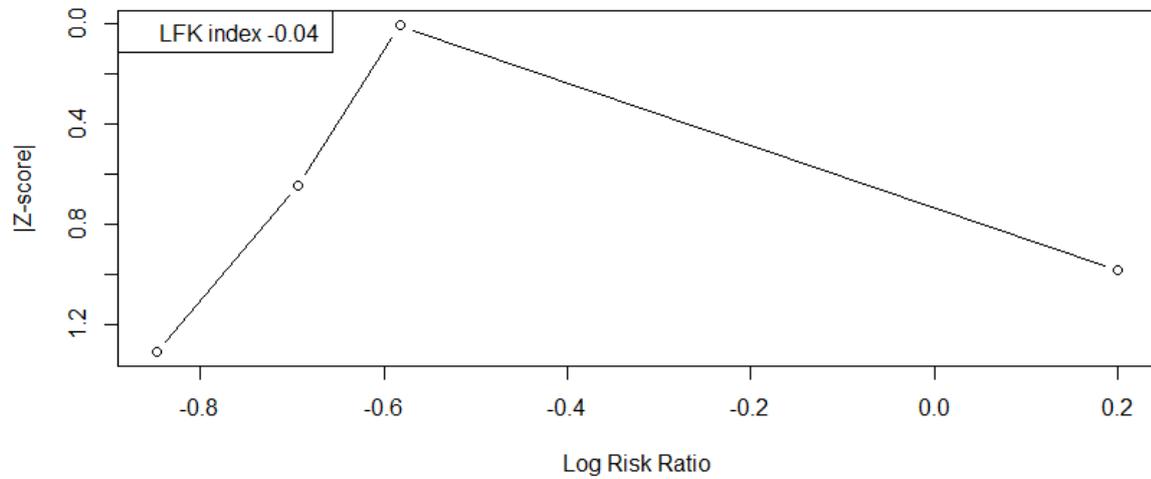
Supplementary Figure S29: Doi plot for Thrombolysis in Myocardial Infarction
Myocardial Perfusion Grade 0



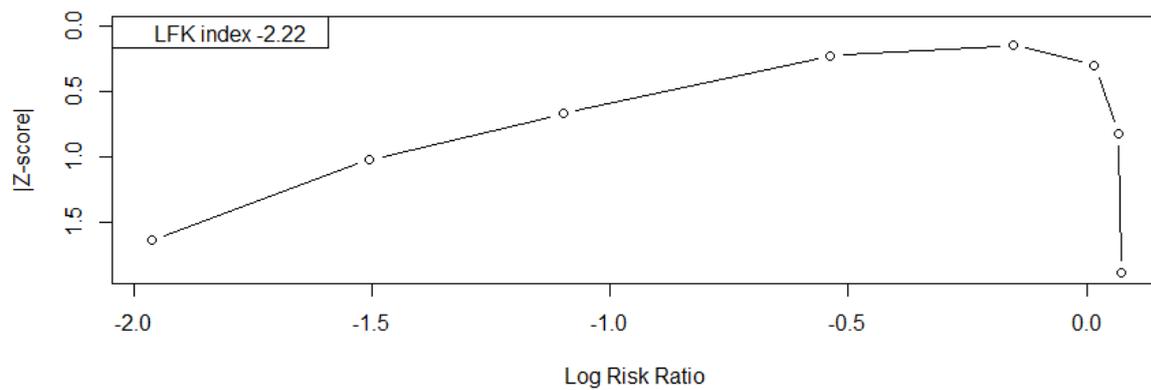
Supplementary Figure S30: Doi plot for Thrombolysis in Myocardial Infarction
Myocardial Perfusion Grade 1



Supplementary Figure S31: Doi plot for Thrombolysis in Myocardial Infarction
Myocardial Perfusion Grade 2

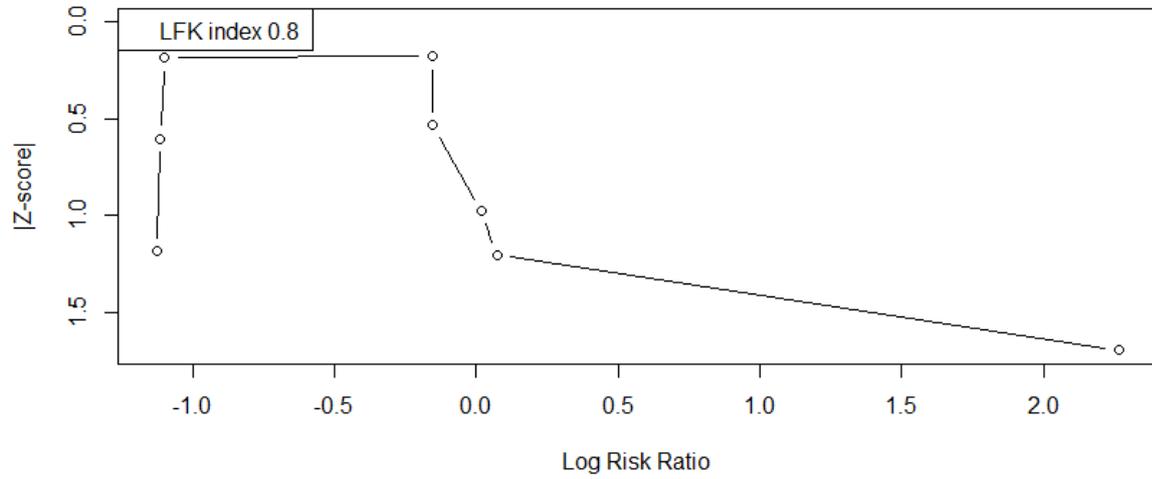


Supplementary Figure S32: Doi plot for Thrombolysis in Myocardial Infarction grade 0



