Supplementary Table 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) checklist[1]

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	4
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	6
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	7
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	7-8
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.	7
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.	7-8
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.	8
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.	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.	8
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.	9-10
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.	9
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)).	9
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	9
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	9
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the mod-	9

Section and Topic	Item #	Checklist item	Location where item is reported
		el(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	9
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	9
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	9-10
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	10
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.	10
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	10
Study characteristics	17	Cite each included study and present its characteristics.	10-11
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	12
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.	11-12
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	11-12
	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.	11-12
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	11-12
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	11-12
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	12-13
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	13
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	13-17
	23b	Discuss any limitations of the evidence included in the review.	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			

Section and Topic	Item #	Checklist item	Location where item is reported
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	7
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	7
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	20
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	2
Competing inter-ests	26	Declare any competing interests of review authors.	2
Availability of data, code and other materials	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.	20

Supplementary Table 2. Eligibility criteria of the included studies

Author (year)	Inclusion criteria	Exclusion criteria
Arrayeah et al., 2012 [2]	Consecutive patients with non-variceal upper GI haemorrhage referred for angiography with a view to embolization during 12 years between 1997 and 2009 were included. Diagnosis of upper GI bleeding was established by upper endoscopy in all patients	Patients with varices on upper endoscopy were excluded.
Dixon et al., 2013 [3]	A retrospective review of consecutive patients was conducted who underwent catheter angiography for major NVUGIH at our institution between May 2008 and November 2010. A total of 41 procedures were performed on 40 patients with NVUGIH of duodenal origin	No data
Kaminskis et al., 2019 [4]	After admission, all patients with evidence of UGIB underwent endoscopic combination therapy followed by a 72-h infusion of esomeprazole. Patients at high risk for rebleeding and were not candidates for emergent surgical intervention due to a critical comorbid status were selected for preventive TAE within 24 h of a successful primary endoscopic hemostasis.	No data
Kaminskis et al., 2017 [5]	Preventive visceral angiography and TAE were performed on patients with acute NVUGIB who were considered to be at a high risk of recurrent bleeding after endoscopic hemostasis, according to the evidence of Forest I-IIb ulcer and Rockall score ≥ 5. The comparison group consisted of similar patients (with a similar prognosis of high rebleeding risk after endoscopic hemostasis and similar comorbid conditions) who underwent only endoscopic hemostasis who did not agree to preventive TAE with.	Terminal end-stage renal disease.
Lau et al., 2019 [6]	After endoscopic haemostasis,	Pregnant or lactating pa-

	patients were invited to participate in the trial if one or more of the following criteria were met. These were: (1) spurting haemorrhage during endoscopy; (2) ulcers 20mm in size or larger; (3) haemoglobin on the admission of <9g/dL; (4) signs of haemorrhagic shock before or during endoscopy defined by systolic pressure of <90mm Hg and pulse rate of >110 beats per minute.	tients, those aged less than 18, patients dying from terminal malignant diseases or other end-stage illnesses with a limited life expectancy and those with known allergy to intravenous contrast, patients with a serum creatinine of 300 μmol/L or more with the concern of contrast nephropathy.
Laursen et al., 2013 [7]	High-risk peptic ulcer bleeding was defined as bleeding from ulcers classified as Forrest I – IIb.	Patients with endoscopy-refractory bleeding, cancer found at upper endoscopy, or end-stage renal disease were excluded.
Lebedev et al.,2017 [8]	Indications for endovascular hemostasis were the following criteria:1) clinical and laboratory picture of massive blood loss accompanied by unstable hemodynamics 2) high risk of recurrent bleeding assessed on the SPRK scale 3) the patients' condition raised concerns about the favourable outcome of the surgical intervention.	No data
Mille et al., 2015 [9]	Inclusion criteria were clinical signs of upper GI bleeding (hematemesis, coffee-ground emesis, hematochezia, or melena) and the presence of a duodenal ulcer on endoscopy. In general, prophylactic TAE was only considered when the ulcer was located in the posterior duodenal bulb, bleeding stigmata (Forrest I to IIc) were present, and a Rockall Score ≥ 6 was estimated. If patients exhibited at least one endoscopic as well as one clinical risk factor, then they were defined as high-risk patients, and prophylactic TAE of the GDA was performed.	Patients with additional extra-duodenal ulcers or bleeding sources were excluded
Sildiroglu et al., 2014 [10]	Patients with UGINH who underwent angiography with or without embolotherapy were included in the review.	Patients with venous/variceal, posttraumatic, iatrogenic causes of upper GI bleeding and patients with a history of prior inter-

		ventional and/or surgical procedures were excluded.
Tong et al., 2020 [11]	Some patients with Forrest Ia and IIa ulcers received PAE, whereas none of the patients with Forrest Ib ulcer received PAE due to the doctors questioning that Forrest Ib ulcers have a high rebleeding risk.	No data.
Wu et al., 2014 [12]	Patients who were deemed at extreme risk of rebleeding were sent for prophylactic arterial embolization following successful endoscopic haemostasis.	No data.
Ying et al., 2013 [13]	No data.	No data.
Ying et al., 2014 [14]	No data.	Bleeding from oesophagal and gastric varices was ruled out by endoscopy.
Yonemoto et al., 2018 [15]	No data.	No data.

GDA: gastroduodenal artery, GI: gastrointestinal, NVUGIH: non-variceal upper gastrointestinal haemorrhage, NVUGIB: nonvariceal upper gastrointestinal bleeding; PAE: prophylactic arterial embolization, UGINH: upper gastrointestinal non-variceal haemorrhage, TAE: transcatheter arterial embolization

Supplementary Table 3.: Detailed information about endoscopic treatment, prophylactic arterial embolization, standard of care and the definition of rebleeding in the included studies

Author, Year	Endoscopy	PTAE	PTAE success rate	Adverse events in PTAE group (n of patients)	Standard of care	Rebleeding
Arrayeah et al., 2012 [2]	Diagnosis of upper GI hemorrhage was established by upper endoscopy in all patients. No data about the endoscopic treatment.	Referral for angiography was made if hemorrhage could not be controlled by endoscopic intervention. group 1 = no abnormality, no embolization; group 2 = no abnormality, embolization performed (empiric embolization = PTAE)	ND	0	admission to the intensive care unit, baseline coagulopathy and severe thrombocytopenia was corrected	within 30 days
Dixon et al., 2013 [3]	No data about the endoscopic treatment.	Empiric embolization refers to patients where the bleeding territory is known from previous endoscopic or surgical findings but was not identified by catheter angiography, and who undergo embolization of the assumed arterial	Clinical success was defined as a combination of technically successful embolization with an improvement in the patients hemoglobin, no evidence of further hemorrhage (or decrease in hemoglobin) after embolization, and	ND	ND	in-hospital

		territory.	no requirement for further intervention within the first 4 weeks of embolization.			
Kaminskis et al., 2019 [4]	Endoscopic combination therapy (injection of diluted adrenaline 1:10,000, treatment with a heater probe, and/or hemoclip).	Patients who were at high risk for rebleeding and were not candidates for emergent surgical intervention due to a critical comorbid status were selected for PTAE within 24 h of a successful primary endoscopic hemostasis.	ND	ND	Endoscopic combination therapy followed by a 72-h infusion of esomeprozole (80 mg bolus followed by 8 mg/h) was applied to all patients. Patients were closely monitored at ICU.	Rebleeding was defined as a presence of hematemesis, blood from the nasogastric tube, or melena associated with a fall in haemoglobin of more than 0.8 g/dl (not explained by hemodilution) or arterial hypotension after primary endoscopy. No mentioning of measurement time point.
Kaminskis et al., 2017 [5]	Endoscopic combination therapy (injection of diluted adrenaline 1:10,000, treatment with a heater probe, and/or hemoclip).	High risk of recurrent bleeding after endoscopic haemostasis according to the evidence of Forest I-IIb ulcer and Rockall score ≥ 5 (PAE+ group).	ND	ND	Endoscopic combination therapy followed by a 72-h infusion of esomeprazole (80 mg bolus followed by 8 mg/h) was applied to all patients.	Rebleeding was defined as a presence of hematemesis, blood from the nasogastric tube, or melena associated with a fall in haemoglobin of more than 0.8 g/dl (not explained by hemodilution) or arterial hypotension after primary endoscopy. No mentioning of

