Supplementary data

Contents

Appendix 1

PRISMA NMA Checklist of Items to Include When Reporting A Systematic Review Involving a Network Meta-analysis

Section/Topic	Item #	Checklist Item	Reported on Page #
TITLE			
Title	1	Identify the report as a systematic review incorporating a network meta-analysis (or related form of meta-analysis).	Page 0
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: Background: main objectives Methods: data sources; study eligibility criteria, participants, and interventions; study appraisal; and *synthesis methods, such as network meta-analysis.* Results: number of studies and participants identified; summary estimates with corresponding confidence/credible intervals; *treatment rankings may also be discussed. Authors may choose to summarize pairwise comparisons against a chosen treatment included in their analyses for brevity.* Discussion/Conclusions: limitations; conclusions and implications of findings. Other: primary source of funding; systematic review registration number with registry name.	Page 0
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known, *including mention of why a network meta- analysis has been conducted.*	Page 1
Objectives	4	Provide an explicit statement of questions being addressed, with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	Page 2
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists and if and where it can be accessed (e.g., Web address); and, if available, provide registration information, including registration number.	Page 3
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. *Clearly describe eligible treatments included in the treatment network, and note whether any have been clustered or merged into the same node (with justification).*	Page 3
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.	Page 3
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Page 3
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).	Page 3
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.	Page 3
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	Page 6–10 (supplementary Data)

Section/Topic	Item #	Checklist Item	Reported on Page #
Geometry of the network	S1	Describe methods used to explore the geometry of the treatment network under study and potential biases related to it. This should include how the evidence base has been graphically summarized for presentation, and what characteristics were compiled and used to describe the evidence base to readers.	Page 5
Risk of bias within individual studies	12	Describe methods used for assessing risk of bias of individual study or outcome level), and how this information is to be used in any data synthesis.	Page 3
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means). Also describe the use of additional summary measures assessed, such as treatment rankings and surface under the cumulative ranking curve (SUCRA) values, as well as modified approaches used to present summary findings from meta-analyses.	Page 4–5
Planned methods of analysis	14	Describe the methods of handling data and combining results of studies for each network meta-analysis. This should include, but not be limited to: Handling of multi-arm trials; Selection of variance structure; Selection of prior distributions in Bayesian analyses; And Assessment of model fit.	Page 5–6
Assessment of Inconsistency	S2	Describe the statistical methods used to evaluate the agreement of direct and indirect evidence in the treatment network(s) studied. Describe efforts taken to address its presence when found.	Page 4, Page 7
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).	Page 3–4
Additional analyses	16	Describe methods of additional analyses if done, indicating Page 5 which were pre-specified. This may include, but not be limited to, the following: Sensitivity or subgroup analyses; Meta-regression analyses; Alternative formulations of the treatment network; and Use of alternative prior distributions for Bayesian analyses (if applicable).	Page 7
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.	Page 8
Presentation of network structure	S3	Provide a network graph of the included studies to enable visualization of the geometry of the treatment network.	Page 8–9
Summary of network geometry	S4	Provide a brief overview of characteristics of the treatment network. This may include commentary on the abundance of trials and randomized patients for the different interventions and pairwise comparisons in the network, gaps of evidence in the treatment network, and potential biases reflected by the network structure.	Page 9
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.	Page 18 (supplementary Data)
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment.	Page 12 (supplementary Data)

Section/Topic	Item #	Checklist Item	Reported on Page #
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: 1) simple summary data for each intervention group, and 2) effect estimates and confidence intervals. Modified approaches may be needed to deal with information from larger networks.	Page 18 (supplementary Data)
Synthesis of results	21	Present results of each meta-analysis done, including confidence/credible intervals. In larger networks, authors may focus on comparisons versus a particular comparator (e.g. placebo or standard care), with full findings presented in an appendix. League tables and forest plots may be considered to summarize pairwise comparisons. If additional summary measures were explored (such as treatment rankings), these should also be presented.	Page 10–12
Exploration for inconsistency	S5	Describe results from investigations of inconsistency. This may include such information as measures of model fit to compare consistency and inconsistency models, *p*-values from statistical tests, or summary of inconsistency estimates from different parts of the treatment network.	Page 13
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies for the evidence base being studied.	Page 12
Results of additional analyses	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression analyses, alternative network geometries studied, alternative choice of prior distributions for Bayesian analyses, and so forth).	Page 13–14
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).	Page 15
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). Comment on the validity of the assumptions, such as transitivity and consistency. Comment on any concerns regarding network geometry (e.g., avoidance of certain comparisons).	Page 19
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	Page 20
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. This should also include information regarding whether funding has been received from manufacturers of treatments in the network and/or whether some of the authors are content experts with professional conflicts of interest that could affect use of treatments in the network.	Page 21

PICOS = population, intervention, comparators, outcomes, study design.

**Text in italics indicates wording specific to reporting of network meta-analyses that has been added to guidance from the PRISMA statement.*

†*Authors may wish to plan for use of appendices to present all relevant information in full detail for items in this section.*

NOTE: PRISMA NMA Checklist obtained from the website https://www.prisma-statement.org/.

Appendix 2. Search strategy

1. PubMed database

① **TPVB**
(("paravertebral block*"[Title/Abstract]) AND ((((((((((((((("Thoracoscopy"[Majr]) OR (Thoracoscopies[Title/Abstract])) OR (Pleural Endoscopy[Title/Abstract])) OR (Pleuroscopy[Title/Abstract])) OR (Pleuroscopies[Title/Abstract])) OR (Endoscopy, Pleural[Title/Abstract])) OR (Endoscopies, Pleural[Title/Abstract])) OR (Pleural Endoscopies[Title/Abstract])) OR (Surgical Procedures, Thoracoscopic[Title/Abstract])) OR (Surgical Procedure, Thoracoscopic[Title/Abstract])) OR (Thoracoscopic Surgical Procedure[Title/Abstract])) OR (Thoracoscopic Surgery[Title/Abstract])) OR (Thoracoscopic Surgical Procedures[Title/Abstract])) OR (Surgery, Thoracoscopic[Title/Abstract])) OR (Surgeries, Thoracoscopic[Title/Abstract])) OR (Thoracoscopic Surgeries[Title/Abstract]))) AND ((randomized controlled trial[Publication Type] OR randomized[Title/Abstract] OR placebo[Title/Abstract]))
② **ESPB**
(("erector spinae plane block*"[Title/Abstract]) AND ((((((((((((((("Thoracoscopy"[Majr]) OR (Thoracoscopies[Title/Abstract])) OR (Pleural Endoscopy[Title/Abstract])) OR (Pleuroscopy[Title/Abstract])) OR (Pleuroscopies[Title/Abstract])) OR (Endoscopy, Pleural[Title/Abstract])) OR (Endoscopies, Pleural[Title/Abstract])) OR (Pleural Endoscopies[Title/Abstract])) OR (Surgical Procedures, Thoracoscopic[Title/Abstract])) OR (Surgical Procedure, Thoracoscopic[Title/Abstract])) OR (Thoracoscopic Surgical Procedure[Title/Abstract])) OR (Thoracoscopic Surgery[Title/Abstract])) OR (Thoracoscopic Surgical Procedures[Title/Abstract])) OR (Surgery, Thoracoscopic[Title/Abstract])) OR (Surgeries, Thoracoscopic[Title/Abstract])) OR (Thoracoscopic Surgeries[Title/Abstract]))) AND ((randomized controlled trial[Publication Type] OR randomized[Title/Abstract] OR placebo[Title/Abstract]))
③ **SAPB**
"serratus anterior block*"[Title/Abstract] AND ("Thoracoscopy"[MeSH Major Topic] OR "Thoracoscopies"[Title/Abstract] OR "pleural endoscopy"[Title/Abstract] OR "Pleuroscopy"[Title/Abstract] OR "Pleuroscopies"[Title/Abstract] OR "endoscopy pleural"[Title/Abstract] OR (("endoscopie"[All Fields] OR "Endoscopy"[MeSH Terms] OR "Endoscopy"[All Fields] OR "Endoscopies"[All Fields] OR "endoscopy s"[All Fields]) AND "Pleural"[Title/Abstract]) OR "pleural endoscopies"[Title/Abstract] OR "surgical procedures thoracoscopic"[Title/Abstract] OR "surgical procedure thoracoscopic"[Title/Abstract] OR "thoracoscopic surgical procedure"[Title/Abstract] OR "thoracoscopic surgery"[Title/Abstract] OR "thoracoscopic surgical procedures"[Title/Abstract] OR "surgery thoracoscopic"[Title/Abstract] OR (("Surgery"[MeSH Subheading] OR "Surgery"[All Fields] OR "surgical procedures, operative"[MeSH Terms] OR ("Surgical"[All Fields] AND "Procedures"[All Fields] AND "operative"[All Fields]) OR "operative surgical procedures"[All Fields] OR "general surgery"[MeSH Terms] OR ("general"[All Fields] AND "Surgery"[All Fields]) OR "general surgery"[All Fields] OR "surgery s"[All Fields] OR "surgerys"[All Fields] OR "Surgeries"[All Fields]) AND "Thoracoscopic"[Title/Abstract]) OR "thoracoscopic surgeries"[Title/Abstract])
④ **ICNB**
((Intercostal nerve block*[Title/Abstract]) AND ((((((((((((((("Thoracoscopy"[Majr]) OR (Thoracoscopies[Title/Abstract])) OR (Pleural Endoscopy[Title/Abstract])) OR (Pleuroscopy[Title/Abstract])) OR (Pleuroscopies[Title/Abstract])) OR (Endoscopy, Pleural[Title/Abstract])) OR (Endoscopies, Pleural[Title/Abstract])) OR (Pleural Endoscopies[Title/Abstract])) OR (Surgical Procedures, Thoracoscopic[Title/Abstract])) OR (Surgical Procedure, Thoracoscopic[Title/Abstract])) OR (Thoracoscopic Surgical Procedure[Title/Abstract])) OR (Thoracoscopic Surgery[Title/Abstract])) OR (Thoracoscopic Surgical Procedures[Title/Abstract])) OR (Surgery, Thoracoscopic[Title/Abstract])) OR (Surgeries, Thoracoscopic[Title/Abstract])) OR (Thoracoscopic Surgeries[Title/Abstract]))) AND ((randomized controlled trial[Publication Type] OR randomized[Title/Abstract] OR placebo[Title/Abstract]))

