Figure S1. Study selection process.
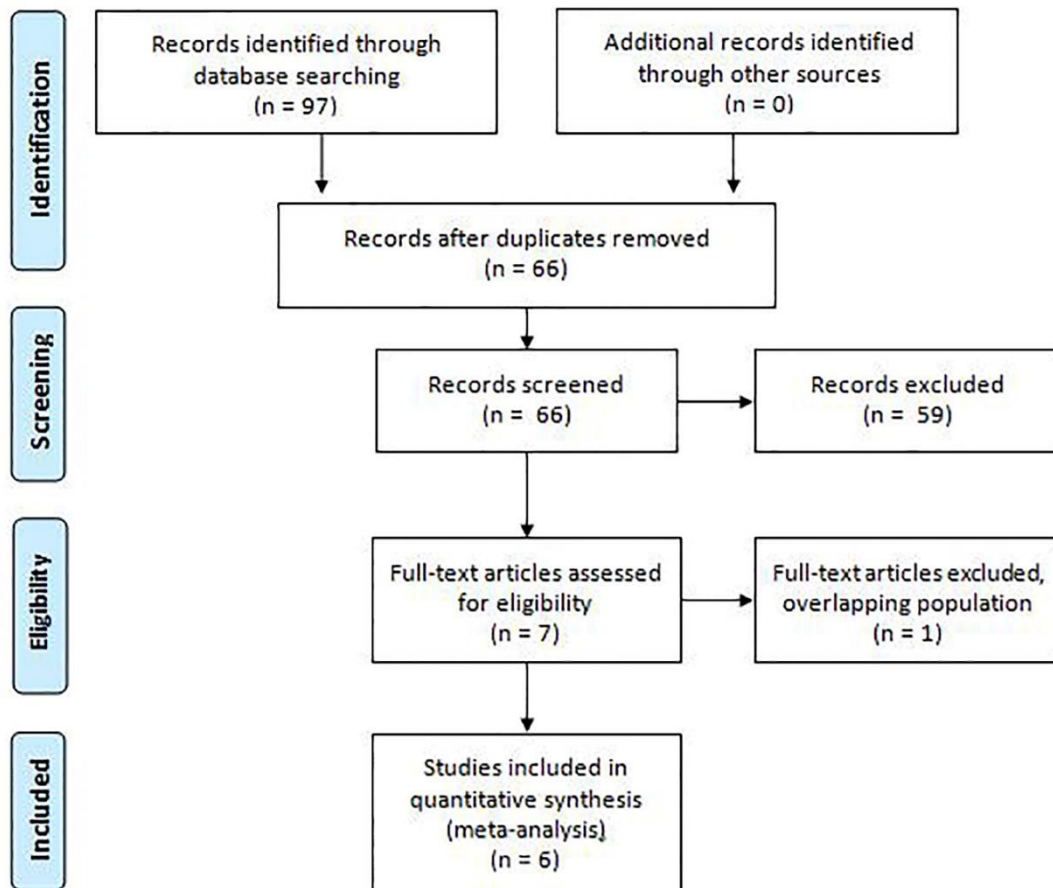
Table S1. PRISMA checklist

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.	4
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	4
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.	N/A
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.	4,5
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.	4,5
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	4,5
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).	4,5
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.	4,5
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	5

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.	5
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	5
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.	5

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).	5
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	N/A
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.	5, 14
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.	6, 17
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).	19
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.	6, 14-16
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	6, 14-16
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	N/A
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	N/A
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).	7
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).	10
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future	7,9

		research.	
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.	N/A

Table S2. Outcome definitions.