						measurement time point.
Lau et al., 2019 [6]	Endoscopic treatment in the form of haemoclipping or thermocoagulation with or without preinjection with diluted epinephrine	Patients randomised to receive added angiographic embolization received the procedure as soon as possible and within 12 hours after endoscopic therapy.	ND	0	Patients in both groups received a bolus intravenous injection of PPI 80mg followed by an infusion of 8mg per hour for 3 days. *Helicobacter pylori* eradication therapy was started on day 4 after randomisation. In patients on aspirin or warfarin, these drugs were restarted on day 4.	Recurrent clinical bleeding defined by fresh haematemesis, melena or haematochezia and/or signs of hypovolaemic shock (systolic blood pressure of <90mm Hg and pulse rate >110 per min) or a drop in haemoglobin of >2g/dL per 24hours despite transfusion to around 8g/dL.; within 30 days
Laursen et al., 2013 [7]	Endoscopic combination therapy (injection of diluted adrenaline 1:10,000, treatment with heater probe, and/or hemoclips).	PTAE within 24 h after primary endoscopy.	ND	1: abdominal pain because of displacement of a coil	Endoscopic combination therapy followed by 72 h infusion of esomeprazole (80 mg bolus followed by 8 mg/h) was applied in all patients. A hemoclip was placed in the edge of the ulcer at primary endoscopy in order to ensure that the relevant artery was identified in patients receiving PTAE. Blood transfusion was given if Hemoglobin was lower than 9.7 g/dl. Patients	Rebleeding was defined as presence of hematemesis, blood per nasogastric tube, or melaena associated with a fall in B-Hemoglobin of more than 0.8 g/dl (not explained by hemodilution) or arterial hypotension after primary endoscopy.; within 30 days

					were closely monitored at a specialized gastrointestinal bleeding unit for a minimum of three day.	
Lebedev et al., 2017 [8]	Upon admission, all patients underwent esophago-gastroduodenoscopym and endoscopic haemostasis if necessary. treatment: argon plasma coagulation with adrenaline injection; adrenaline injection or glue application.	Indications for endovascular hemostasis were the following criteria:1) clinical and laboratory picture of massive blood loss accompanied by unstable hemodynamics 2) high risk of recurrent bleeding assessed on the SPRK scale 3) the patients' condition raised concerns about the favourable outcome of the surgical intervention.	technical succsess rate:25/30 (83.3%)	0	after 2005: proton pump inhibitors (80 mg bolus followed by 8 mg/h for at least 3 days) *H. pylori* eradication therapy	within 30 day
Mille et al., 2015 [9]	Emergency endoscopy was performed in all patients. Endoscopic hemostasis was performed with epinephrine injection (diluted 1:10 000), fibrin glue, hemoclips, or a combination of these.	PTAE for the prevention of rebleeding after initial successful endoscopic haemostasis.	Prophylactic TAE of the GDA was successful in 54 of 55 patients, giving a technical success rate of 98%.	In the prophylactic TAE group, 8 minor and 2 major complications occurred.	In addition, 80 mg pantoprazole were administered as an intravenous (IV) bolus before initial endoscopy in patients with clinical signs of UGIB and shock. All other patients received pantoprazole 80 mg IV	Rebleeding was defined as a new bleeding episode with clinically apparent signs of UGIB, confirmed by repeat endoscopy, and a decrease in hemoglobin of >1.2 mmol/L in 24 hours.

					bolus after endoscopic treatment. In all patients pantoprazole was continued at 40 mg IV every 12 hours for at least 24 hours and was ultimately transitioned to oral administration of the same dosage.	Rebleeding was also classified into early (< 30 d) and late (> 30 d) events.
Sildiroglu et al., 2014 [10]	The initial diagnosis of the etiology of upper GI bleeding was determined by endoscopy, tagged red blood cell bleeding scan, and/or contrast-enhanced computed tomography . No data about the endoscopic treatment.	In selected cases, if endoscopy visualized a potential site for bleeding, prophylactic embolization was attempted without visualization of active bleeding on angiography.	The technical success of endovascular treatment was defined as the immediate cessation of GI bleeding demonstrated by completion angiography. Clinical success was defined as no rebleeding within 30 days of successful embolotherapy. For the prophylactic embolization group, technical success was 100% (n= 18/18).	No major complication was encountered related to any diagnostic angiogram and intervention. There were 3 minor complications, which included coil misplacements (n= 2), which were retrieved successfully during the same procedure, and a groin hematoma (n= 1).	ND	Rebleeding was defined as the recurrence of clinical signs of upper GI bleeding (or a hemoglobin drop of ≥ 2 g/dL) requiring immediate medical, endovascular, endoscopic, or surgical therapy. Early rebleeding was defined as the recurrence of bleeding within 30 days of angiography. Long-term rebleeding was defined as the recurrence of bleeding for >30 days after angiography.
Tong et al., 2020 [11]	No data about the endoscopic treatment.	Some patients with Forrest Ia and IIa ulcers received PAE, whereas none	ND	ND	ND	within 28 days

		of patients with Forrest Ib ulcer received PAE due to the doctors questioning that Forrest Ib ulcers have a high rebleeding risk.				
Wu et al., 2014 [12]	No data about the endoscopic treatment.	Patients with extreme risk of rebleeding were sent for prophylactic arterial embolization following successful endoscopic haemostasis.	ND	ND	iv. PPI	within 30 days
Ying et al., 2013 [13]	Gastroscopy was performed, no data about the endoscopic treatment.	After 3-5 days from admission, PTAE was performed.	Incomplete haemostasis in 4 patients out of 33 who received PTAE.	bradycardia:1	Internal medicine conservative treatment (not specified).	No mentioning of measurement time point.

GDA: gastroduodenal artery, GI: gastrointestinal, ICU: intensive care unit, NVUGIH: non-variceal upper gastrointestinal haemorrhage, ND: no data, NVUGIB: nonvariceal upper gastrointestinal bleeding; PAE: prophylactic arterial embolization, PPI: proton pump inhibitor, PTAE: prophylactic transcatheter arterial embolization, UGIB: upper gastrointestinal bleeding, UGINH: upper gastrointestinal non-variceal haemorrhage, TAE: transcatheter arterial embolization

Supplementary Table 4.: Summary of findings and quality of evidence

Outcomes	Anticipated absolute effects† (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Risk without PTAE	**Risk with PTAE**				
Rebleeding	203 per 1 000	**109 per 1 000** (69 to 166)	**OR 0.48** (0.29 to 0.78)	1329 (12 studies)	⊕◯◯◯ VERY LOW [a]	PTAE reduces the odds of rebleeding compared with control group, the difference is statistically significant.
Rebleeding in RCT subgroup	127 per 1 000	**78 per 1 000** (38 to 154)	**OR 0.58** (0.27 to 1.25)	412 (3 studies)	⊕⊕⊕◯ MODERATE [c,i]	PTAE reduces the odds of rebleeding in the RCT subgroup compared with control group, the difference is not statistically significant.
30-day Mortality	92 per 1 000	**77 per 1 000** (38 to 148)	**OR 0.82** (0.39 to 1.72)	548 (5 studies)	⊕◯◯◯ VERY LOW [b,c]	There was no significant difference in 30-day mortality rates between PTAE and control group.
Need for reintervention	194 per 1 000	**103 per 1 000** (69 to 154)	**OR 0.48** (0.31 to 0.76)	1020 (7 studies)	⊕◯◯◯ VERY LOW [d]	Patients who underwent PTAE treatment, were less likely to need any kind of reintervention caused by rebleeding, compared to control group. The difference is statistically significant.
Need for surgery	168 per 1 000	**66 per 1 000** (27 to 156)	**OR 0.35** (0.14 to 0.92)	890 (5 studies)	⊕◯◯◯ VERY LOW [e,f]	The chance for rescue surgery is 0.36 times smaller in the intervention group, compared with the control group. The result is statistically significant.
Hospital stay		MD **3.77 days fewer** (8 fewer to 0.45 more)	-	820 (4 studies)	⊕◯◯◯ VERY LOW [c,g]	There was no significant difference in the length of hospital stay between the two groups.
Red blood cell transfusion		MD **1.49 blood unit more** (0.05 more to 2.94 more)	-	817 (4 studies)	⊕◯◯◯ VERY LOW [g,h]	The PTAE group needed more units of blood transfusion, than the control group.
ICU stay		MD **1.33 days fewer** (2.84 fewer to 0.18 more)	-	715 (3 studies)	⊕◯◯◯ VERY LOW [c,g]	There was no significant difference in the length of ICU stay between the two groups.

