

**Supplementary table 1: Search strategy across databases**

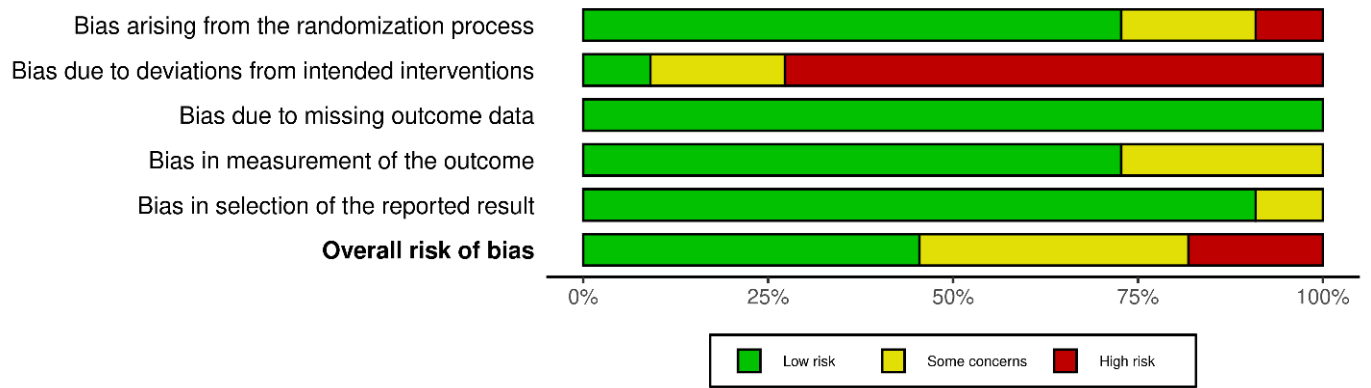
Database	Number of articles retrieved	Search strategy
Pubmed	408	((("Cancer-Associated Thrombosis" OR "CAT" OR "cancer-related thrombosis" OR "Malignancy-Associated Thrombosis" OR "Trousseau Syndrome" OR "Paraneoplastic Thrombosis" OR "Chemotherapy-Induced Thrombosis" OR "Immunotherapy-Associated Thrombosis" OR "venous thromboembolism in cancer" OR "pulmonary embolism in cancer" OR "Arterial thrombosis in cancer") AND ("direct oral anticoagulants" OR "non-vitamin K antagonist oral anticoagulants" OR "DOAC" OR "DOACs" OR "NOAC" OR "NOACs" OR "apixaban" OR "rivaroxaban" OR "edoxaban" OR "dabigatran" OR "Factor Xa Inhibitors"[Mesh]) AND ("low molecular weight heparin" OR "LMWH" OR "enoxaparin" OR "dalteparin" OR "tinzaparin" OR "Heparin, Low-Molecular-Weight"[Mesh]))
Embase	827	((("Cancer-Associated Thrombosis" OR "CAT" OR "cancer-related thrombosis" OR "Malignancy-Associated Thrombosis" OR "Trousseau Syndrome" OR "Paraneoplastic Thrombosis" OR "Chemotherapy-Induced Thrombosis" OR "Immunotherapy-Associated Thrombosis" OR "venous thromboembolism in cancer" OR "pulmonary embolism in cancer" OR "Arterial thrombosis in cancer") AND ("direct oral anticoagulants" OR "non-vitamin K antagonist oral anticoagulants" OR "DOAC" OR "DOACs" OR "NOAC" OR "NOACs" OR "apixaban" OR "rivaroxaban" OR "edoxaban" OR "dabigatran") AND ("low molecular weight heparin" OR "LMWH" OR "enoxaparin" OR "dalteparin" OR "tinzaparin"))
Scopus	442	TITLE-ABS-KEY ( ( ( "Cancer-Associated Thrombosis" OR "CAT" OR "cancer-related thrombosis" OR "Malignancy-Associated Thrombosis" OR "Trousseau Syndrome" OR "Paraneoplastic Thrombosis" OR "Chemotherapy-Induced Thrombosis" OR "Immunotherapy-Associated Thrombosis" OR "venous thromboembolism in cancer" OR "pulmonary embolism in cancer" OR "Arterial thrombosis in cancer" ) AND ( "direct oral anticoagulants" OR "non-vitamin K antagonist oral anticoagulants" OR "DOAC" OR "DOACs" OR "NOAC" OR "NOACs" OR "apixaban" OR "rivaroxaban" OR "edoxaban" OR "dabigatran" ) AND ( "low molecular weight heparin" OR "LMWH" OR "enoxaparin" OR "dalteparin" OR "tinzaparin" ) ) )
Science Direct	107	((("Cancer-Associated Thrombosis" OR "cancer-related thrombosis" OR "Trousseau Syndrome" OR "Chemotherapy-Induced Thrombosis") AND ("direct oral anticoagulants" OR "DOAC" OR "non-vitamin K antagonist oral anticoagulants") AND ("low molecular weight heparin" OR "LMWH"))
Cochrane	219	ID Search Hits #1 (Cancer-Associated Thrombosis):ti,ab,kw 139