2. Embase database

① TPVB			
No.	**Query Results**	**Results**	**Date**
#37.	#17 AND #34 AND #35	9	9 Jun 2022
#35.	'random':ab,ti OR 'placebo':ab,ti OR 'double-blind':ti,ab	787,457	9 Jun 2022
#34.	#32 OR #33	1,929	9 Jun 2022
#33.	'paravertebral block*':ab,ti	1,852	9 Jun 2022
#32.	'paravertebral block'/exp	321	9 Jun 2022
#17.	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16	22,344	9 Jun 2022
#16.	'thoracoscopic surgeries':ab,ti	86	9 Jun 2022
#15.	'surgeries, thoracoscopic':ab,ti	1	9 Jun 2022
#14.	'surgery, thoracoscopic':ab,ti	62	9 Jun 2022
#13.	'thoracoscopic surgical procedures':ab,ti	31	9 Jun 2022
#12.	'thoracoscopic surgery':ab,ti	7,591	9 Jun 2022
#11.	'thoracoscopic surgical procedure':ab,ti	10	9 Jun 2022
#10.	'surgical procedure, thoracoscopic':ab,ti	9 Jun 2022	
#9.	'surgical procedures, thoracoscopic':ab,ti	2	9 Jun 2022
#8.	'pleural endoscopies':ab,ti	1	9 Jun 2022
#7.	'endoscopies, pleural':ab,ti		9 Jun 2022
#6.	'endoscopy, pleural':ab,ti		9 Jun 2022
#5.	'pleuroscopies':ab,ti	20	9 Jun 2022
#4.	'pleuroscopy':ab,ti	412	9 Jun 2022
#3.	'pleural endoscopy':ab,ti	7	9 Jun 2022
#2.	'thoracoscopies':ab,ti	201	9 Jun 2022
#1.	'thoracoscopy'/exp	16,175	9 Jun 2022

② ESPB			
No.	**Query Results**	**Results**	**Date**
#41.	#17 AND #35 AND #40	1	9 Jun 2022
#40.	#38 OR #39	1,053	9 Jun 2022
#39.	'erector spinae plane block*':ab,ti	980	9 Jun 2022
#38.	'erector spinae plane block'/exp	393	9 Jun 2022
#35.	'random':ab,ti OR 'placebo':ab,ti OR 'double-blind':ti,ab	787,457	9 Jun 2022
#17.	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16	22,344	9 Jun 2022
#16.	'thoracoscopic surgeries':ab,ti	86	9 Jun 2022
#15.	'surgeries, thoracoscopic':ab,ti	1	9 Jun 2022
#14.	'surgery, thoracoscopic':ab,ti	62	9 Jun 2022
#13.	'thoracoscopic surgical procedures':ab,ti	31	9 Jun 2022
#12.	'thoracoscopic surgery':ab,ti	7,591	9 Jun 2022
#11.	'thoracoscopic surgical procedure':ab,ti	10	9 Jun 2022

#10.	'surgical procedure, thoracoscopic':ab,ti		9 Jun 2022
#9.	'surgical procedures, thoracoscopic':ab,ti	2	9 Jun 2022
#8.	'pleural endoscopies':ab,ti	1	9 Jun 2022
#7.	'endoscopies, pleural':ab,ti		9 Jun 2022
#6.	'endoscopy, pleural':ab,ti		9 Jun 2022
#5.	'pleuroscopies':ab,ti	20	9 Jun 2022
#4.	'pleuroscopy':ab,ti	412	9 Jun 2022
#3.	'pleural endoscopy':ab,ti	7	9 Jun 2022
#2.	'thoracoscopies':ab,ti	201	9 Jun 2022
#1.	'thoracoscopy'/exp	16,175	9 Jun 2022

③ **SAPB**			
No.	**Query Results**	**Results**	**Date**
#43.	#17 AND #35 AND #42		9 Jun 2022
#42.	'serratus anterior block*':ab,ti	31	9 Jun 2022
#35.	'random':ab,ti OR 'placebo':ab,ti OR 'double-blind':ti,ab	787,457	9 Jun 2022
#17.	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16	22,344	9 Jun 2022
#16.	'thoracoscopic surgeries':ab,ti	86	9 Jun 2022
#15.	'surgeries, thoracoscopic':ab,ti	1	9 Jun 2022
#14.	'surgery, thoracoscopic':ab,ti	62	9 Jun 2022
#13.	'thoracoscopic surgical procedures':ab,ti	31	9 Jun 2022
#12.	'thoracoscopic surgery':ab,ti	7,591	9 Jun 2022
#11.	'thoracoscopic surgical procedure':ab,ti	10	9 Jun 2022
#10.	'surgical procedure, thoracoscopic':ab,ti		9 Jun 2022
#9.	'surgical procedures, thoracoscopic':ab,ti	2	9 Jun 2022
#8.	'pleural endoscopies':ab,ti	1	9 Jun 2022
#7.	'endoscopies, pleural':ab,ti		9 Jun 2022
#6.	'endoscopy, pleural':ab,ti		9 Jun 2022
#5.	'pleuroscopies':ab,ti	20	9 Jun 2022
#4.	'pleuroscopy':ab,ti	412	9 Jun 2022
#3.	'pleural endoscopy':ab,ti	7	9 Jun 2022
#2.	'thoracoscopies':ab,ti	201	9 Jun 2022
#1.	'thoracoscopy'/exp	16,175	9 Jun 2022

④ **ICNB**			
No.	**Query Results**	**Results**	**Date**
#47.	#17 AND #35 AND #46	1	9 Jun 2022
#46.	#44 OR #45	1,162	9 Jun 2022
#45.	'intercostal nerve block*':ab,ti	681	9 Jun 2022
#44.	'intercostal nerve block'/exp	933	9 Jun 2022
#35.	'random':ab,ti OR 'placebo':ab,ti OR 'double-blind':ti,ab	787,457	9 Jun 2022

#17.	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16	22,344	9 Jun 2022
#16.	'thoracoscopic surgeries':ab,ti	86	9 Jun 2022
#15.	'surgeries, thoracoscopic':ab,ti	1	9 Jun 2022
#14.	'surgery, thoracoscopic':ab,ti	62	9 Jun 2022
#13.	'thoracoscopic surgical procedures':ab,ti	31	9 Jun 2022
#12.	'thoracoscopic surgery':ab,ti	7,591	9 Jun 2022
#11.	'thoracoscopic surgical procedure':ab,ti	10	9 Jun 2022
#10.	'surgical procedure, thoracoscopic':ab,ti	9 Jun 2022	
#9.	'surgical procedures, thoracoscopic':ab,ti	2	9 Jun 2022
#8.	'pleural endoscopies':ab,ti	1	9 Jun 2022
#7.	'endoscopies, pleural':ab,ti	9 Jun 2022	
#6.	'endoscopy, pleural':ab,ti	9 Jun 2022	
#5.	'pleuroscopies':ab,ti	20	9 Jun 2022
#4.	'pleuroscopy':ab,ti	412	9 Jun 2022
#3.	'pleural endoscopy':ab,ti	7	9 Jun 2022
#2.	'thoracoscopies':ab,ti	201	9 Jun 2022
#1.	'thoracoscopy'/exp	16,175	9 Jun 2022

3. Web of Science database

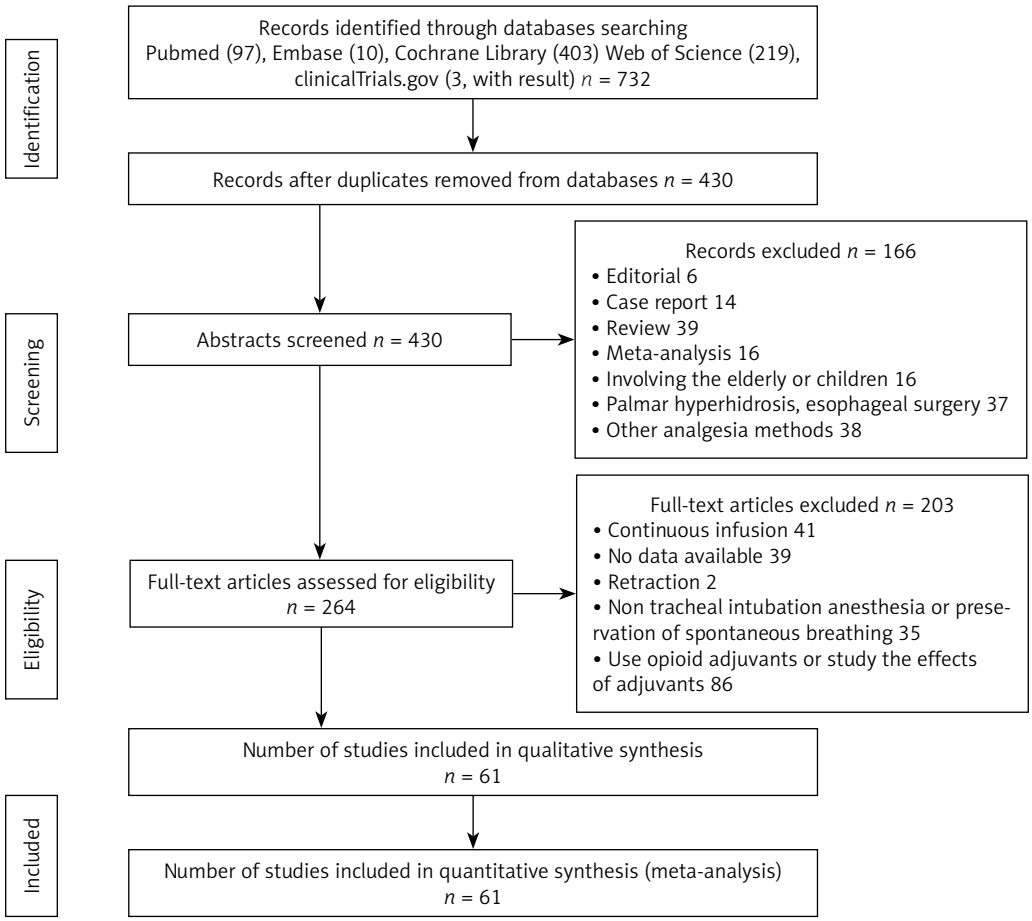
#1.	TS= (Thoracoscop* OR Pleural Endoscopy OR Pleuroscopy OR Pleuroscop* OR Endoscopy, Pleural OR Endoscop*, Pleural OR Pleural Endoscop* OR Surgical Procedure*, Thoracoscopic OR Surgical Procedure, Thoracoscopic OR Thoracoscopic Surgical Procedure OR Thoracoscopic Surgery OR Thoracoscopic Surgical Procedure* OR Surgery, Thoracoscopic OR Surger*, Thoracoscopic OR Thoracoscopic Surger*)
#2.	TS= (randomi* controlled trial OR randomi* OR placebo)
#5.	TS= (paravertebral block*)
#6.	#1 AND #2 AND #5
	106
#7.	TS= (erector spinae plane block*)
#8.	#1 AND #2 AND #7
	27
#9.	TS= (serratus anterior block*)
#10.	#1 AND #2 AND #9
	38
#11.	TS= (Intercostal nerve block*)
#12.	#1 AND #2 AND #11
	48