†**The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).
CI: Confidence interval; **OR:** Odds ratio; **MD:** Mean difference

GRADE Working Group grades of evidence
High certainty: We are very confident that the true effect lies close to that of the estimate of the effect**. Moderate certainty:** We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different. **Low certainty:** Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect**. Very low certainty:** We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

Explanations
a. According to Robins-I risk of bias assessment tool, 4 studies had low risk of bias, 6 studies had moderate and 2 had serious risk of bias. b. According to Robins-I risk of bias assessment tool, 2 studies had low, 2 studies had moderate, and 1 study had serious risk of bias. c. The CI crosses the clinical decision threshold between recommending and not recommending treatment. d. According to Robins-I risk of bias assessment tool, 3 studies had low, 2 studies had moderate, and 1 study had serious risk of bias. e. According to Robins-I risk of bias assessment tool, 3 studies had low, 1-1 study had moderate and serious risk of bias. f. I-squared = 44.1%, p = 0.128. g. considerable heterogeneity. h. According to Robins-I risk of bias assessment tool, one study had serious risk of bias. i. Optimal information size was not reached.

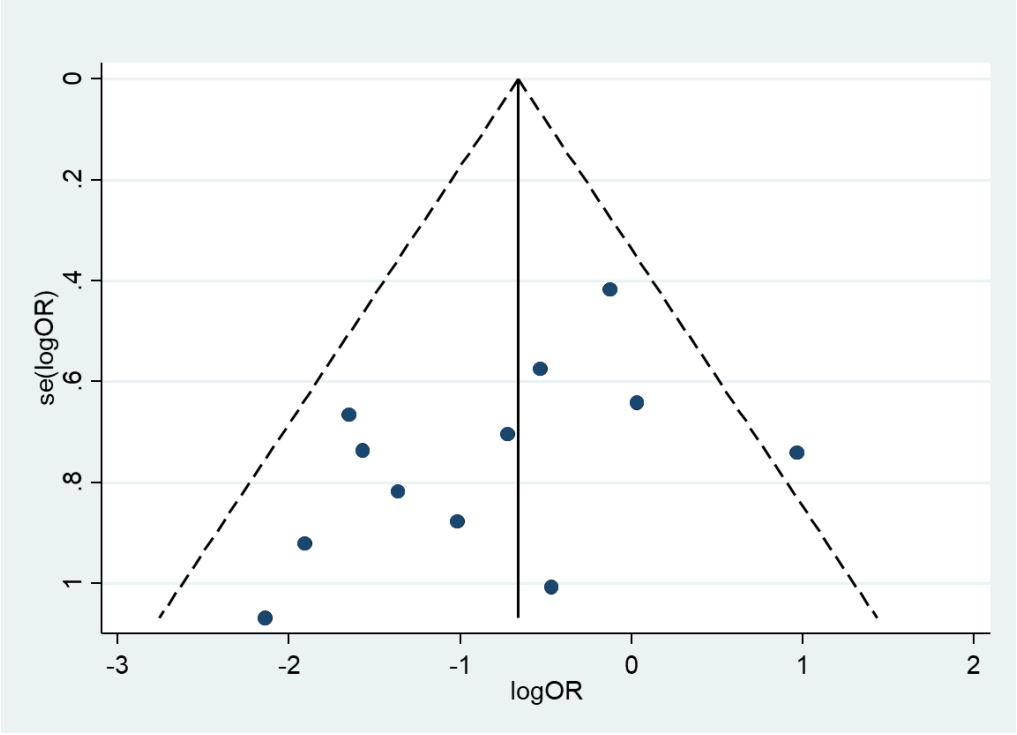
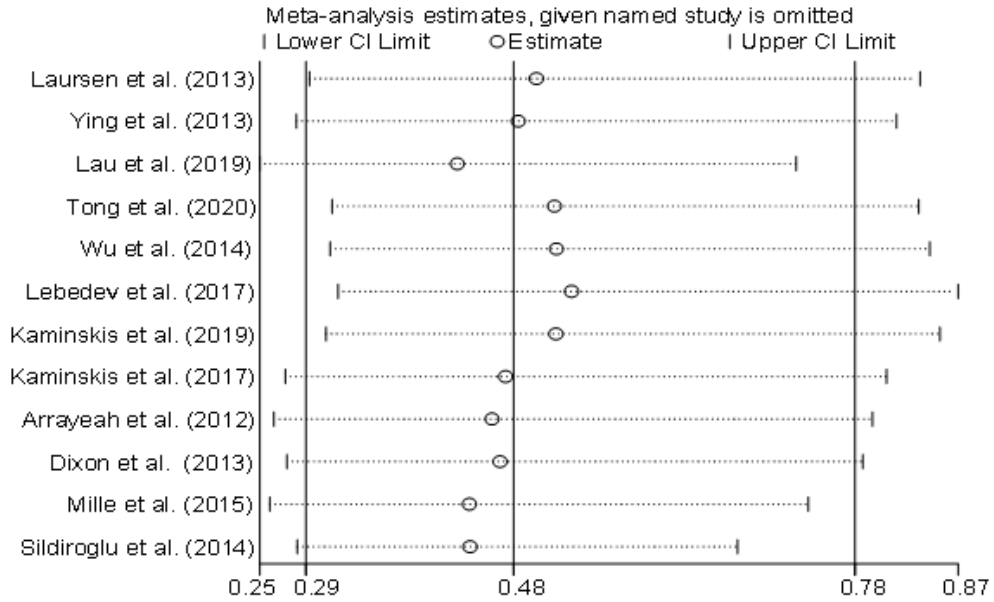


Figure S1: Funnel plot of studies reporting about rebleeding, Egger's test p=0.097



Study omitted	Estimate	[95% Conf.	Interval]
Laursen et al. (2013)	.49630755	.29300055	.84068507
Ying et al. (2013)	.48003083	.28115308	.81958765
Lau et al. (2019)	.42537555	.24797575	.72968572
Tong et al. (2020)	.51263225	.31291866	.83980882
Wu et al. (2014)	.51426351	.31125769	.84967208
Lebedev et al. (2017)	.5278824	.3184728	.87498778
Kaminskis et al. (2019)	.51384187	.3075313	.858558
Kaminskis et al. (2017)	.46860525	.27088633	.81063849
Arrayeah et al. (2012)	.45639053	.26093018	.79826832
Dixon et al. (2013)	.46379158	.2725251	.78929466
Mille et al. (2015)	.43630859	.25710049	.74043101
Sildiroglu et al. (2014)	.43683389	.28185126	.67703742
Combined	.47584651	.28940543	.78239685

Figure S2: Leave-one-out analysis showed no major change in the overall odds of rebleeding