		#2 (cancer-related thrombosis):ti,ab,kw 62
		#3 (Malignancy-Associated Thrombosis):ti,ab,kw 4
		#4 (Trousseau Syndrome):ti,ab,kw 2
		#5 (Paraneoplastic Thrombosis):ti,ab,kw 4
		#6 (Chemotherapy-Induced Thrombosis):ti,ab,kw 55
		#7 (venous thromboembolism in cancer):ti,ab,kw 1303
		#8 (pulmonary embolism in cancer):ti,ab,kw 851
		#9 (Arterial thrombosis in cancer):ti,ab,kw 177
		#10 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 2039
		#11 (direct oral anticoagulants):ti,ab,kw 963
		#12 (non-vitamin K antagonist oral anticoagulants):ti,ab,kw 186
		#13 (DOAC):ti,ab,kw425
		#14 (NOAC):ti,ab,kw344
		#15 (apixaban):ti,ab,kw 1354
		#16 (rivaroxaban):ti,ab,kw 2452
		#17 (edoxaban):ti,ab,kw 730
		#18 (dabigatran):ti,ab,kw 1216
		#19 MeSH descriptor: [Dabigatran] explode all trees 484
		#20 MeSH descriptor: [Rivaroxaban] explode all trees 984
		#21 MeSH descriptor: [Factor Xa Inhibitors] explode all trees 922
		#22 #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 5522
		#23 (low molecular weight heparin):ti,ab,kw 4168
		#24 (LMWH):ti,ab,kw 1742
		#25 (enoxaparin):ti,ab,kw 2623
		#26 (dalteparin):ti,ab,kw 825
		#27 (tinzaparin):ti,ab,kw 310
		#28 MeSH descriptor: [Tinzaparin] explode all trees 153
		#29 MeSH descriptor: [Dalteparin] explode all trees 471
		#30 MeSH descriptor: [Enoxaparin] explode all trees 1019
		#31 MeSH descriptor: [Heparin, Low-Molecular-Weight] explode all trees 2685
		#32 #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 6559
		#33 #10 AND #22 AND #32 219

Supplementary Figure 1: RISK OF BIAS 2.0

Study	Risk of bias domains					Overall
	D1	D2	D3	D4	D5	
Schrag et al., 2023						
Planquette et al.,2022						
Agnelli et al.,2020						
Longo de Oliveira et al.,2022						
Borsi et al., 2021						
Lee et al., 2019						
Guntupalli et al.,2020						
Raskob et al.,2018						
Mokadem et al.,2020						
Young et al.,2018						
McBane II et al.,2019						

Domains: Judgement  
D1: Bias arising from the randomization process.  High  
D2: Bias due to deviations from intended intervention.  Some concerns  
D3: Bias due to missing outcome data.  Low  
D4: Bias in measurement of the outcome.  
D5: Bias in selection of the reported results.