4. Cochrane Library

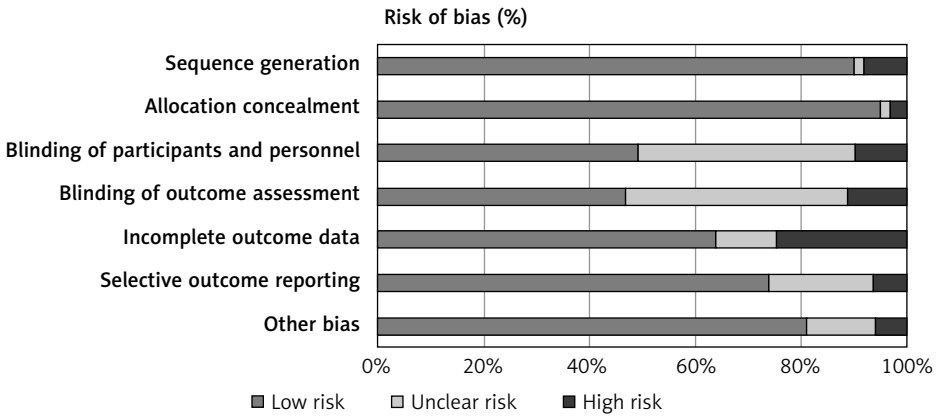
Search Name:
Date Run: 07/01/2022 14:17:06
Comment:

ID	Search	Hits
#1	MeSH descriptor: [Thoracoscopy] explode all trees	459
#2	(Thoracoscopies):ti,ab,kw OR (Pleural Endoscopy):ti,ab,kw OR (pleuroscopy):ti,ab,kw OR (Pleuroscopies):ti,ab,kw OR (Endoscopy, Pleural):ti,ab,kw (Word variations have been searched)	654
#3	(Endoscopies, Pleural):ti,ab,kw OR (Pleural Endoscopies):ti,ab,kw OR (Surgical Procedures, Thoracoscopic):ti,ab,kw OR (Surgical Procedure, Thoracoscopic):ti,ab,kw OR (Thoracoscopic Surgical Procedure):ti,ab,kw (Word variations have been searched)	297
#4	(Thoracoscopic Surgery):ti,ab,kw OR (Thoracoscopic Surgical Procedures):ti,ab,kw OR (Surgery, Thoracoscopic):ti,ab,kw OR (Surgeries, Thoracoscopic):ti,ab,kw OR (Thoracoscopic Surgeries):ti,ab,kw (Word variations have been searched)	1357
#5	#1 OR #2 OR #3 OR #4	1799
#12	(paravertebral block*):ti,ab,kw (Word variations have been searched)	1241
#13	#12 and #5 in Trials	181
#14	(erector spinae plane block*):ti,ab,kw (Word variations have been searched)	789
#15	#14 and #5 in Trials	65
#16	(serratus anterior block*):ti,ab,kw (Word variations have been searched)	319
#17	#16 and #5 in Trials	53
#18	(Intercostal nerve block*):ti,ab,kw (Word variations have been searched)	556
#19	#18 and #5 in Trials	104

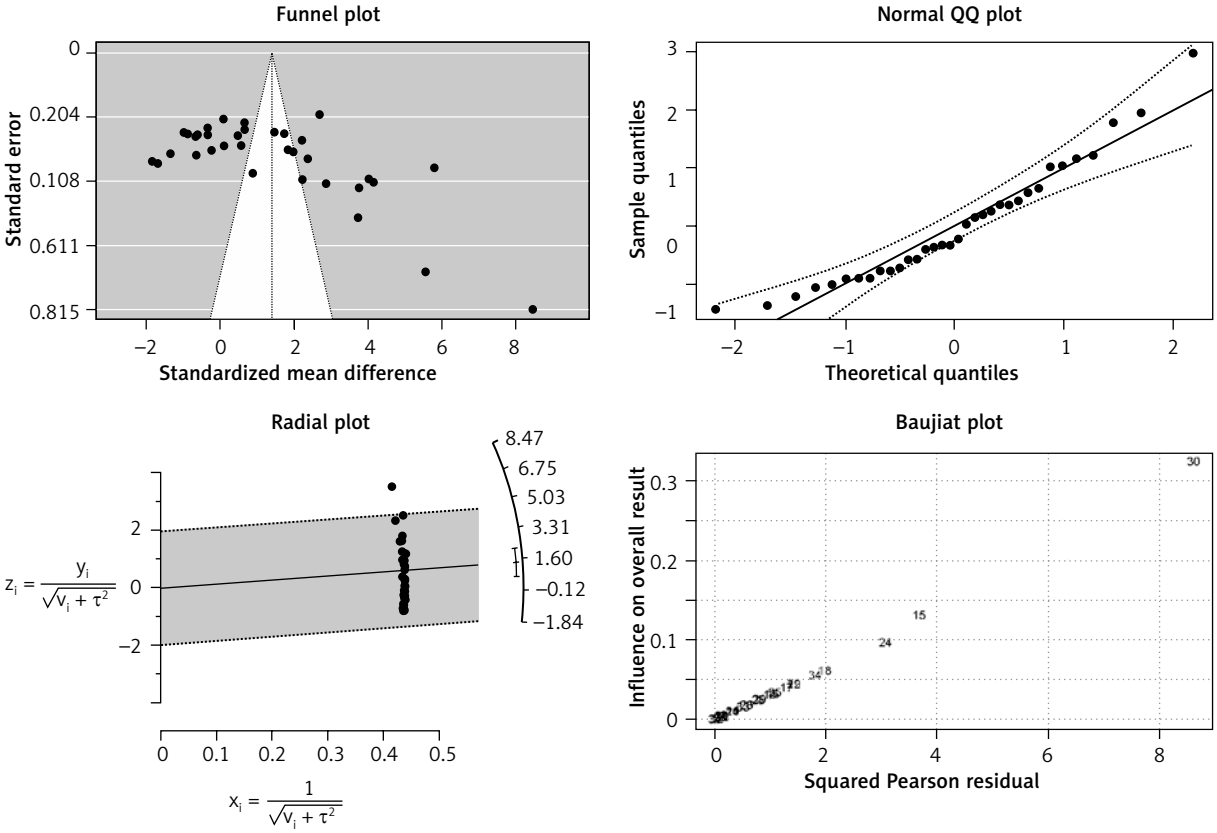
Appendix 3.



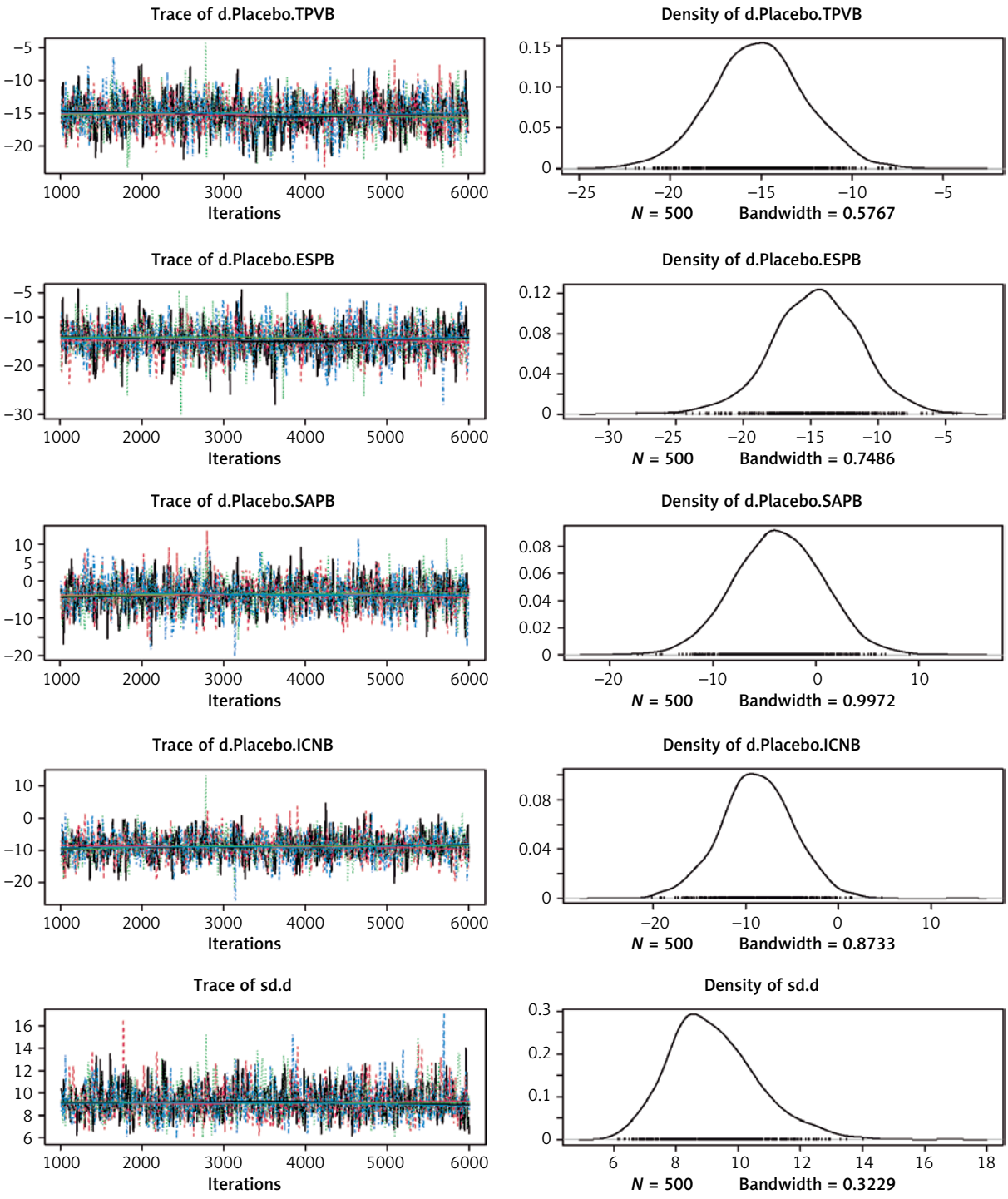
Supplementary Figure S1. Flow diagram of included and excluded trials