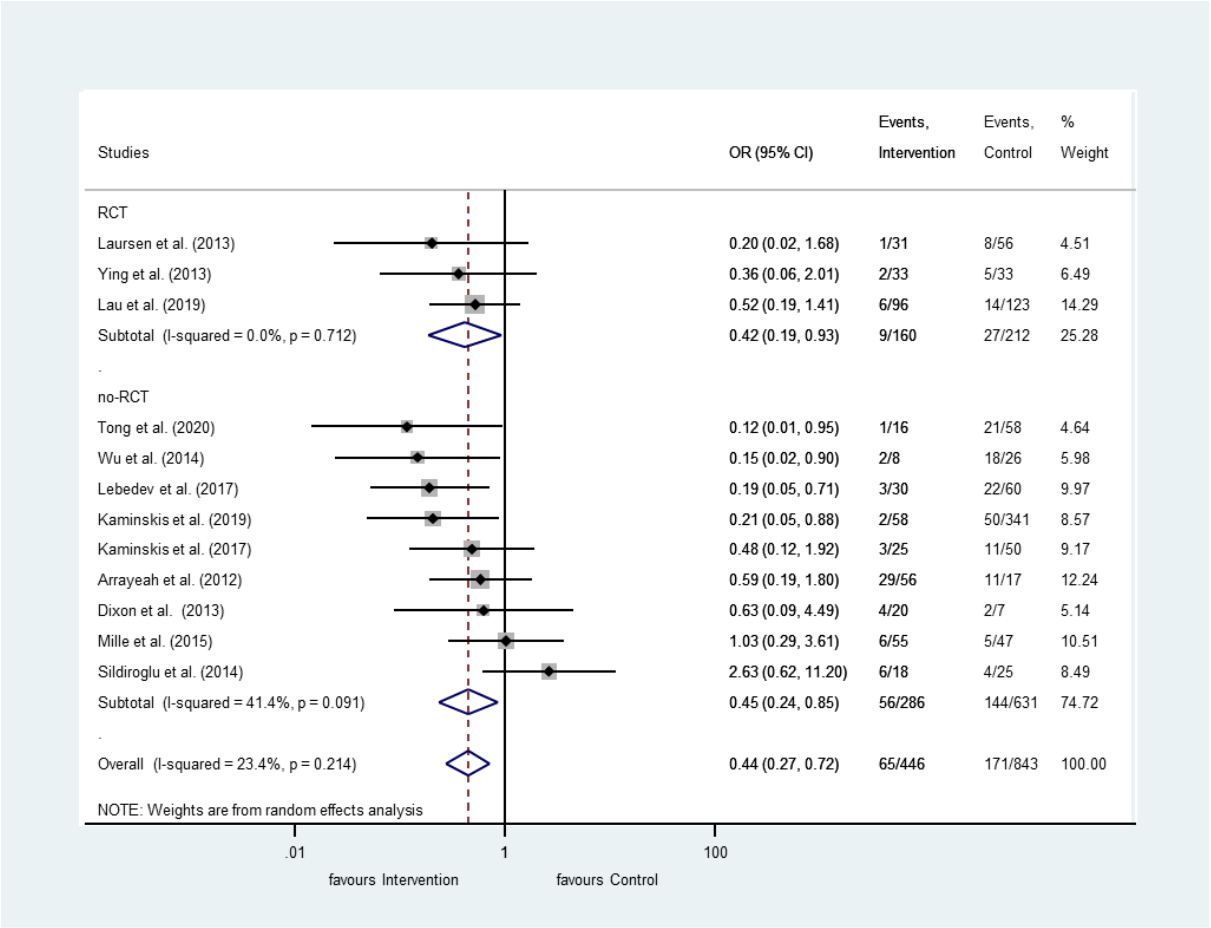


Figure S3: Per-Protocol analysis of randomized controlled trials and Forest plot of studies divided into subgroups representing that the odds of rebleeding were significantly lower in the prophylactic transcatheter arterial embolization group. RCT: randomized controlled trial

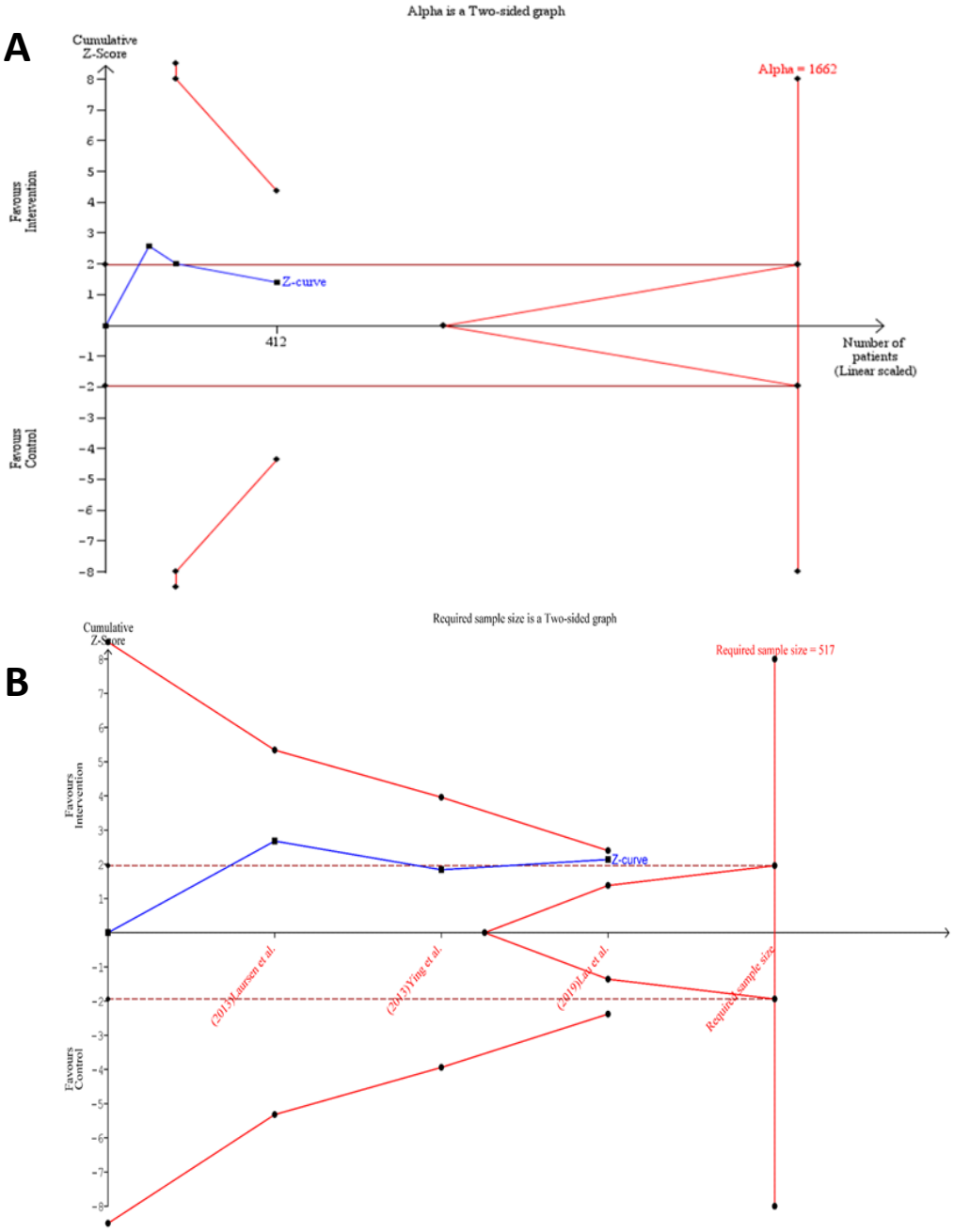


Figure S4A and 4B: Trial sequential analysis for rebleeding using A) intention-to-treat B) per-protocol data