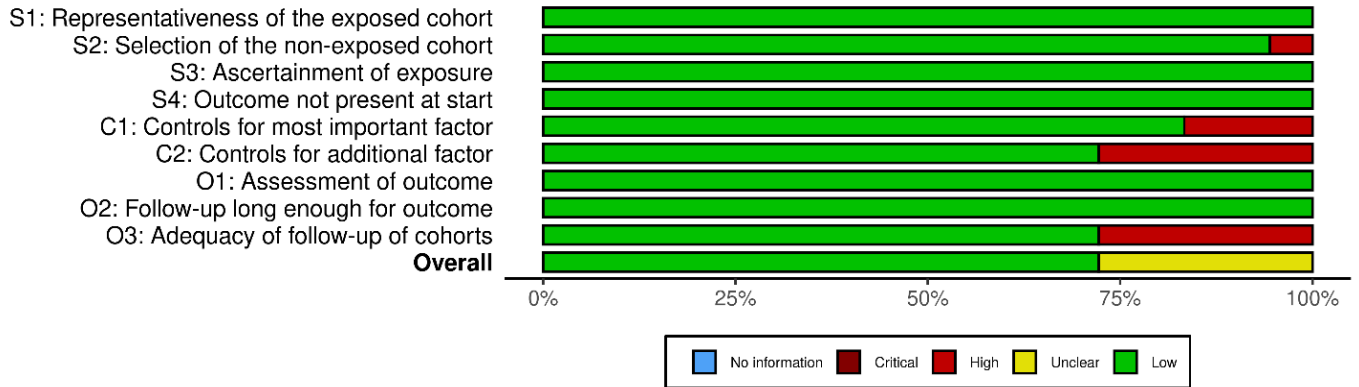


**Supplementary Figure 2: NEWCASTLE OTTAWA SCALE**

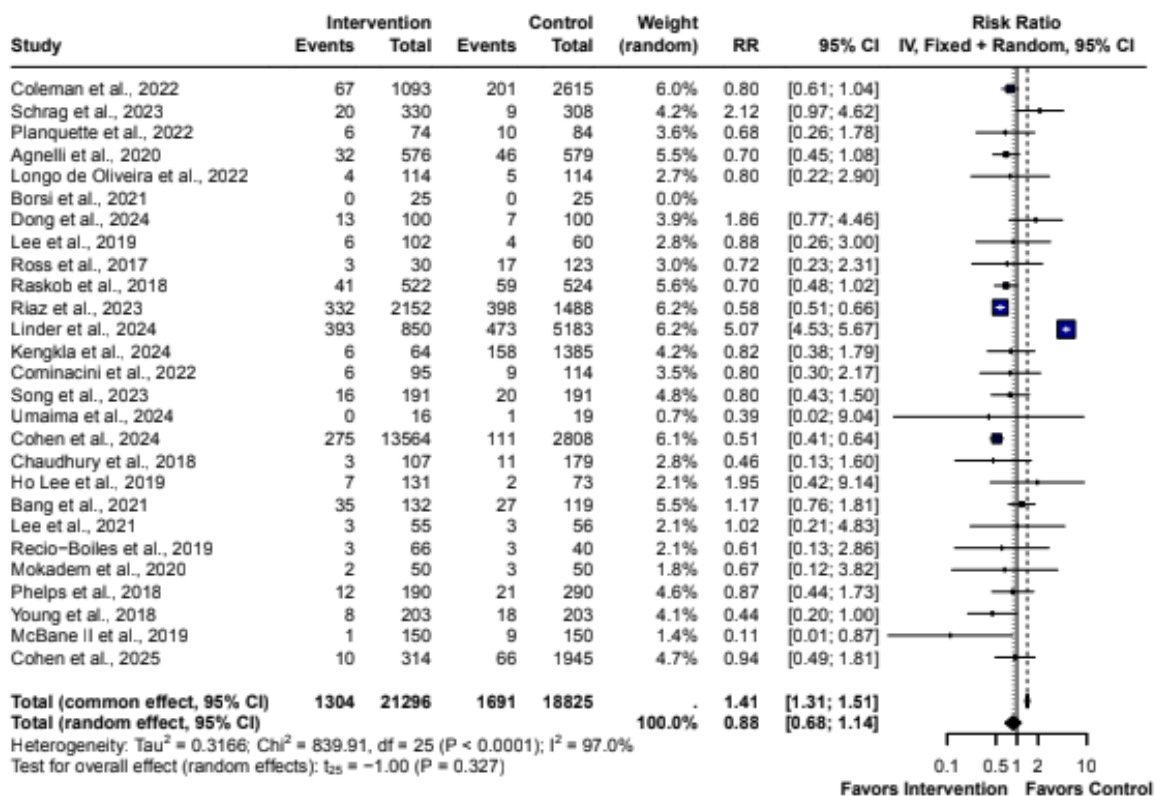
		Risk of bias									
		D1	D2	D3	D4	D5	D6	D7	D8	D9	Overall
Study	Coleman et al.,2022	+	+	+	+	+	+	+	+	+	+
	Dong et al., 2024	+	+	+	+	+	+	+	+	+	+
	Ross et al., 2017	+	+	+	+	+	+	+	+	+	+
	Riaz et al.,2023	+	+	+	+	+	+	+	+	+	+
	Linder et al.,2024	+	+	+	+	+	+	+	+	+	+
	Kengkla et al.,2024	+	+	+	+	+	+	+	+	+	+
	Cominacini et al.,2022	+	+	+	+	X	X	+	+	+	-
	Song et al.,2023	+	+	+	+	+	+	+	+	+	+
	Costa et al.,2020	+	+	+	+	+	+	+	+	+	+
	Umaima et al.,2024	+	X	+	+	X	X	+	+	+	-
	Cohen et al.,2024	+	+	+	+	+	+	+	+	+	+
	Chaudhury et al.,2018	+	+	+	+	+	X	+	+	X	-
	Ho Lee et al.,2019	+	+	+	+	X	X	+	+	X	-
	Bang et al.,2021	+	+	+	+	+	+	+	+	X	+
	Lee et al.,2021	+	+	+	+	+	X	+	+	X	-
	Recio-Boiles et al.2019	+	+	+	+	+	+	+	+	X	+
	Phelps et al.2018	+	+	+	+	+	+	+	+	+	+
	Cohen et al. 2025	+	+	+	+	+	+	+	+	+	+