	30-day/in-hospital mortality
Chambers 2018	30-day all-cause mortality
Lee 2017	30-day all-cause mortality
Meraj 2018	In-hospital all-cause mortality
Sareen 2017	30-day all-cause mortality
	30-day/in-hospital myocardial infarction
Lee 2017	Recurrent symptoms with new ST-segment elevation or re-elevation of cardiac markers to at least twice the upper limit of normal
Meraj 2018	Creatinine kinase or MB fraction greater than three times the upper limit of normal, or the development of a new pathological q wave on ECG
Sareen 2017	Universal definition of myocardial infarction from Joint ESC/ACCF/AHA/WHF Task Force for the Redefinition of Myocardial Infarction from 2007
	Dissection
Koifman 2018	Undefined
Meraj 2018	Significant dissections grade C-F
Okamoto 2018	Flow-limiting dissection consistent with NHLBI category for type C or greater
	Perforation
Lee 2017	Undefined
Meraj 2018	Undefined
Okamoto 2018	Any coronary perforation within the ablated segment after atherectomy
	Tamponade
Lee 2017	Undefined
Meraj 2018	Undefined
Okamoto 2018	Undefined
	Slow-/no-reflow phenomenon

Chambers 2018	Slow-/no-reflow – undefined
Lee 2017	No-reflow
Okamoto 2018	Slow-/no-reflow – undefined

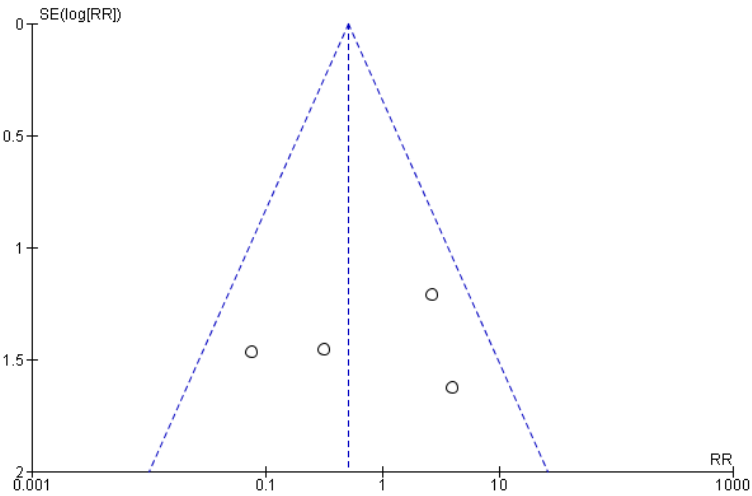Figure S2. Funnel plot of studies reporting mortality.

Figure S3. Funnel plot of studies reporting myocardial infarction.
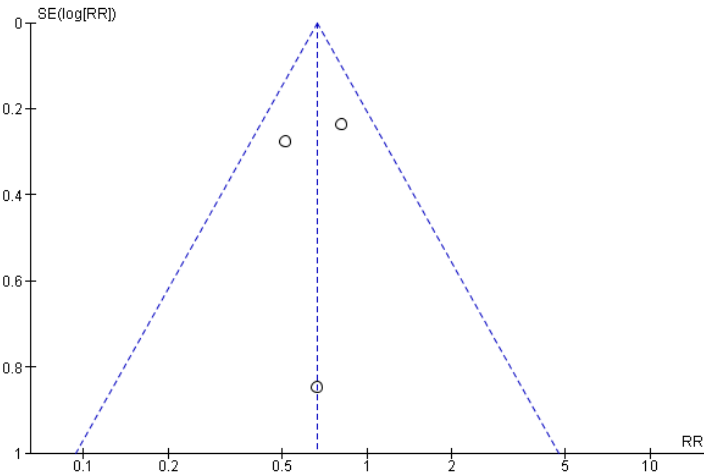
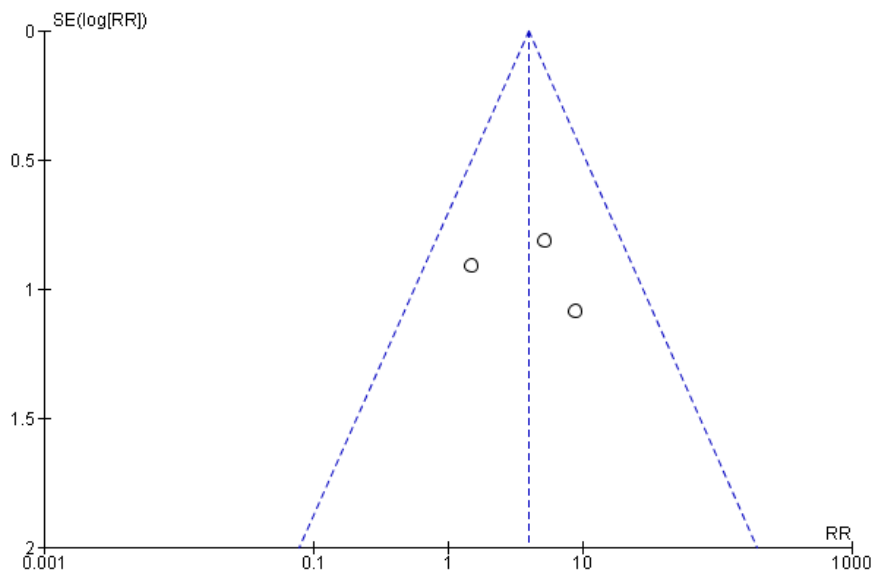Figure S4. Funnel plot of studies reporting dissections.