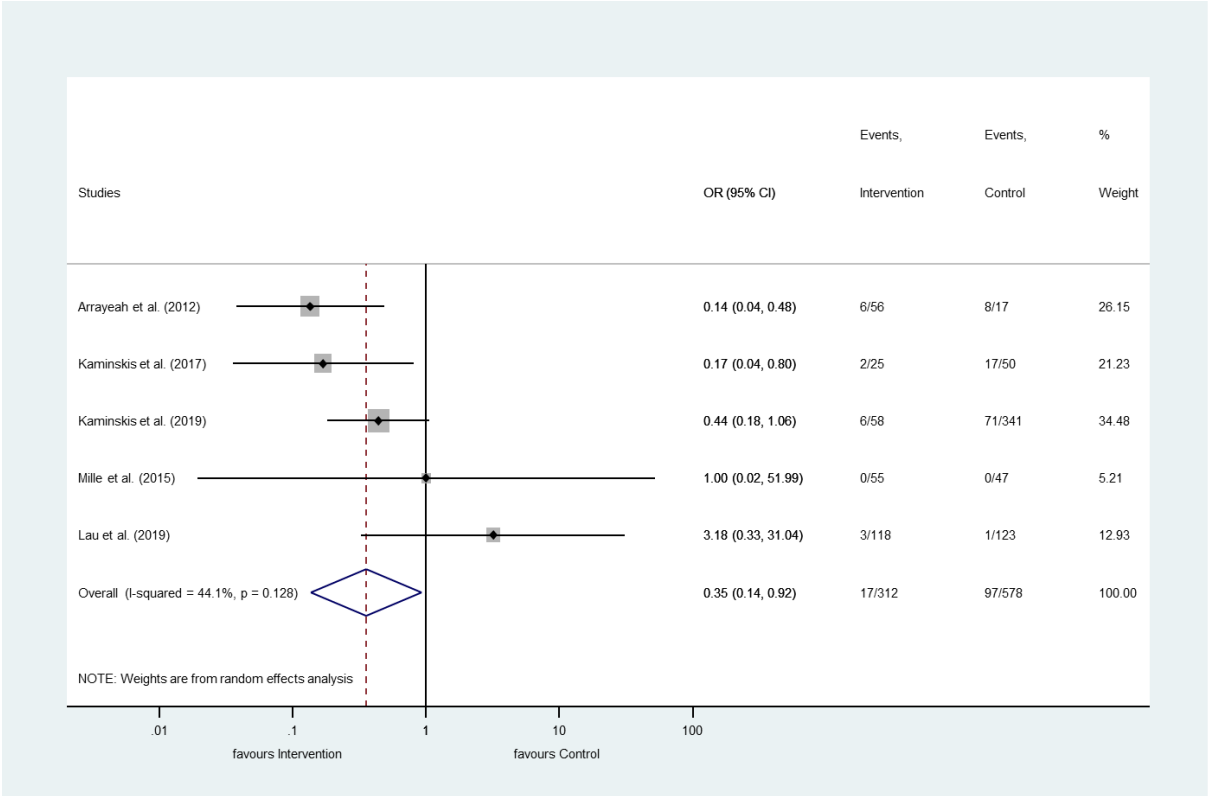
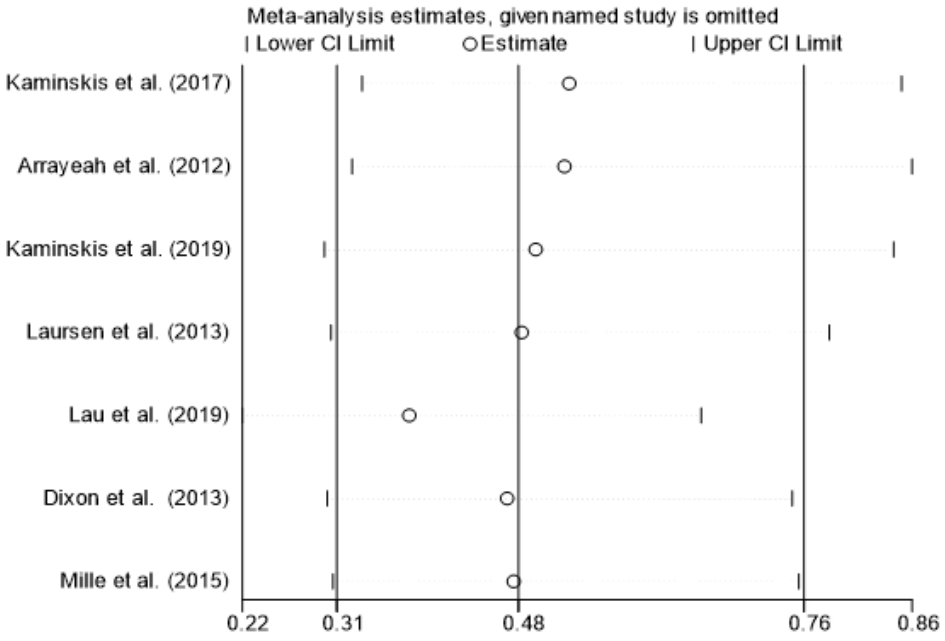
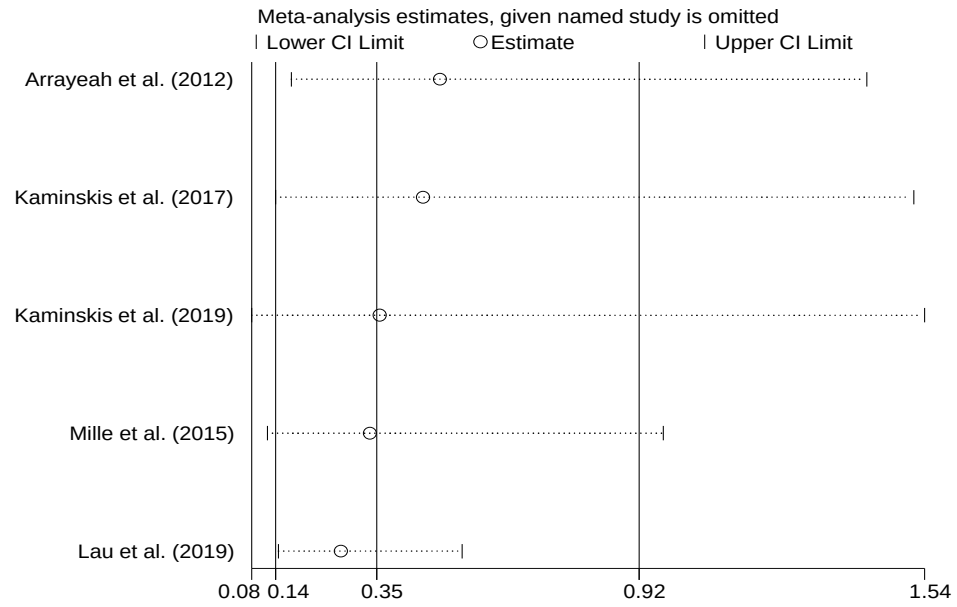


Figure S5: Forest plot of studies representing significantly lower odds of rescue surgery in the prophylactic transcatheter arterial embolization than the control group. OR: Odds ratio, CI: confidence interval



Study omitted	Estimate	[95% Conf.	Interval]
Kaminskis et al. (2017)	.53193355	.33140531	.85379827
Arrayeah et al. (2012)	.52734381	.32184985	.86404115
Kaminskis et al. (2019)	.49952352	.29488802	.84616446
Laursen et al. (2013)	.48595738	.30128744	.78381819
Lau et al. (2019)	.37711477	.21553245	.65983361
Dixon et al. (2013)	.4718827	.29772982	.74790388
Mille et al. (2015)	.47818574	.30314729	.75429213
Combined	.48284111	.30701904	.75935205

Figure S6: Leave-one-out analysis showed no major change in the overall odds of reintervention



Study omitted	Estimate	[95% Conf.	Interval]
Arrayeah et al. (2012)	.49151051	.17086574	1.4138738
Kaminskis et al. (2017)	.45511144	.13667059	1.5155157
Kaminskis et al. (2019)	.36146095	.08491237	1.5386926
Mille et al. (2015)	.34012663	.11870601	.9745599
Lau et al. (2019)	.27762926	.14282382	.5396719
Combined	.35496192	.13668735	.92179686

Figure S7: Leave-one-out analysis showed no major change in the overall odds of rescue surgery