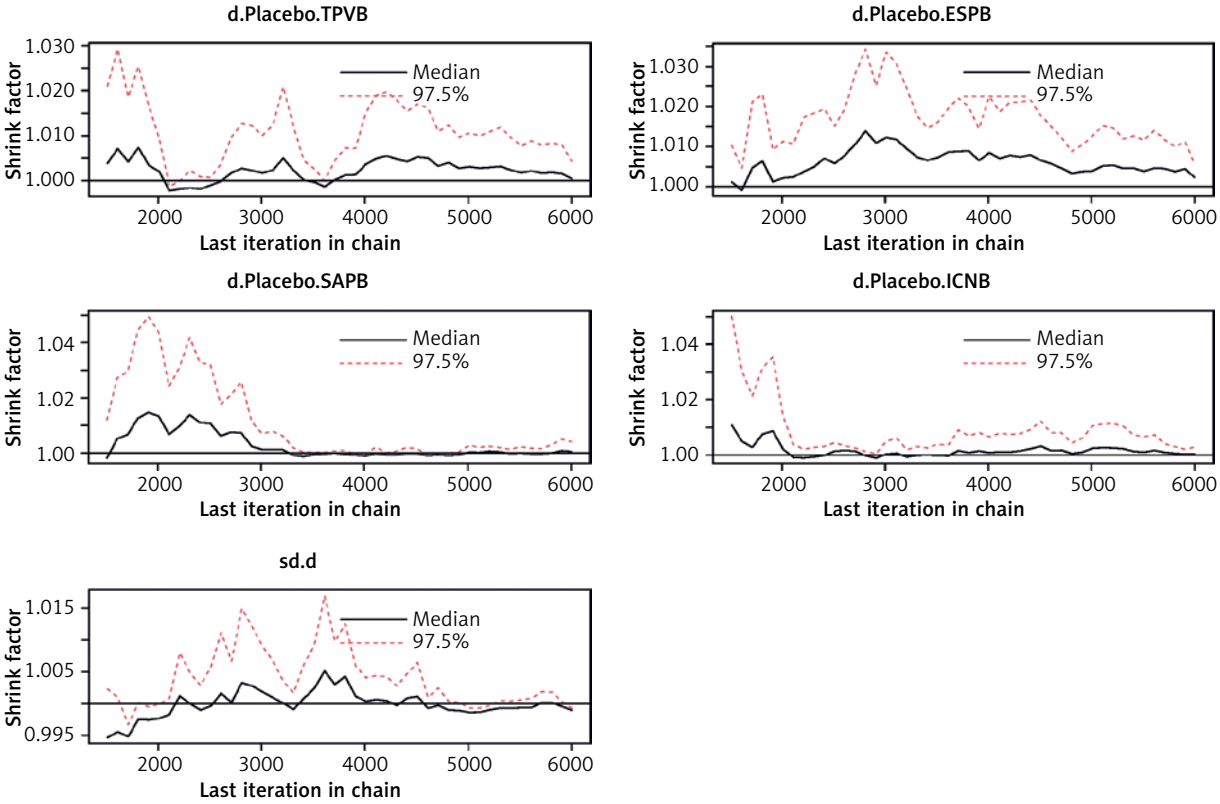
Supplementary Figure S2. Risk of bias. The risk of bias assessment is performed for the primary outcome. Except for the blinding of participants and outcome assessment, the other aspects are mainly low risk



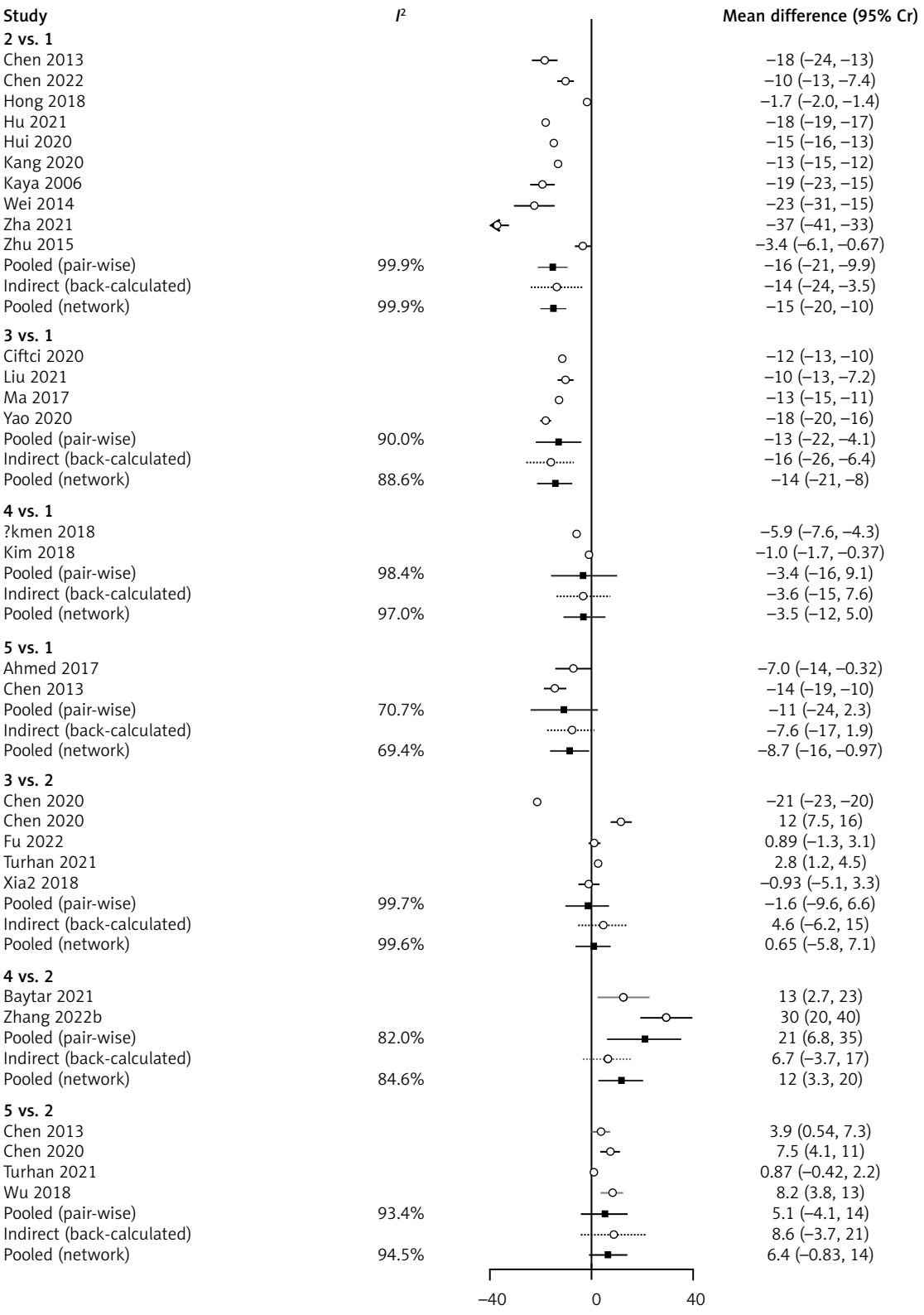
Supplementary Figure S3. Evaluation of publication bias, normal distribution and heterogeneity. Publication bias and heterogeneity are assessed mainly for the primary outcome. For analysis, the 3-arm RCTs are split into three 2-arm studies. The funnel plot exhibits a large publication bias; the radiation plot exhibits high heterogeneity



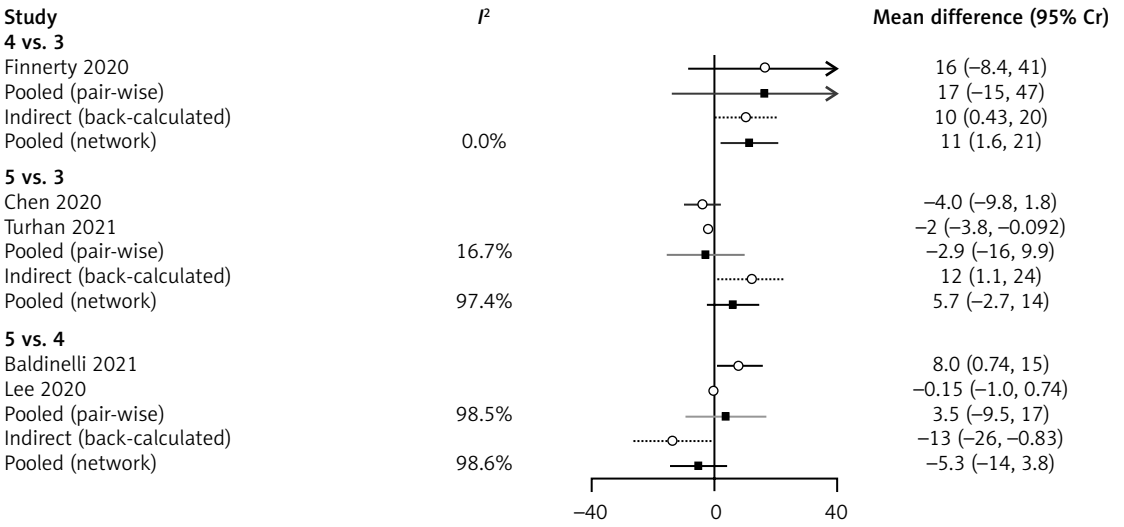
Supplementary Figure S4. Trace and Density plots



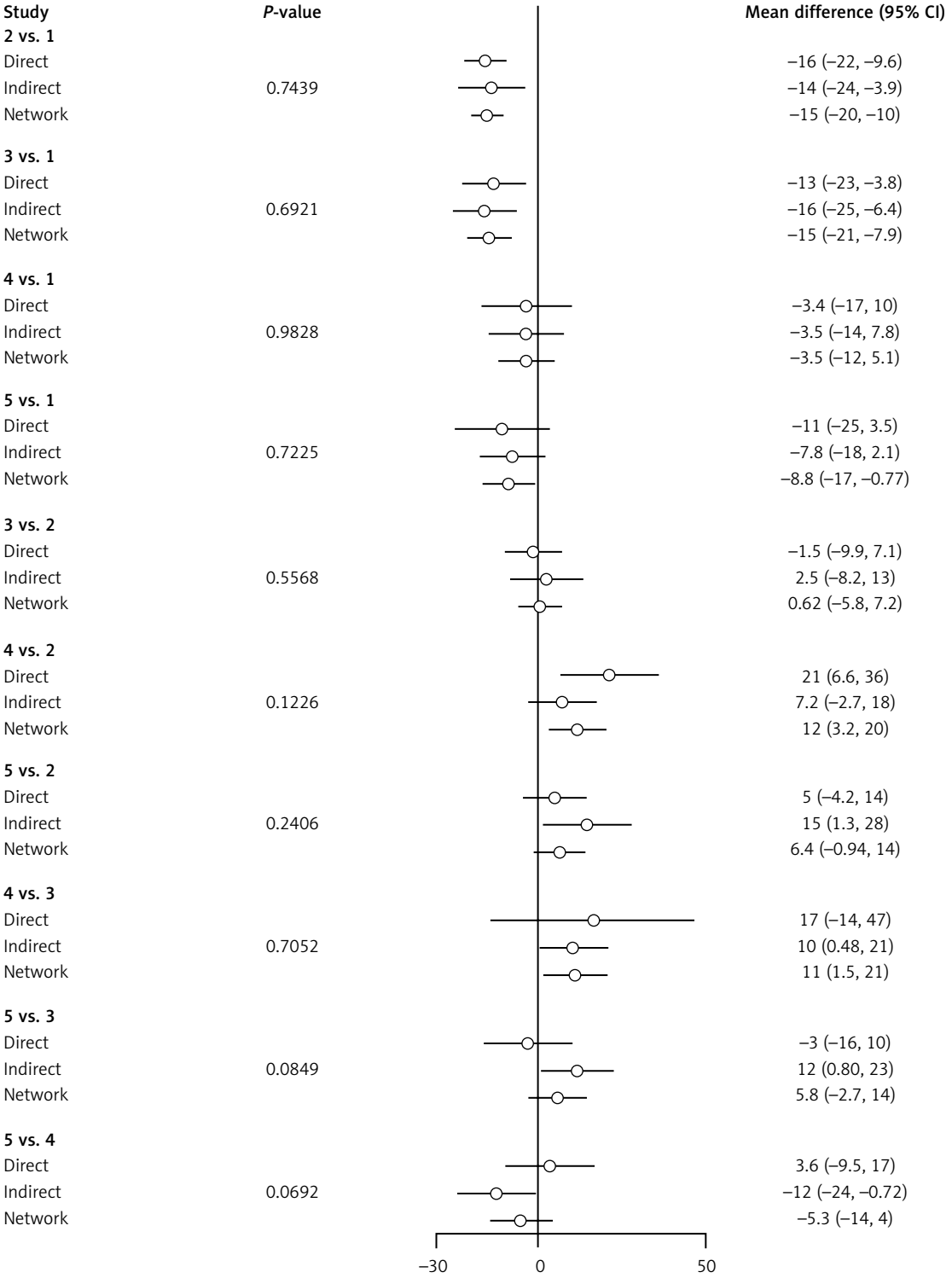
Supplementary Figure S5. Convergence diagnostic plot