D1: S1: Representativeness of the exposed cohort  
 D2: S2: Selection of the non-exposed cohort  
 D3: S3: Ascertainment of exposure  
 D4: S4: Outcome not present at start  
 D5: C1: Controls for most important factor  
 D6: C2: Controls for additional factor  
 D7: O1: Assessment of outcome  
 D8: O2: Follow-up long enough for outcome  
 D9: O3: Adequacy of follow-up of cohorts

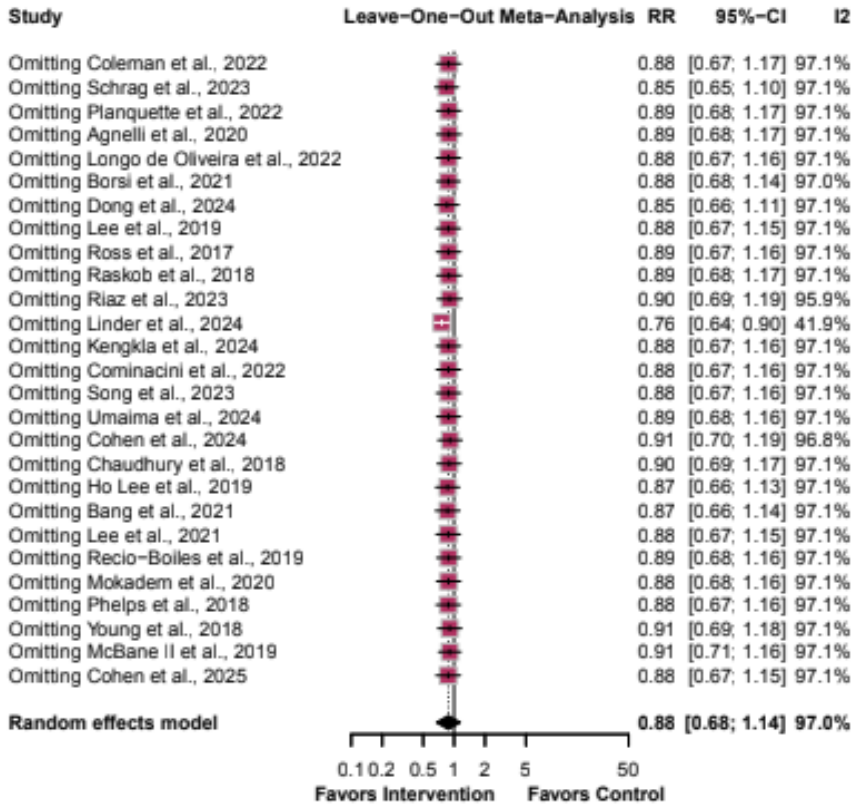
Judgement  
 High  
 Unclear  
 Low



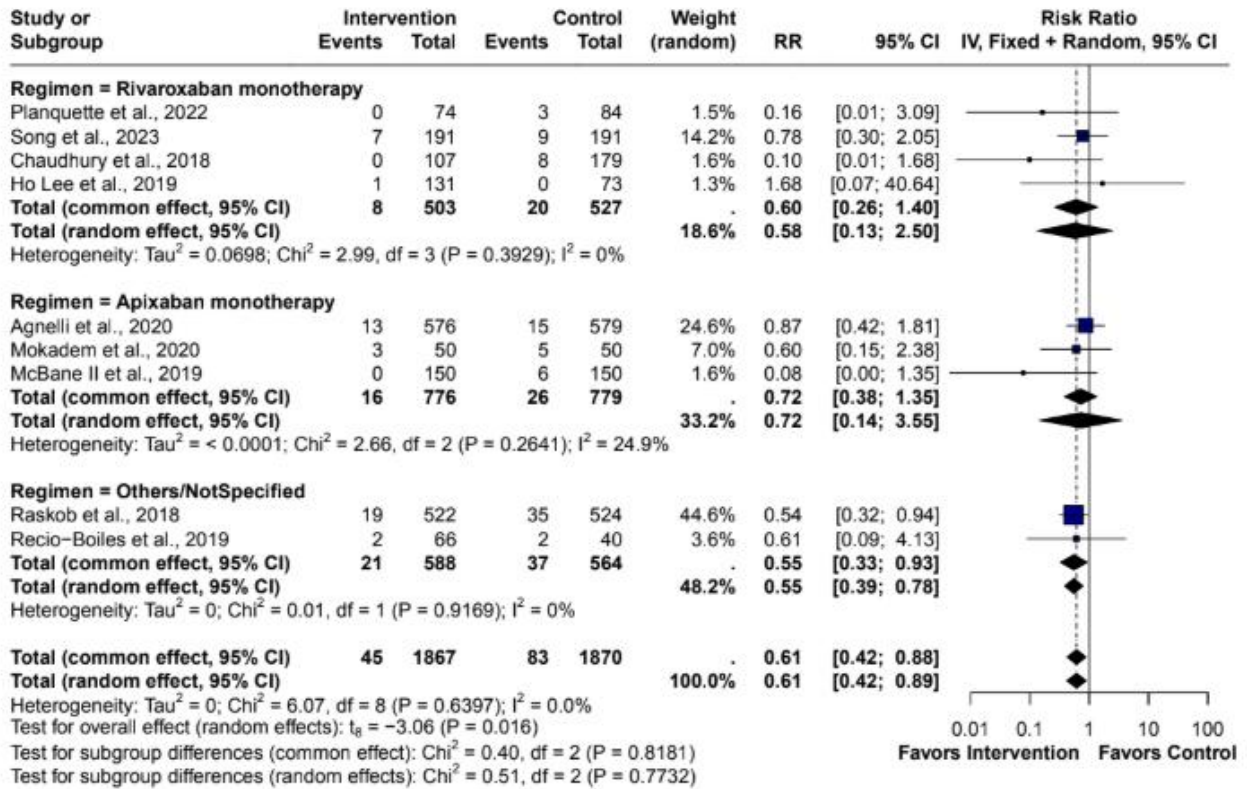
Supplementary figure 3: Forest plot of venous thromboembolism