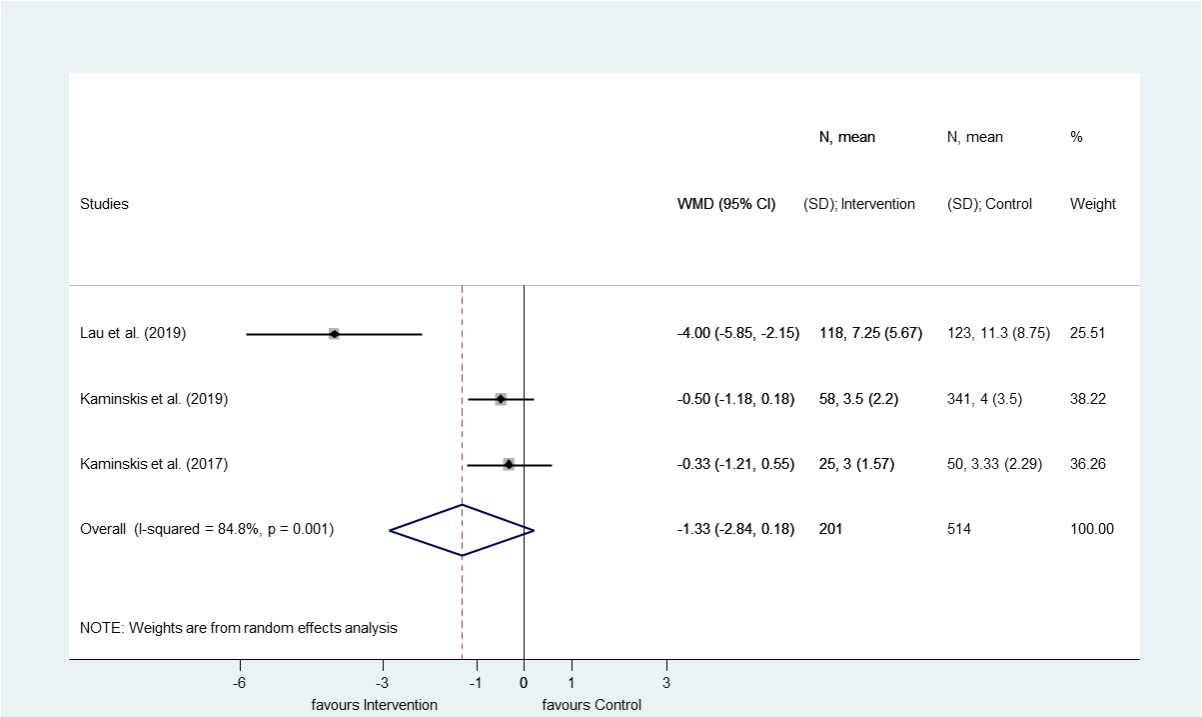


Figure S8: Forest plot of studies representing no significant difference in intensive care unit stay between the prophylactic transcatheter arterial embolization and the control group. WMD: weighted mean difference, SD: standard deviation

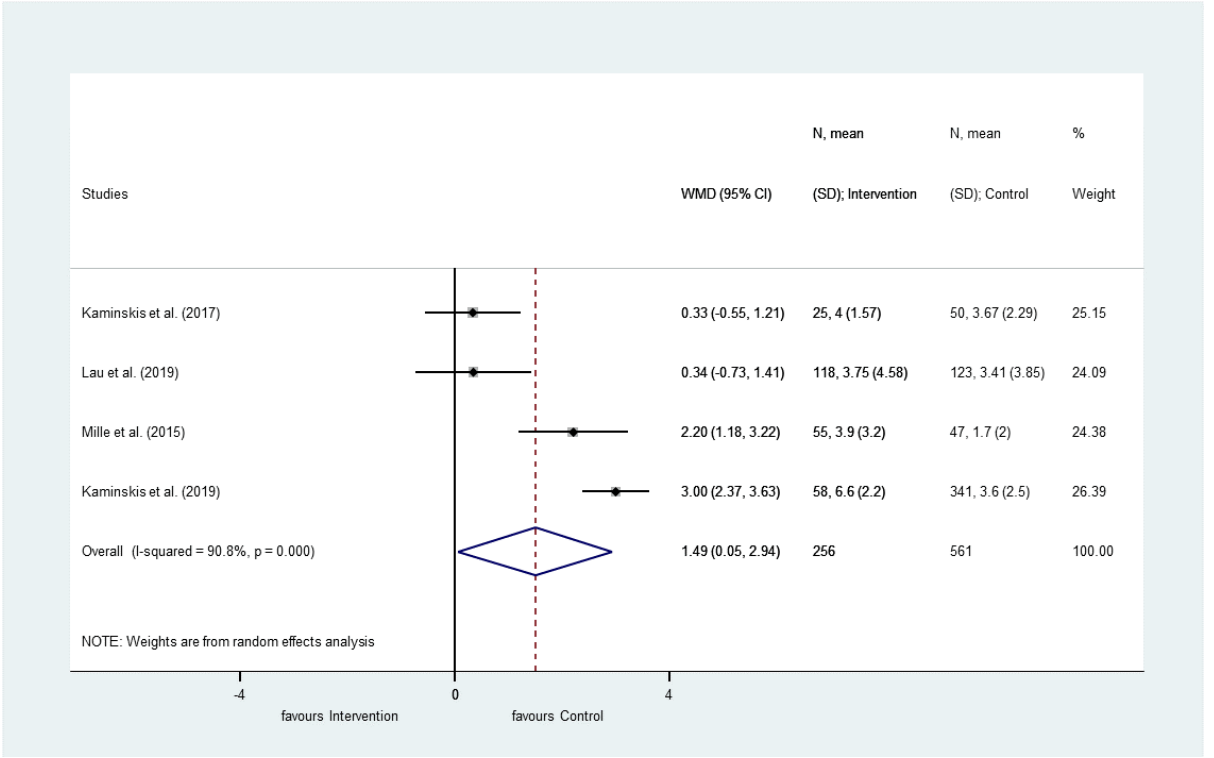
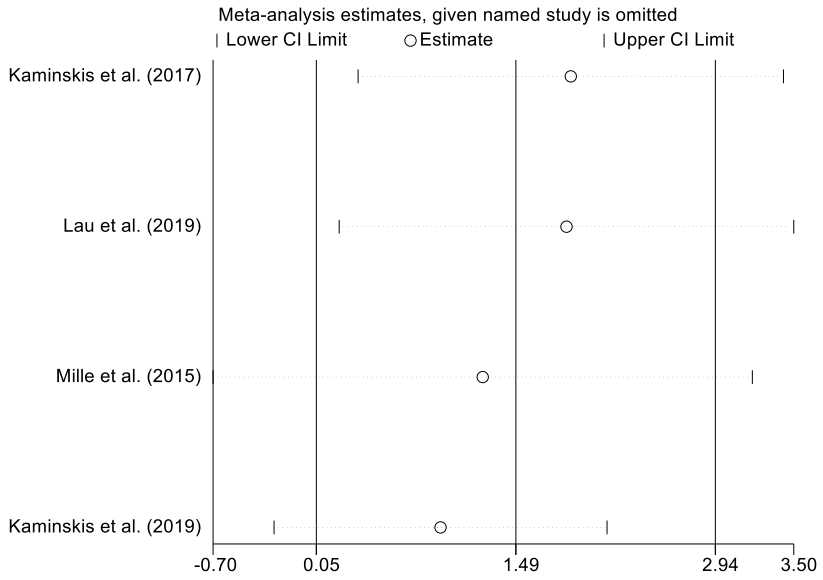


Figure S9: Forest plot of studies representing that the prophylactic transcatheter arterial embolization group needed more units of red blood cell transfusion than the control group. WMD: weighted mean difference, SD: standard deviation



Study omitted	Estimate	[95% Conf.	Interval]
Kaminskis et al. (2017)	1.8901792	.35241893	3.4279394
Lau et al. (2019)	1.8589538	.2155717	3.502336
Mille et al. (2015)	1.2533662	-.69618517	3.2029176
Kaminskis et al. (2019)	.94837362	-.25538129	2.1521285
Combined	1.4929279	.05053905	2.9353168

Figure S10: Leave-one-out analysis for red blood cell transfusion outcome

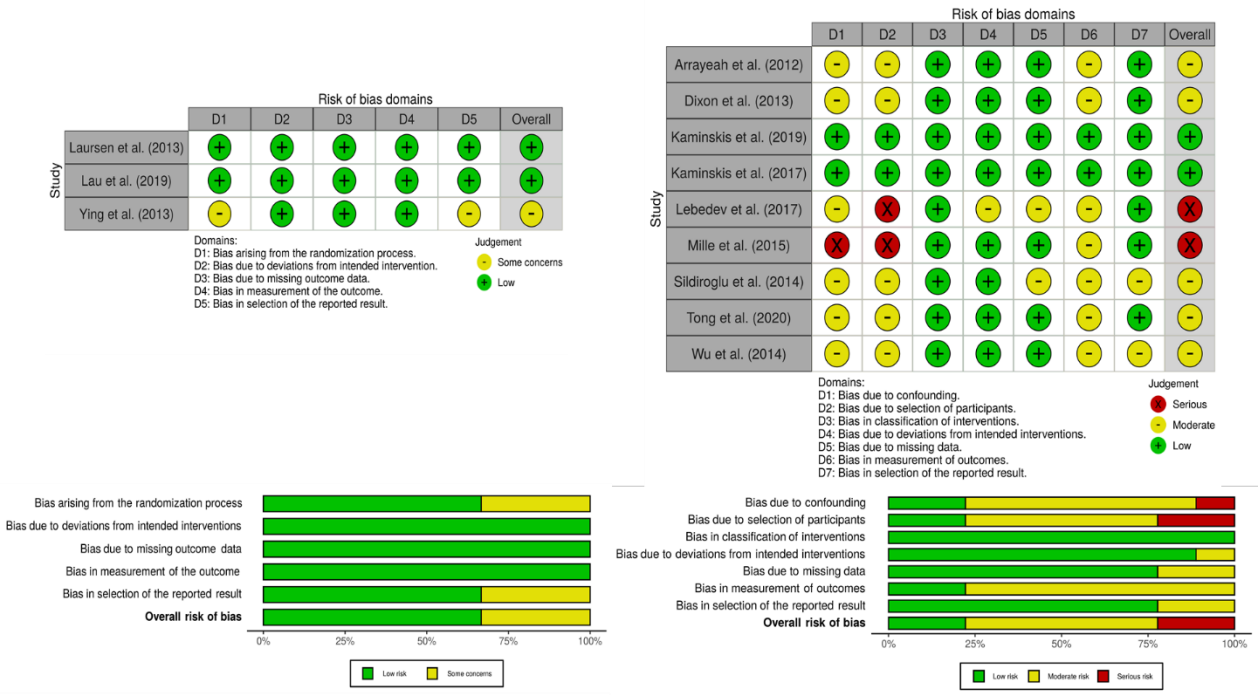


Figure S11: Risk of bias assessment at study and domain level for rebleeding, intention-to-treat analysis of the randomized controlled trials on the left side.