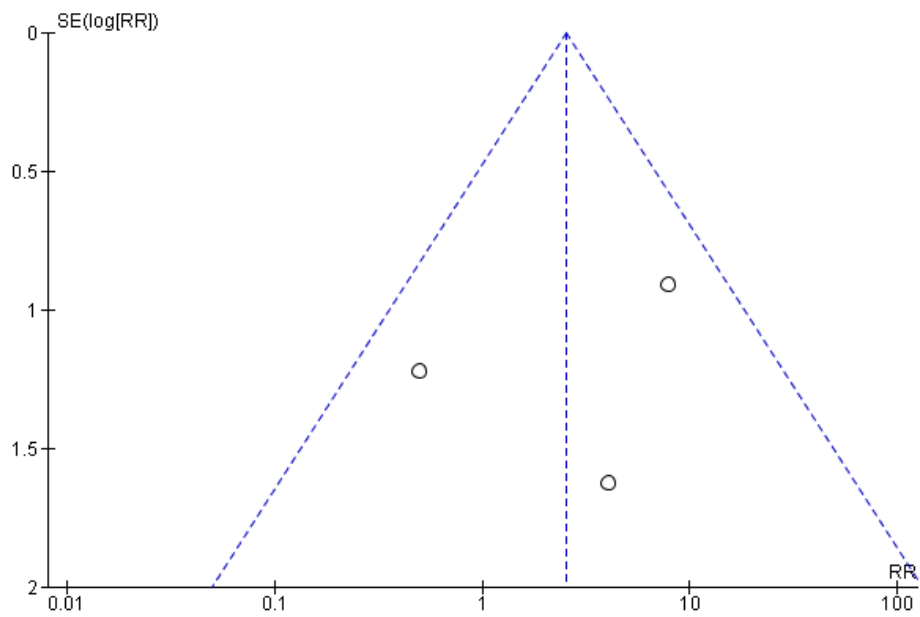Figure S5. Funnel plot of studies reporting perforations.

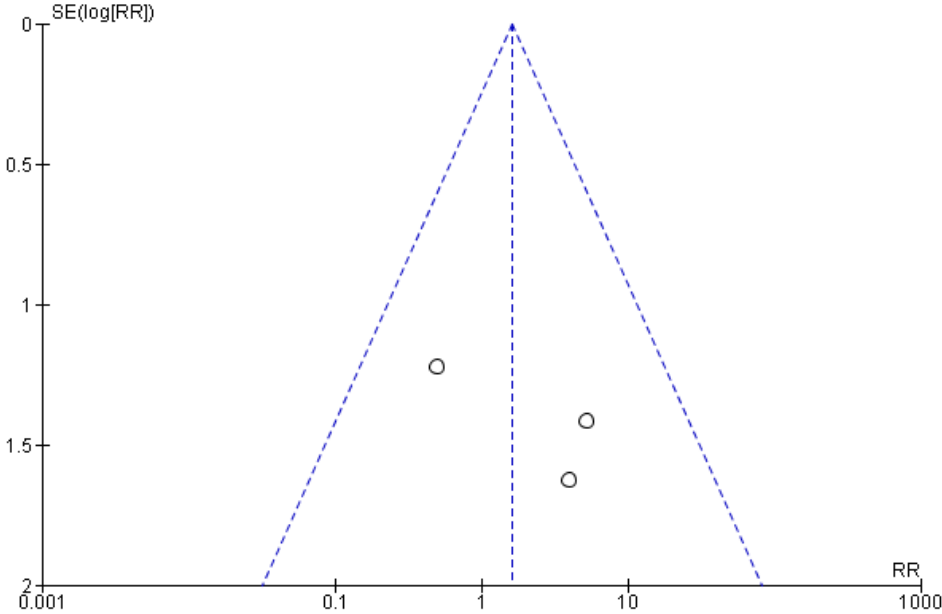Figure S6. Funnel plot of studies reporting tamponade.