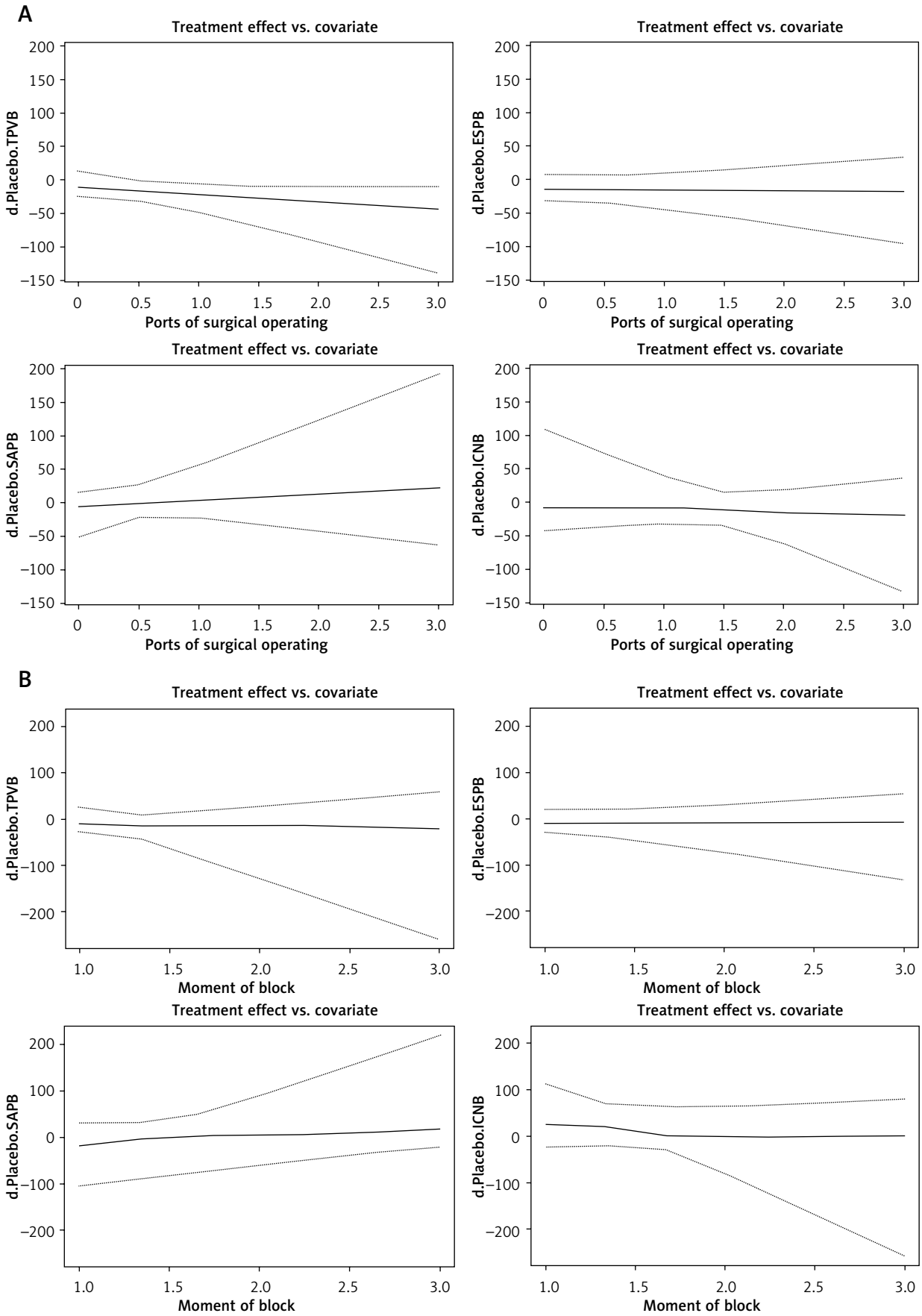
Supplementary Figure S6. Heterogeneity test plot. 1: Placebo group. 2: TPVB group. 3: ESPB group. 4: SAPB group. 5: ICNB group



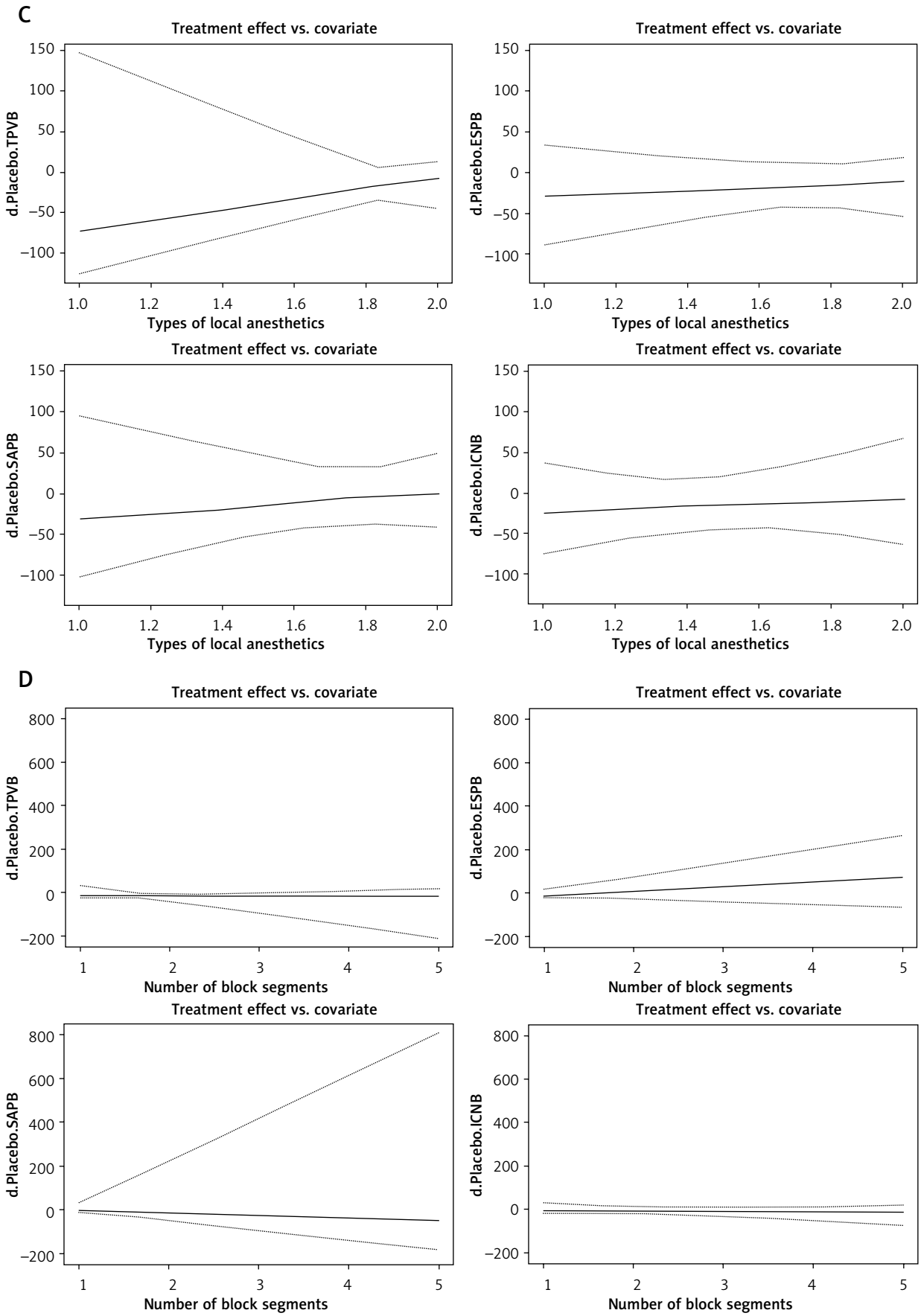
Supplementary Figure S6. Cont. Heterogeneity test plot. 1: Placebo group. 2: TPVB group. 3: ESPB group. 4: SAPB group. 5: ICNB group



Supplementary Figure S7. Inconsistency test forest plot. 1: Placebo group. 2: TPVB group. 3: ESPB group. 4: SAPB group. 5: ICNB group