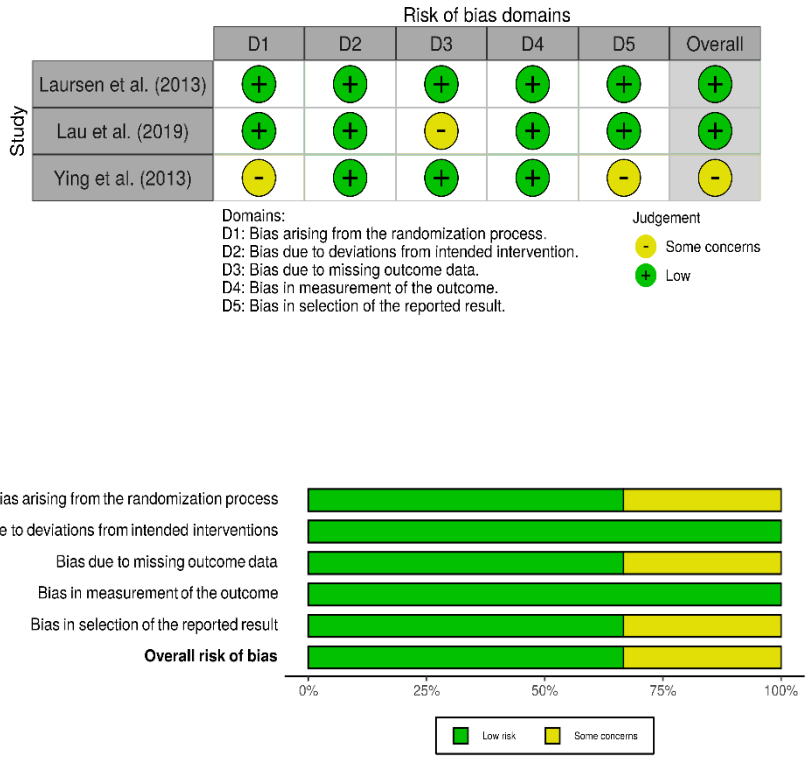


Figure S12 Risk of bias assessment at study and domain level for rebleeding in randomized controlled trials in case of per-protocol analysis