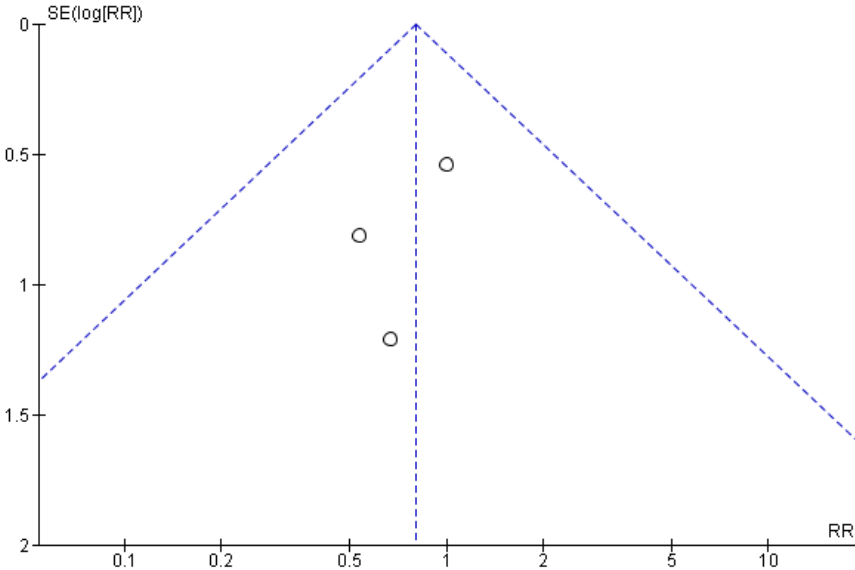Figure S7. Funnel plot of studies reporting slow-/no-reflow phenomenon.

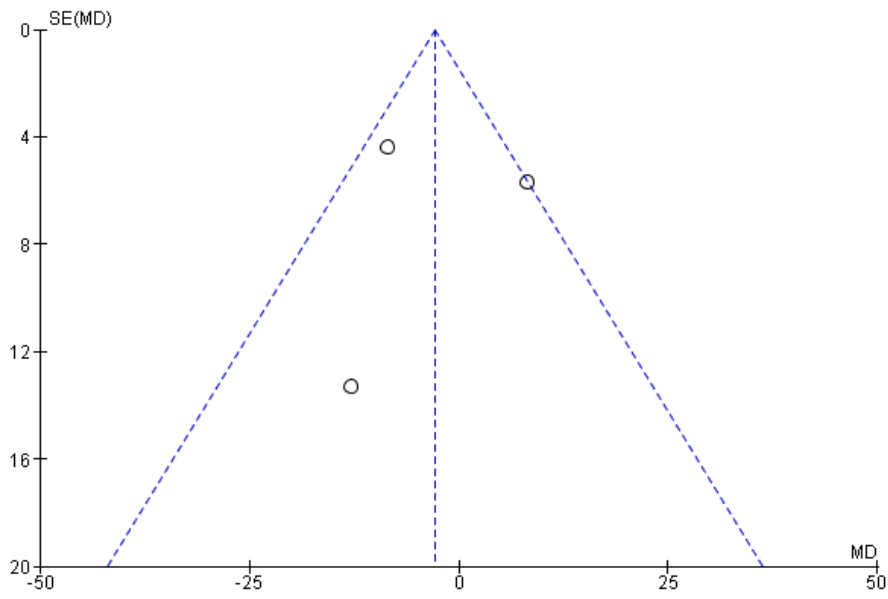Figure S8. Funnel plot of studies reporting contrast use.

Figure S9. Funnel plot of studies reporting fluoroscopy time.