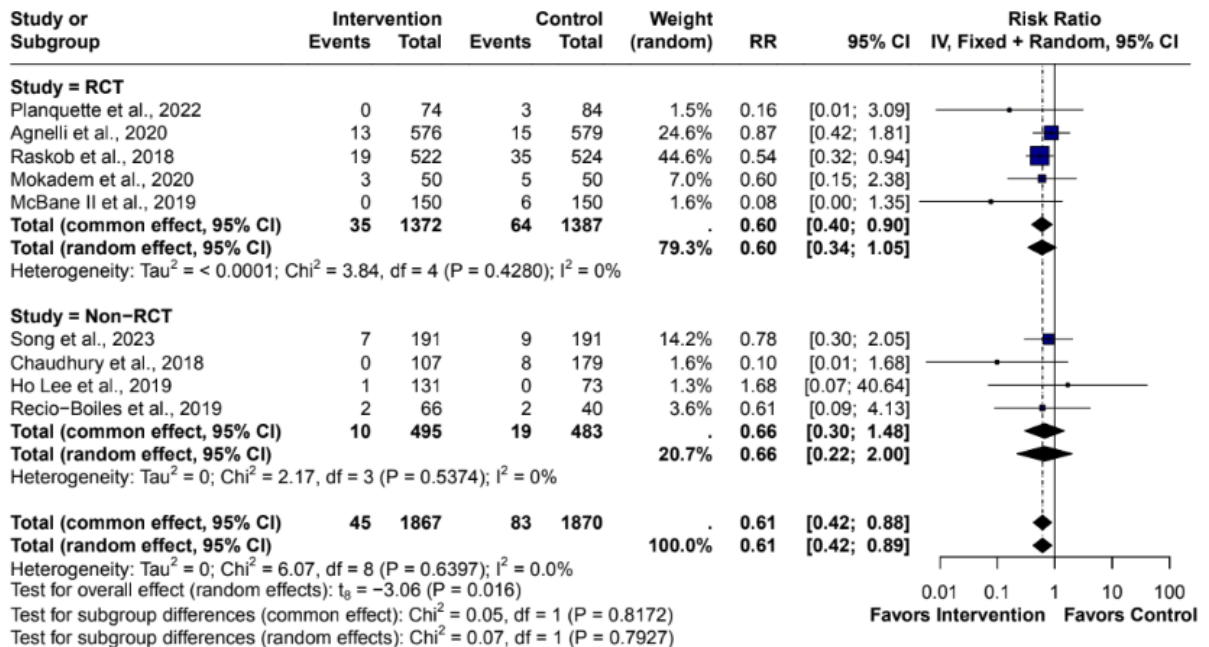
Supplementary figure 4: Forest plot of sensitivity analysis of venous thromboembolism



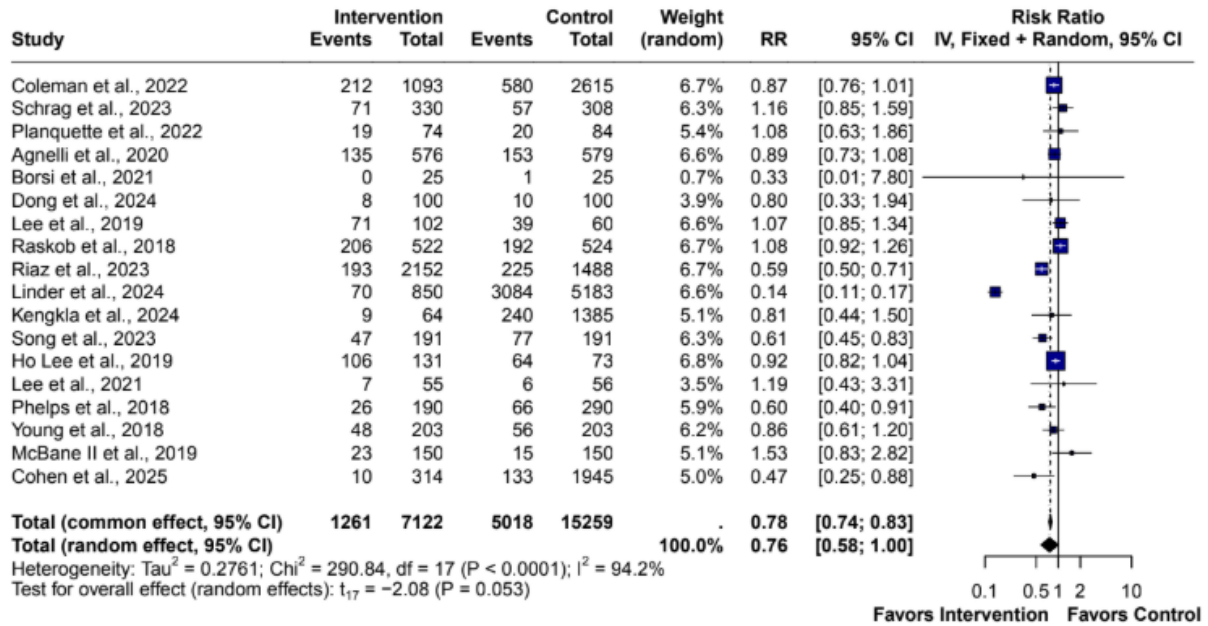
Supplementary figure 5: Forest plot of subgroup analysis of deep venous thrombosis by regimen type