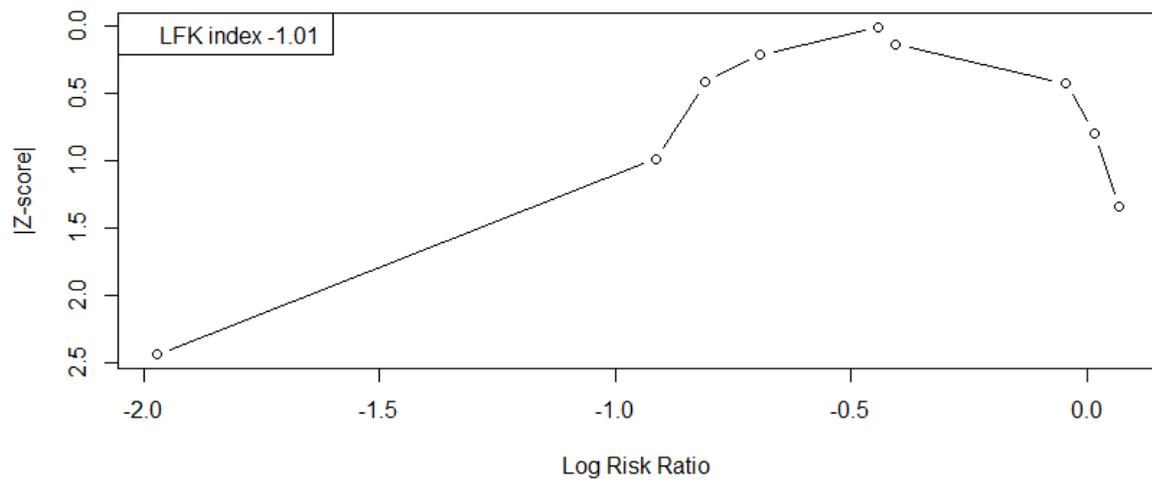
Supplementary Figure S33: Doi plot for Thrombolysis in Myocardial Infarction grade

1

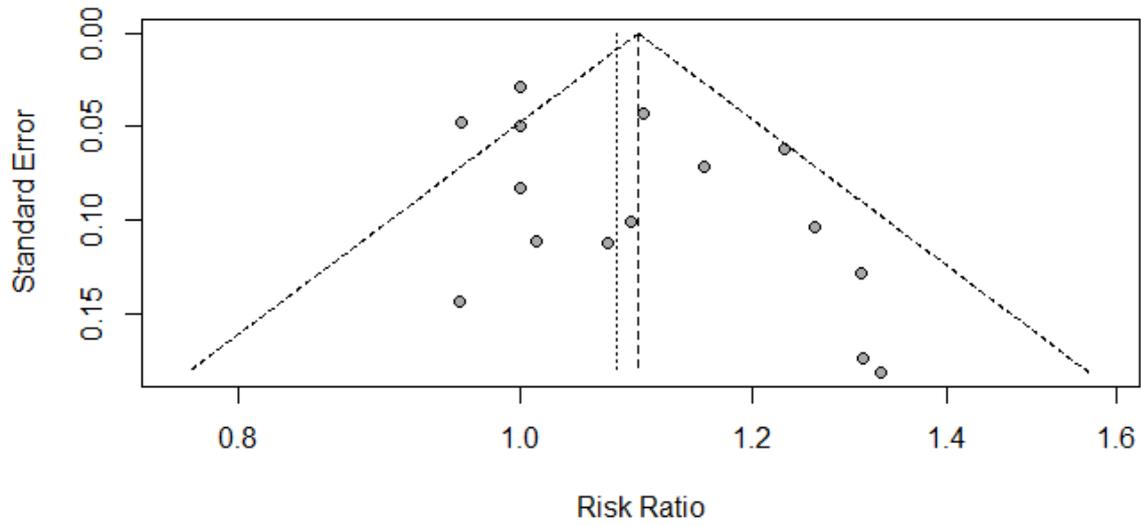


Supplementary Figure S34: Doi plot for Thrombolysis in Myocardial Infarction grade

2



Supplementary Figure S35: Funnel plot for Thrombolysis in Myocardial Infarction grade



Supplementary Figure S36: Doi plot for corrected Thrombolysis in Myocardial Infarction (TIMI) Frame Count