Supplementary Figure S8. Network meta-regression graph for covariates



Supplementary Figure S8. Network meta-regression graph for covariates

Supplementary Table SI. Study characteristics

Study ID	Country	Groups of block	Ports of operating	Moment of block	Number of block segments	Types of local anesthetics	Opioid data	Pain score data (24 h)
Vogt 2005	Switzerland	Placebo vs. TPVB	3	Pre-operation	1 (T5-T6)	Bupivacaine (0.375%, 0.4 ml/kg)	Morphine	Plot (0, 1, 2, 3, 24)
Hill 2006	America	Placebo vs. TPVB	3	Pre-operation	5 (T4-T9)	Bupivacaine (0.5%, 25 ml)	Morphine	Table (6, 12, 18)
Kaya 2006	Turkey	Placebo vs. TPVB	Unclear	Pre-operation	4 (T4-T8)	Bupivacaine (0.5%, 16 ml)	Morphine	Table (0, 1, 2, 4, 8, 16, 24)
Chen 2013	China	Placebo vs. TPVB vs. ICNB	3	Pre-operation	3 (T4-T7)	Ropivacaine (0.5%, 15 ml)	Sufentanil	Table (1, 2, 3, 24)
Wei 2014	China	Placebo vs. TPVB	Unclear	Pre-operation	1 (T5-T6) or 3 (T4-T7)	Ropivacaine (0.5%, 16 ml)	Sufentanil	Table (1, 2, 4, 8, 12, 24)
Chen 2015a	China	Placebo vs. TPVB	Unclear	Pre-operation	3 (T4-T7)	Ropivacaine (0.375%, 15 ml)	Dezocine	NA
Chen 2015b	China	Placebo vs. TPVB	Unclear	Pre-operation	3 (T4-T7)	Ropivacaine (0.375%, 15 ml)	Dezocine	Table (2, 24)
Zhu 2015	China	Placebo vs. TPVB	1	Pre-operation	2 (T5-T6, T6-T7)	Ropivacaine (0.33%, 20 ml)	Dezocine	NA
Zhang 2016	China	Placebo vs. TPVB	Unclear	Pre-operation	2 (T5-T6, T6-T7)	Ropivacaine (0.5%, 20 ml)	Tramadol	Table (4, 6, 24)
Ma 2017	China	Placebo vs. ESPB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.5%, 30 ml)	Sufentanil	Table (1, 6, 18, 24)
Liu 2017	China	Placebo vs. TPVB	3	Pre-operation	1 (T6-T7)	Ropivacaine (0.25%, 25 ml)	Sufentanil	Table (1, 8, 24)
Ahmed 2017	Pakistan	Placebo vs. ICNB	Unclear	Post-operation	4 (Two intercostal space above and below the incision)	Bupivacaine (0.25%, 16 ml)	Morphine	Plot (1, 6, 12, 24)
Hong 2018	China	Placebo vs. TPVB	Unclear	Post-operation	1 (T5-T6)	Ropivacaine (0.375%, 20 ml)	Dezocine	NA
Xia 2018	China	Placebo vs. ESPB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.5%, 20 ml)	Sufentanil	NA
Xia2 2018	China	TPVB vs. ESPB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.5%, 20 ml)	Morphine	NA
Kim 2018	South Korea	Placebo vs. SAPB	2, 3	Pre-operation	3 (The second rib of the clavicle midline – the 5th rib of the axillary midline)	Ropivacaine (0.375%, 0.4 ml/kg)	Fentanyl	NA

Supplementary Table SI. Cont.

Study ID	Country	Groups of block	Ports of operating	Moment of block	Number of block segments	Types of local anesthetics	Opioid data	Pain score data (24 h)
Ökmen 2018	Turkey	Placebo vs. SAPB	2, 3	Pre-operation	3 (The second rib of the clavicle midline – the 5th rib of the axillary midline)	Bupivacaine (0.25%, 20 ml)	Tramadol	Table (0, 2, 6, 12, 24)
Park 2018	South Korea	Placebo vs. SAPB	1, 2, 3	Pre-operation	2 (5th to 7th ribs of axillary midline)	Ropivacaine (0.375%, 15 ml)	Fentanyl	Table (0-1, 1-6, 6-12, 12-24)
Wu 2018	China	TPVB vs. ICNB	Unclear	Pre-operation	1 (T5-T6) vs. 3 (4th-7th intercostal space)	Ropivacaine (0.5%, 0.3 ml/kg)	Sufentanil	Plot (1, 2, 4, 6, 10, 24)
Cui 2019	China	Placebo vs. TPVB	1, 2, 3	Pre-operation	2 (T5-T6, T8-T9)	Ropivacaine (0.33%, 30 ml)	Oxycodone	Table (0.5, 6, 12, 24)
Hou 2019	China	Placebo vs. TPVB	Unclear	Pre-operation	1 (T6-T7)	Ropivacaine (0.375%, 25 ml)	Sufentanil	Table (1, 6, 12, 24)
Luo 2019	China	Placebo vs. TPVB	Unclear	Pre-operation	3 (T3-T6)	Ropivacaine (0.75%, 15 ml)	Oxycodone	Table (1, 4, 24)
Yu 2019	China	Placebo vs. SAPB	3	Pre-operation	1 (5th intercostal space of axillary midline)	Ropivacaine (0.375%, 20 ml)	Sufentanil	Table (2, 4, 8, 24)
Zhang 2019	China	TPVB vs. SAPB	1, 3	Pre-operation	1 (T5-T6) vs. 1 (5th intercostal space of axillary midline)	Ropivacaine (0.4%, 30 ml)	Sufentanil	Table (2, 4, 8, 12, 24)
Semyonov 2019	Israel	Placebo vs. SAPB	Unclear	Pre-operation	1 (5th intercostal space of axillary midline)	Bupivacaine (0.25%, 2 mg/kg)	Morphine	Table (4, 8, 12, 24)
Gaballah 2019	Egypt	ESPB vs. SAPB	Unclear	Pre-operation	1 (T5-T6) vs. 1 (6th intercostal space of axillary midline)	Bupivacaine (0.25%, 20 ml)	Pethidine	Plot (1, 2, 3, 4, 5, 6, 7, 8, 24)
Hu 2020	China	Placebo vs. TPVB	3	Post-operation	2 (T3-T4, T5-T6)	Ropivacaine (0.375%, 20 ml)	Sufentanil	Table (2, 6, 12, 24)
Hui 2020	China	Placebo vs. TPVB	3	Post-operation	2 (T5-T7)	Ropivacaine (0.5%, 0.3 ml/kg)	Sufentanil	Table (0, 3, 6, 12, 24)
Zhang 2020	China	Placebo vs. ESPB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.375%, 25 ml)	Sufentanil	NA

Supplementary Table SI. Cont.

Study ID	Country	Groups of block	Ports of operating	Moment of block	Number of block segments	Types of local anesthetics	Opioid data	Pain score data (24 h)
Xia 2020	China	Placebo vs. SAPB	1, 2, 3	Pre-operation	1 (5^{th} intercostal space of axillary midline)	Ropivacaine (0.375%, 20 ml)	Sufentanil	Table (6, 24)
chen 2020	China	TPVB vs. ESPB	3	Pre-operation	1 (T5-T6)	Ropivacaine (0.5%, 30 ml)	Morphine	Table (6, 12, 24)
Yunxia 2020	China	TPVB vs. ESPB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.4%, 25 ml)	Sufentanil	Table (1, 6, 12, 24)
Fang 2020	China	Placebo vs. ESPB vs. SAPB	3	Pre-operation	1 (T5-T6) vs. 1 (5^{th} intercostal space of axillary midline)	Ropivacaine (0.5%, 20 ml)	Hydromorphone	Plot (6, 12)
Chu 2020	China	Placebo vs. TPVB	Unclear	Pre-operation	2 (T4-T5, T7-T8)	Ropivacaine (0.375%, 20 ml)	Sufentanil	Plot (1, 4, 24)
Ciftci 2020	Turkey	Placebo vs. ESPB	Unclear	Pre-operation	1 (T5-T6)	Bupivacaine (0.25%, 20 ml)	Fentanyl	Table (0, 2, 4, 8, 16, 24)
Jae-Geum 2020	South Korea	Placebo vs. ESPB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.5%, 25 ml)	Fentanyl	Plot (1, 6, 12)
Yao 2020	China	Placebo vs. ESPB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.5%, 25 ml)	Sufentanil	Table (0.5, 1, 2, 4, 8, 24)
Zhao 2020	China	Placebo vs. ESPB	Unclear	Pre-operation	2 (T4-T5, T6-T7)	Ropivacaine (0.4%, 30 ml)	Oxycodone	Table (24)
Chen 2020	China	TPVB vs. ESPB vs. ICNB	2	Pre-operation	1 (T5-T6) vs. 3 (T5-T8) vs. 1 (incision)	Ropivacaine (0.375%, 20 ml)	Morphine	Table (0, 2, 4, 8, 24)
Ekinci 2020	Turkey	ESPB vs. SAPB	Unclear	Pre-operation	1 (T5-T6) vs. 1 (5^{th} intercostal space of axillary midline)	Bupivacaine (0.25%, 20 ml)	Fentanyl	Plot (1, 2, 4, 8, 16, 24)
Lee 2020	South Korea	SAPB vs. ICNB	3	Pre-operation, Post-operation	1 (5^{th} intercostal space of axillary midline) vs. 1 (incision)	Ropivacaine (0.375%, 20 ml)	Fentanyl	Table (2, 6, 12, 24)
Kang 2020	China	Placebo vs. TPVB	Unclear	Pre-operation	2 (T4-T5, T6-T7)	Ropivacaine (0.5%, 20 ml)	Oxycodone	Table (24)

Supplementary Table SI. Cont.

Study ID	Country	Groups of block	Ports of operating	Moment of block	Number of block segments	Types of local anesthetics	Opioid data	Pain score data (24 h)
Finnerty 2020	Ireland, Belgium, America	ESPB vs. SAPB	Unclear	Pre-operation	1 (T5-T6) vs. 1 (5^{th} intercostal space of axillary midline)	Bupivacaine (0.25%, 30 ml)	Oxycodone	Plot (1, 12, 24)
Liu 2021	China	Placebo vs. SAPB	3	Pre-operation	1 (5^{th} intercostal space of axillary midline)	Ropivacaine (0.375%, 20 ml)	Sufentanil	NA
Wang 2021	China	Placebo vs. SAPB	1, 2, 3	Pre-operation	1 (5^{th} intercostal space of axillary midline)	Ropivacaine (0.4%, 30 ml)	Sufentanil	Table (2, 4, 12, 24)
Li 2021	China	Placebo vs. TPVB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.5%, 20 ml)	Sufentanil	Table (2, 8, 12, 24)
Zha 2021	China	Placebo vs. TPVB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.5%, 10 ml)	Sufentanil	Plot (0.5, 2, 4, 6, 8, 12, 24)
Qiu 2021	China	Placebo vs. TPVB vs. SAPB	Unclear	Pre-operation	2 (T4-T6) vs. 1 (5^{th} intercostal space of axillary midline)	Ropivacaine (0.375%, 30 ml)	Sufentanil Dezocine	Plot (1, 24)
Er 2021	China	Placebo vs. SAPB	Unclear	Pre-operation	1 (5^{th} intercostal space of axillary midline)	Ropivacaine (0.375%, 15 ml)	Sufentanil	Table (6, 12, 24)
Xu 2021	China	Placebo vs. ICNB	Unclear	Post-operation	1 (incision)	Ropivacaine (0.375%, 5 ml)	Fentanyl	Table (2, 4, 8, 12 , 24)
Turhan 2021	Turkey	TPVB vs. ESPB vs. ICNB	Unclear	Pre-operation	1 (T5-T6) vs. 1 (T5-T6) vs. 3 (4^{th} to 7^{th} ribs of axillary midline)	Bupivacaine (0.5%, 20 ml)	Morphine	Table (0, 1 4 12 24)
Baytar 2021	Turkey	TPVB vs. SAPB	Unclear	Pre-operation	1 (T4-T5) vs. 1 (5^{th} intercostal space of axillary midline)	Bupivacaine (0.25%, 0.4 ml/kg)	Tramadol	Table (0, 1, 6, 12, 24)
Baldinelli 2021	Italy	SAPB vs. ICNB	Unclear	Pre-operation, Post-operation	1 (5^{th} intercostal space of axillary midline) vs. 5 (3^{rd}-8^{th} rib)	Bupivacaine (0.5%, 30 ml)	Morphine	Table (0, 2, 4, 6, 12, 24)

Supplementary Table SI. Cont.