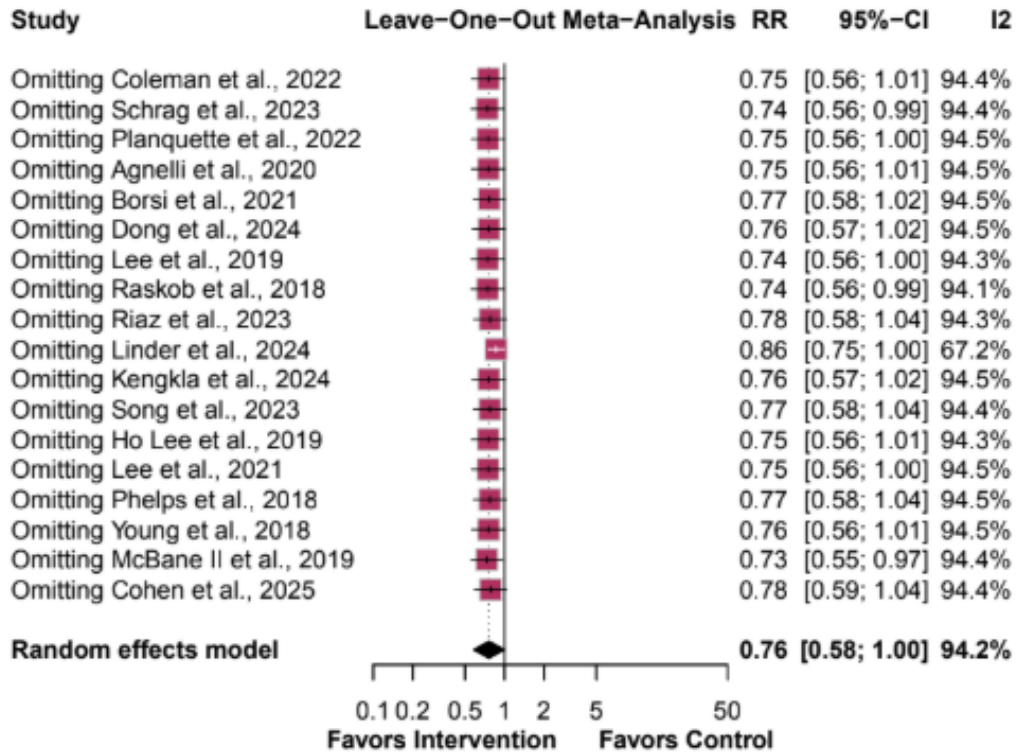
Supplementary figure 6: Forest plot of subgroup analysis of deep venous thrombosis by study type



Supplementary figure 7: Forest plot of all-cause mortality



Supplementary figure 8: Forest plot of sensitivity analysis of all-cause mortality



Supplementary figure 9: Forest plot of Clinically Relevant Non-Major Bleeding