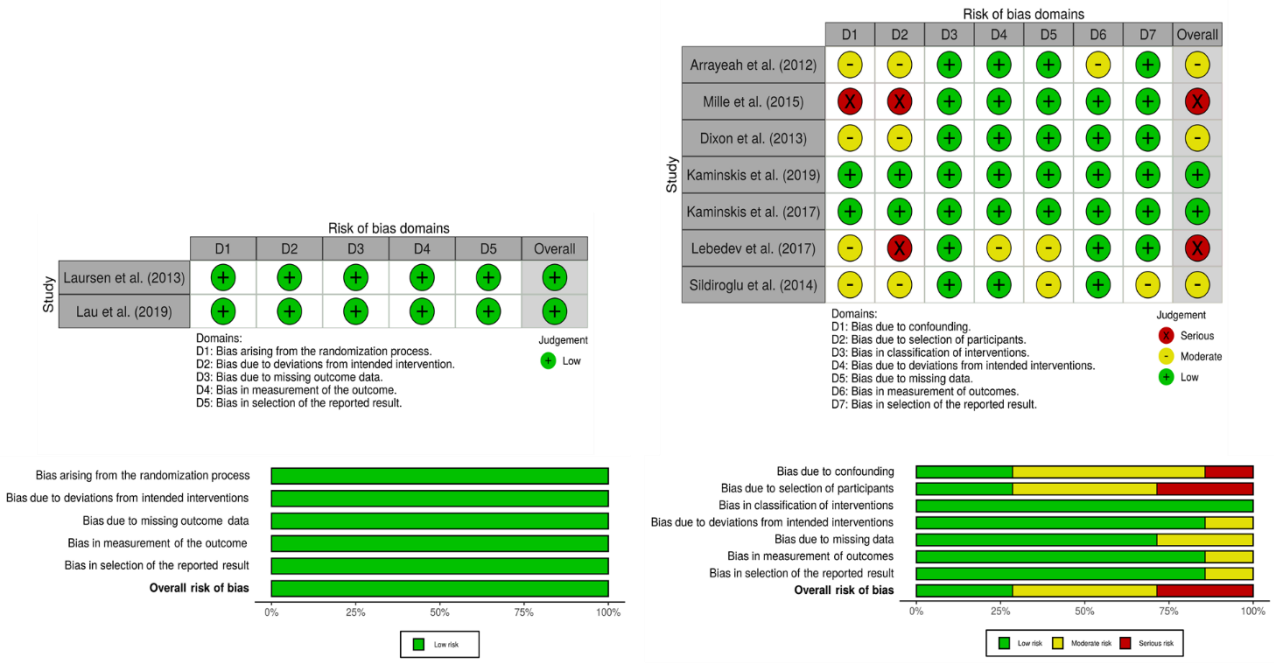


Figure S13: Risk of bias assessment at study and domain level for mortality

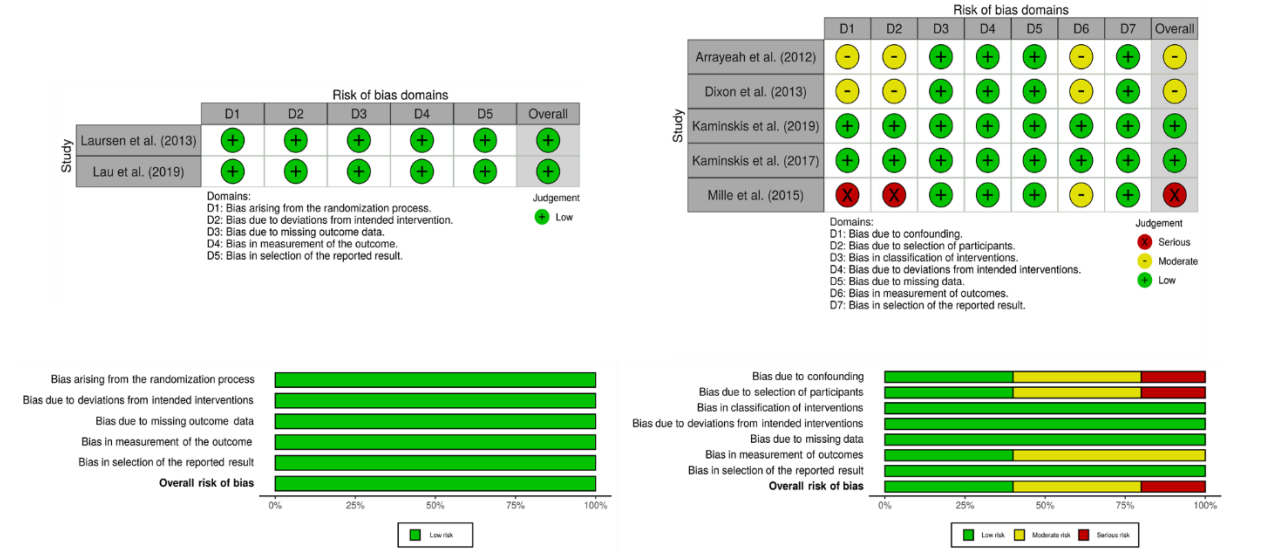


Figure S14: Risk of bias assessment at study and domain level for reintervention

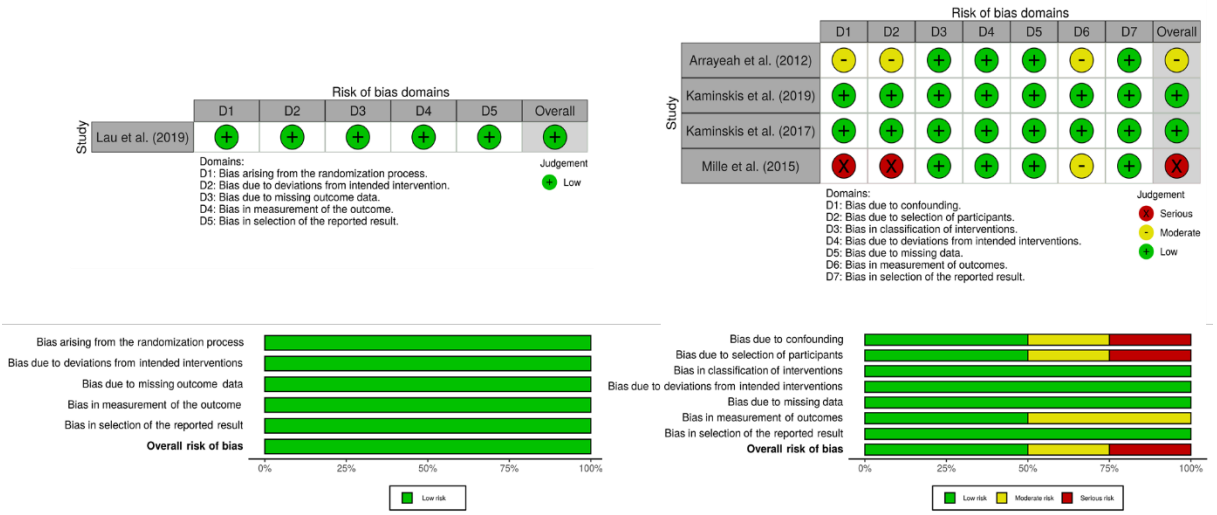


Figure S15: Risk of bias assessment at study and domain level for surgery

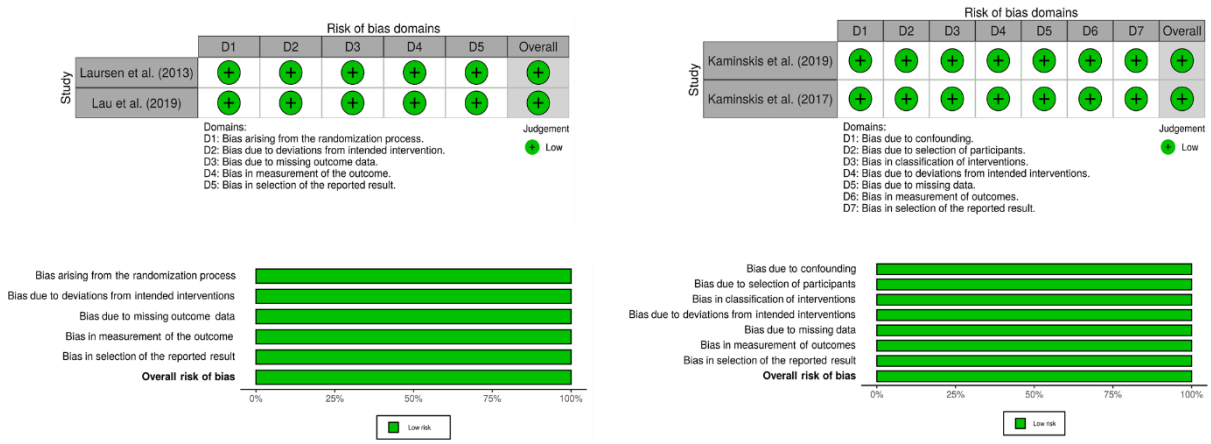


Figure S16: Risk of bias assessment at study and domain level for the length of hospital stay

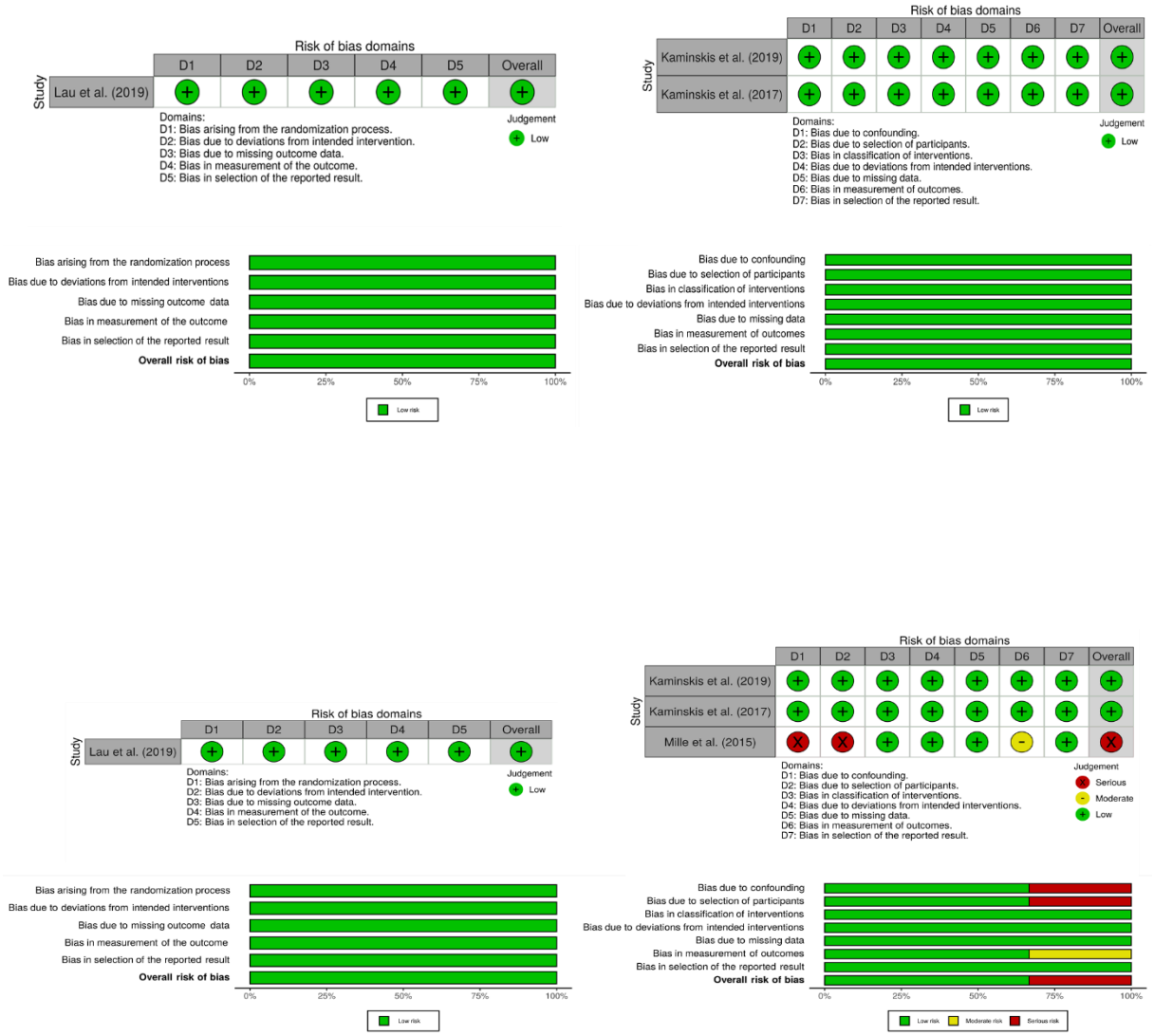


Figure S17: Risk of bias assessment at study and domain level for intensive care unit stay

Figure S18: Risk of bias assessment at study and domain level for red blood cell transfusion

Supplementary Appendix 1: Detailed search strategy

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