Study ID	Country	Groups of block	Ports of operating	Moment of block	Number of block segments	Types of local anesthetics	Opioid data	Pain score data (24 h)
Kim 2021	South Korea	SAPB vs. ICNB	Unclear	Pre-operation, Post-operation	1 (5^{th} intercostal space of axillary midline) vs. 2 (one intercostal space above and below the incision)	Ropivacaine (0.375%, 20 ml)	Fentanyl	Table (3, 6, 12)
Hu 2021	China	Placebo vs. TPVB	1	Post-operation	1 (T4-T5)	Ropivacaine (0.375%, 20 ml)	Sufentanil	Table (6, 12, 24)
Liu 2021	China	Placebo vs. ESPB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.4%, 25 ml)	Sufentanil	Table (2, 4, 8, 24)
Chen 2022	China	Placebo vs. TPVB	3	Pre-operation	2 (T4-T5, T6-T7)	Ropivacaine (0. 33%, 30 ml)	Sufentanil	Table (0.5, 1, 2, 6, 12, 24)
Zhang 2022a	China	Placebo vs. TPVB vs. ESPB	Unclear	Pre-operation	1 (T4-T5)	Ropivacaine (0.5%, 30 ml)	Sufentanil	Table (1, 6, 12, 24)
Fu 2022	China	TPVB vs. ESPB	Unclear	Pre-operation	1 (T5-T6)	Ropivacaine (0.5%, 20 ml)	Hydromor-phone	Plot (0, 12, 24)
Zhang 2022b	China	TPVB vs. SAPB	Unclear	Pre-operation	1 (T5-T6) vs. 1 (3^{th} intercostal space of axillary midline)	Ropivacaine (0.5%, 20 ml)	Hydromor-phone	Table (12, 24)
Yuan 2022	China	Placebo vs. TPVB	3	Pre-operation	2 (T4-T5, T6-T7)	Ropivacaine (0. 33%, 30 ml)	Tramadol	Table (6, 12, 24)

Supplementary Table SII. League table for different ending events

24-hour morphine consumption [mg]				
Placebo	**–15.120 (–20.191, –10.249)**	**–14.680 (–21.138, –8.139)**	**–3.380 (–11.637, 5.088)**	**–8.795 (–16.383, –1.182)**
15.120 (10.250, 20.191)	TPVB	0.571 (–5.661, 7.106)	11.755 (3.238, 19.804)	6.387 (–0.738, 14.043)
14.679 (8.140, 21.139)	–0.571 (–7.106, 5.661)	ESPB	11.103 (1.818, 20.608)	5.923 (–2.644, 14.032)
3.380 (–5.088, 11.637)	–11.755 (–19.804, –3.238)	–11.103 (–20.608, –1.818)	SAPB	–5.288 (–14.255, 3.425)
8.795 (1.182, 16.383)	–6.387 (–14.043, 0.738)	–5.923 (–14.032, 2.644)	5.288 (–3.425, 14.255)	ICNB
Pain score Early stage (0–6 h)				
Placebo	–1.888 (–2.236, –1.579)	–1.809 (–2.272, –1.332)	–1.779 (–2.225, –1.327)	–1.825 (–2.441, –1.192)
1.888 (1.579, 2.236)	TPVB	0.078 (–0.381, 0.545)	0.120 (–0.386, 0.606)	0.074 (–0.534, 0.676)
1.809 (1.332 2.272)	–0.078 (–0.545, 0.381)	ESPB	0.028 (–0.526, 0.592)	–0.019 (–0.676, 0.677)
1.779 (1.327, 2.225)	–0.120 (–0.606, 0.386)	–0.028 (–0.592, 0.526)	SAPB	–0.047 (–0.747, 0.662)
1.825 (1.192, 2.441)	–0.074 (–0.676, 0.534)	0.019 (–0.677, 0.676)	0.047 (–0.662, 0.747)	ICNB
Pain score Medium stage (6–12 h)				
Placebo	–1.340 (–1.670, –0.985)	–1.311 (–1.750, –0.871)	–0.876 (–1.329, –0.407)	–1.069 (–1.640, –0.512)
1.340 (0.985, 1.669)	TPVB	0.022 (–0.451, 0.483)	0.473 (0.015, 0.917)	0.267 (–0.326, 0.833)
1.311 (0.871, 1.750)	–0.022 (–0.483, 0.451)	ESPB	0.441 (–0.051, 0.989)	0.251 (–0.421, 0.852)
0.876 (0.407, 1.329)	–0.473 (–0.917, –0.015)	–0.441 (–0.989, 0.051)	SAPB	–0.198 (–0.842, 0.438)
1.069 (0.512, 1.640)	–0.267 (–0.833, 0.326)	–0.251 (–0.852, 0.421)	0.198 (–0.438, 0.842)	ICNB
Pain score Late stage (12–24 h)				
Placebo	–0.902 (–1.179, –0.610)	–0.857 (–1.288, –0.438)	–1.016 (–1.405, –0.578)	–1.053 (–1.619, –0.490)
0.902 (0.610, 1.179)	TPVB	0.044 (–0.372, 0.455)	–0.106 (–0.543, 0.333)	–0.160 (–0.739, 0.409)
0.857 (0.438, 1.288)	–0.044 (–0.455, 0.372)	ESPB	–0.148 (–0.647, 0.361)	–0.205 (–0.809, 0.459)
1.016 (0.579, 1.405)	0.106 (–0.333, 0.543)	0.148 (–0.361, 0.647)	SAPB	–0.053 (–0.676, 0.609)
1.053 (0.490, 1.619)	0.160 (–0.409, 0.739)	0.205 (–0.459, 0.809)	0.053 (–0.609, 0.676)	ICNB
24–hour rescue analgesia				
Placebo	0.044 (0.001, 0.812)	0.109 (0.002, 2.198)	0.092 (0, 11.689)	0.076 (0,5.024)
22.897 (1.232, 810.182)	TPVB	2.653 (0.107, 43.861)	2.044 (0.003, 360.926)	1.662 (0.032,95.907)
9.152 (0.455, 470.549)	0.377 (0.023, 9.345)	ESPB	0.822 (0.002, 83.731)	0.648 (0.014,43.502)
10.907 (0.086, 11259.362)	0.489 (0.003, 387.51)	1.217 (0.012, 601.359)	SAPB	0.753 (0.002,1103.281)
13.239 (0.199, 4052.327)	0.602 (0.01, 31.408)	1.543 (0.023, 71.212)	1.328 (0.001, 461.347)	ICNB

Supplementary Table SII. Cont.

Length of hospital stay [day]				
Placebo	–1.240 (–2.520, 0.029)	–1.173 (–2.397, –0.001)	–0.961 (–2.294, –0.013)	–0.925 (–3.780, 1.784)
1.240 (–0.029, 2.520)	TPVB	0.074 (–1.575, 1.634)	0.299 (–1.165, 1.673)	0.327 (–2.684, 3.297)
1.173 (0.001, 2.397)	–0.074 (–1.634, 1.575)	ESPB	0.198 (–1.047, 1.528)	0.245 (–2.398, 3.038)
0.961 (0.0134, 2.294)	–0.299 (–1.673, 1.165)	–0.198 (–1.528, 1.047)	SAPB	0.036 (–2.726, 2.738)
0.925 (–1.784, 3.780)	–0.327 (–3.297, 2.684)	–0.245 (–3.038, 2.398)	–0.036 (–2.738, 2.726)	ICNB
Nausea and vomiting				
Placebo	0.278 (0.171, 0.454)	0.302 (0.194, 0.483)	0.374 (0.254, 0.548)	0.495 (0.248, 0.984)
3.597 (2.201, 5.859)	TPVB	1.091 (0.59, 1.982)	1.361 (0.786, 2.266)	1.781 (0.809, 3.764)
3.31 (2.072, 5.159)	0.916 (0.504, 1.695)	ESPB	1.235 (0.732, 2.117)	1.637 (0.755, 3.529)
2.67 (1.826, 3.941)	0.735 (0.441, 1.273)	0.81 (0.472, 1.366)	SAPB	1.324 (0.666, 2.621)
2.021 (1.016, 4.027)	0.561 (0.266, 1.237)	0.611 (0.283, 1.325)	0.756 (0.382, 1.502)	ICNB

Supplementary Table SIII. Heterogeneity test

	24-hour morphine consumption								
	i2.pair	**i2.cons**	**incons.p**						
Placebo vs. TPVB	99.87	99.85	0.756						
Placebo vs. ESPB	89.76	88.59	0.668						
Placebo vs. SAPB	98.38	97.11	0.967						
Placebo vs. ICNB	72.44	70.07	0.699						
TPVB vs. ESPB	99.67	99.65	0.363						
TPVB vs. SAPB	81.92	84.6	0.114						
TPVB vs. ICNB	93.07	94.48	0.609						
ESPB vs. SAPB	NA	0	0.7						
ESPB vs. ICNB	16.26	97.59	0.082						
SAPB vs. ICNB	98.58	98.54	0.073						
Global I^2	99.72	99.65							
Pain score	**Early stage (0–6 h)**			**Medium stage (6–12 h)**			**Late stage (12–24 h)**		
	i2.pair	**i2.cons**	**incons.p**	**i2.pair**	**i2.cons**	**incons.p**	**i2.pair**	**i2.cons**	**incons.p**
Placebo vs. TPVB	96.82	96.61	0.375	98.14	97.92	0.631	98.4	98.22	0.391
Placebo vs. ESPB	97.11	95.76	0.265	89.42	88.5	0.788	94.68	93.51	0.95
Placebo vs. SAPB	92.23	91.46	0.941	96.32	95.29	0.907	85.56	83.49	0.973
Placebo vs. ICNB	92.88	89.65	0.959	98.32	95.87	0.777	98.31	96.12	0.057
TPVB vs. ESPB	74.93	72.76	0.209	74.26	81.15	0.41	72.4	65.95	0.718
TPVB vs. SAPB	0	68.73	0.565	87.93	84.12	0.386	0	0	0.888
TPVB vs. ICNB	95.44	96	0.166	88.88	85.81	0.143	75.13	87.35	0.091
ESPB vs. SAPB	0	51.21	0.803	97.52	97.56	0.662	100	100	0.857
ESPB vs. ICNB	0	85.05	0.08	0	0	0.808	0	0	0.695
SAPB vs. ICNB	16.88	0	0.903	0	55.82	0.282	NA	0	0.943
Global I^2	95.17	94.67		96.58	96.09		100	100	
	24-hour rescue analgesia			**Length of hospital stay**			**Nausea and vomiting**		
	i2.pair	**i2.cons**	**incons.p**	**i2.pair**	**i2.cons**	**incons.p**	**i2.pair**	**i2.cons**	**incons.p**
Placebo vs. TPVB	76.34	85.2	0.209	97.53	96.4	0.238	62.77	58.83	0.591
Placebo vs. ESPB	97.23	94.36	0.982	88.51	81.73	0.646	24.28	14.53	0.842
Placebo vs. SAPB	NA	40.13	0.253	87.87	86.16	0.841	0	0	0.877
Placebo vs. ICNB	–	–	–	–	–	–	0	0	0.414
TPVB vs. ESPB	0	24	0.215	97.09	89.42	0.426	0	0	0.766
TPVB vs. SAPB	–	–	–	NA	0	0.795	0	0	0.906
TPVB vs. ICNB	0	0	NA	–	–	–	0	6.67	0.202
ESPB vs. SAPB	NA	89.87	0.203	38.03	0	0.881	0	0	0.931
ESPB vs. ICNB	0	0	NA	NA	NA	NA	NA	0	0.788
SAPB vs. ICNB	–	–	–	NA	NA	NA	0	0	0.822
Global I^2	84.49	85.43		93.58	90.86		3.7	0	

Supplementary Table IV. Inconsistency test: node splitting method

24–hour morphine consumption												
Comparison	**Direct**	**Indirect**	**Network**	***P*-value**								
Placebo vs. TPVB	–16 (–22, –9.6)	–14 (–24,–3.8)	–15 (–20, –10)	0.7514								
Placebo vs. ESPB	–13 (–23, –3.5)	–16 (–25,–6.5)	–15 (–21, –8)	0.6782								
Placebo vs. SAPB	–3.5 (–17, 9.8)	–3.6 (–15,7.8)	–3.6 (–12, 4.8)	0.9841								
Placebo vs. ICNB	–11 (–25, 3.4)	–7.8 (–18,2)	–8.8 (–16, –1.2)	0.7274								
TPVB vs. ESPB	–1.5 (–10, 7.1)	2.5 (–8.2,13)	0.59 (–5.8, 7.1)	0.5679								
TPVB vs. SAPB	21 (6.7, 35)	7.1 (–2.9,17)	12 (3.2, 20)	0.116								
TPVB vs. ICNB	5 (–4.4, 14)	14 (1.5,28)	6.3 (–0.92, 14)	0.2337								
ESPB vs. SAPB	17 (–15, 48)	10 (0.33,21)	11 (1.6, 21)	0.7118								
ESPB vs. ICNB	–2.9 (–16, 9.9)	12 (0.76,23)	5.7 (–2.7, 14)	0.0875								
SAPB vs. ICNB	3.6 (–9.5, 17.)	–12 (–24,–0.71)	–5.3 (–14, 3.6)	0.0709								
Pain score	**Early stage (0–6h)**				**Medium stage (6–12 h)**				**Late stage (12–24 h)**			
Comparison	**Direct**	**Indirect**	**Network**	***P*-value**	**Direct**	**Indirect**	**Network**	***P*-value**	**Direct**	**Indirect**	**Network**	***P*-value**
Placebo vs. TPVB	–1.8 (–2.2, –1.4)	–2.2 (–2.9, –1.4)	1.9 (–2.2, –1.6)	0.4202	–1.3 (–1.7, –0.86)	–1.5 (–2.2, –0.81)	–1.3 (–1.7, –1)	0.618	–0.83 (–1.2, –0.49)	–1.2 (–1.8, –0.52)	–0.9 (–1.2, –0.61)	0.3561
Placebo vs. ESPB	–2.1 (–2.7, –1.4)	–1.5 (–2.2, –0.76)	–1.8 (–2.3, –1.3)	0.1937	–1.3 (–1.8, –0.66)	–1.3 (–2.0, –0.65)	–1.3 (–1.7, –0.86)	0.8678	–0.84 (–1.5, –0.16)	–0.85 (–1.4, –0.27)	–0.86 (–1.3, –0.43)	0.9711
Placebo vs. SAPB	–1.8 (–2.4, –1.2)	–1.8 (–2.7, –0.98)	–1.8 (–2.2, –1.3)	0.9156	–0.91 (–1.5, –0.30)	–0.83 (–1.5, –0.18)	–0.88 (–1.3, –0.44)	0.8416	–1.0 (–1.6, –0.45)	–1.0 (–1.7, –0.38)	–1.0 (–1.4, –0.59)	0.9226
Placebo vs. ICNB	–1.8 (–2.7, –0.89)	–2.1 (–2.8, –1.3)	–1.8 (–2.4, –1.2)	0.662	–1.2 (–2.3, –0.14)	–1.0 (–1.8, –0.26)	–1.1 (–1.7, –0.49)	0.791	–1.7 (–2.5, –0.91)	–0.61 (–1.3, 0.11)	–1.1 (–1.6, –0.50)	0.0479
TPVB vs. ESPB	0.42 (–0.27, 1.1)	–0.37 (–1.1, 0.31)	0.085 (–0.40, 0.58)	0.1041	–0.28 (–1.2, 0.60)	0.16 (–0.41, 0.73)	0.03 (–0.44, 0.51)	0.2996	0.11 (–0.45, 0.67)	–0.074 (–0.74, 0.59)	0.035 (–0.38, 0.46)	0.6675

Supplementary Table IV. Cont.

TPVB vs. SAPB	–0.15 (–1.2, 0.84)	0.24 (–0.35, 0.84)	0.12 (–0.40, 0.63)	0.5066	0.69 (0.045, 1.3)	0.21 (–0.48, 0.86)	0.45 (0.0033, 0.9)	0.405	–0.061 (–0.83, 0.72)	–0.13 (–0.69, 0.43)	–0.11 (–0.56, 0.33)	0.8819
TPVB vs. ICNB	0.51 (–0.31, 1.3)	0.015 (–0.93, 0.96)	0.088 (–0.54, 0.72)	0.4209	0.73 (–0.074, 1.5)	0.021 (–0.83, 0.86)	0.26 (–0.36, 0.85)	0.2251	0.28 (–0.41, 0.98)	–0.52 (–1.4, 0.37)	–0.15 (–0.70, 0.40)	0.1611
ESPB vs. SAPB	0.13 (–0.79, 1.1)	–0.024 (–0.75, 0.71)	0.031 (–0.53, 0.59)	0.7973	–0.28 (–1.1, 0.5)	–0.52 (–1.2, 0.14)	–0.42 (–0.94, 0.09)	0.64	–0.22 (–1.1, 0.68)	–0.12 (–0.74, 0.51)	–0.14 (–0.66, 0.36)	0.8439
ESPB vs. ICNB	–1.0 (–2.2, 0.23)	0.42 (–0.41, 1.3)	0.0015 (–0.69, 0.69)	0.0586	0.097 (–1.2, 1.4)	0.27 (–0.51, 1)	0.23 (–0.43, 0.88)	0.3314	0.0029 (–1.1, 1.1)	–0.38 (–1.1, 0.39)	–0.19 (–0.81, 0.42)	0.5669
SAPB vs. ICNB	–0.12 (–1.5, 1.3)	–0.0078 (–0.81, 0.80)	–0.029 (–0.72, 0.66)	0.8951	–0.77 (–1.9, 0.31)	–0.13 (–0.92, 0.66)	–0.19 (–0.86, 0.46)	0.8137	0.0073 (–1.8, 1.7)	–0.052 (–0.73, 0.64)	–0.044 (–0.68, 0.60)	0.9461
		24–hour rescue analgesia				**Length of hospital stay**				**Nausea and Vomiting**		
Comparison	**Direct**	**Indirect**	**Network**	***P*-value**	**Direct**	**Indirect**	**Network**	***P*-value**	**Direct**	**Indirect**	**Network**	***P*-value**
Placebo vs. TPVB	–2.3 (–6.7, 1.5)	–5.2 (–12, 0.22)	–3.1 (–6.6, –0.23)	0.3737	–1.8 (–3.4, –0.29)	0.57 (–2, 3.1)	–1.24 (–2.52, 0.03)	0.1006	–1.3 (–1.9, –0.75)	–1.1 (–2, –0.29)	–1.3 (–1.7, –0.81)	0.6565
Placebo vs. ESPB	–2.5 (–8.4, 2.1)	–2.1 (–7.7, 2.5)	–2.1 (–5.9, 0.85)	0.8806	–0.83 (–2.4, 0.74)	–1.8 (–3.9, 0.23)	–1.17 (–2.34, –0.001)	0.4317	–1.2 (–1.8, –0.68)	–1.2 (–2.2, –0.21)	–1.2 (–1.7, –0.76)	0.9671
Placebo vs. SAPB	–37 (–1.2e+02, –2.3)	–0.029 (–7.2, 6.3)	–2.3 (–9.2, 2.4)	0.037	–0.83 (–1.9, 0.26)	–1.2 (–3.4, 0.97)	–0.96 (–2.29, –0.01)	0.7397	–0.94 (–1.4, –0.46)	–1.1 (–1.9, –0.27)	–0.98 (–1.4, –0.58)	0.7934
Placebo vs. ICNB	–	–	–	–	–	–	–	–	–0.33 (–1.3, 0.74)	–1.0 (–2.1, –0.035)	–0.68 (–1.4, 0.021)	0.3346
TPVB vs. ESPB	1.7 (–2.2, 5.7)	–1.2 (–8.4, 5)	0.9 (–2.2, 3.9)	0.3938	0.62 (–1.7, 3.1)	–0.66 (–2.8, 1.5)	–0.11 (–1.6, 1.5)	0.4006	0.16 (–1.1, 1.4)	0.039 (–0.67, 0.71)	0.064 (–0.54, 0.66)	0.8524
TPVB vs. SAPB	–	–	–	–	0.11 (–3.1, 3.4)	–0.38 (–2.1, 1.4)	–0.28 (–1.7, 1.2)	0.7747	–0.17 (–0.98, 0.67)	–0.46 (–1.2, 0.27)	–0.28 (–0.80, 0.23)	0.5999
TPVB vs. ICNB	–	–	–	–	–	–	–	–	–0.47 (–1.9, 0.99)	0.94 (–0.019, 1.9)	0.57 (–0.20, 1.3)	0.1066
ESPB vs. SAPB	1.5 (–4.4, 7.2)	–41 (–1.5e+02, –1.1)	–0.22 (–6.1, 4.5)	0.0289	–0.041 (–2.3, 2.2)	–0.28 (–2.1, 1.5)	–0.17 (–1.5, 1.2)	0.8548	–0.16 (–1.1, 0.70)	–0.29 (–0.96, 0.40)	–0.22 (–0.77, 0.31)	0.8104
ESPB vs. ICNB	–	–	–	–	–	–	–	–	–0.066 (–3.9, 4.2)	0.52 (–0.29, 1.4)	0.51 (–0.29, 1.3)	0.7476
SAPB vs. ICNB	–	–	–	–	–	–	–	–	0.33 (–0.56, 1.2)	0.50 (–0.96, 2)	0.29 (–0.42, 1.0)	0.8218