Supplemental Appendix

Prognostic Value of Echocardiography-derived Right Ventricular Dysfunction in Hemodynamically Stable Pulmonary Embolism: Systematic Review and Meta-analysis

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Supplemental Methods

Search Strategy

MEDLINE® and Epub Ahead of Print, In-process & Other Non-Indexed Citations and Daily 1946 to October 21, 2021

1. exp Pulmonary Embolism/
2. ((pulmonary or lung) adj2 (embol* or thromboembol* or thrombo-embol*)).mp.
3. echocardiography/ or echocardiography, doppler/ or echocardiography, stress/ or echocardiography, three-dimensional/
4. (echocard* or echo-card*).mp.
5. 1 or 2
6. 3 or 4
7. 5 and 6
8. Limit 7 to (english language or no language specified)
9. 8 not (animals/ not (animals/ and humans))
10. 9 not (exp animals/ not humans/)
11. 9 and 10
12. limit 11 to case reports
13. 11 not 12

Embase 1974 to October 20, 2021

1. exp lung embolism/
2. ((pulmonary or lung) adj2 (embol* or thromboembol* or thrombo-embol*).mp
3. exp echocardiography/ or contrast echocardiography/ or doppler echocardiography/ or four dimensional echocardiography/ or three dimensional echocardiography/ or m mode echocardiography or speckle tracking echocardiography/ or stress echocardiography/ or tissue doppler imaging/ or transthoracic echocardiography/ or two dimensional echocardiography/

4. (echocard* or echo-card*).mp
5. 1 or 2
6. 3 or 4
7. 5 and 6
8. limit 7 to (english language or no language specified)
9. Limit 8 to conference abstracts
10. 8 not 9
11. case report/
12. 10 not 11

EBM Reviews - Cochrane Central Register of Controlled Trials October 2021

1. exp Pulmonary Embolism/
2. Pulmonary or lung) adj2 (embol* or thromboembol* or thrombo-embol*)).mp.
3. Echocardiography/ or echocardiography, doppler/ or echocardiography, stress/ or echocardiography, three-dimensional/
4. (echocard* or echo-card*).mp.
5. 1 or 2
6. 3 or 4
7. 5 and 6
8. Limit 7 to (english language or no language specified)
9. 8 not (animals/ not (animals/ and humans))
10. 9 not (exp animals/ not humans/)
11. 9 and 10

Supplemental Tables

Supplemental Table 1. PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Title, page 1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Page 3-4
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Page 6-7
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Page 7
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Page 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.	Page 7-8
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Supplementary Appendix page 1-2.
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.	Page 8-9
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.	Page 9
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.	Page 9

Section and Topic	Item #	Checklist item	Location where item is reported
	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.	Page 9
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.	Page 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.	Page 10
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)).	Page 8-10
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Page 10
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Page 10
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Page 10
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Page 10
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Page 10
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Page 10
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Page 10
RESULTS			

Section and Topic	Item #	Checklist item	Location where item is reported
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.	Figure 1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Figure 1, page 11
Study characteristics	17	Cite each included study and present its characteristics.	Supplemental Table 2, Supplementary Appendix References, page 4-8.
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Figure 5, page 13.
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.	Page 11-13, Figures 2-4.
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Page 14, Supplemental Figure 1, Figure 5.
	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.	Page 12-13, Figure 2, Figure 3, Figure 4, Table 2.
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Page 12-13, Table 2.
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	N/A
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Page 13, Figure 5.
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Page 14, Table 3.
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Page 14-18

Section and Topic	Item #	Checklist item	Location where item is reported
	23b	Discuss any limitations of the evidence included in the review.	Page 14-18
	23c	Discuss any limitations of the review processes used.	Page 14-18
	23d	Discuss implications of the results for practice, policy, and future research.	Page 14-18
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Page 2, page 7
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Page 2, page 7
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Page 2
Competing interests	26	Declare any competing interests of review authors.	Page 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.	Page 2

Supplemental Table 2. Characteristics of all included articles.

Author/Year	Prospective Study	Multicenter Study	Patient Risk Category	Number of Hemodynamically stable Patients	Number of patients with a TTE	Number of patients with RVD	Number of patients without RVD	TTE Study	Composite RVD Definition	Diagnosis to TTE (hrs)	Combined PE-related events	All-cause mortality	PE-related Mortality	Follow-up duration
Grifoni et al. 2000 [1]	•	-	All	162	162	65	97	•	•	1	Primary	Non-primary	Non-primary	In-hospital
Pruszczyk et al. 2003 [2]	-	-	All	69	69	51	18	-	•	Not reported	Primary	Non-primary	-	In-hospital
Pruszczyk et al. 2003 [3]	•	-	Hemodynamically stable	64	37	-	-	-	-	Not reported	Primary	-	-	In-hospital
Kucher et al. 2005 [4]	•	•	Hemodynamically stable	1035	1035	405	630	•	•	24	-	Primary	-	30 days
Pieralli et al. 2006 [5]	•	-	Hemodynamically stable	61	61	35	26	-	•	1	Primary	Non-primary	-	6 days
Logeart et al. 2007 [6]	•	-	Hemodynamically stable	67	67	36	31	-	•	24	Primary		Non-primary	In-hospital
Toosi et al. 2007 [7]	-	-	Hemodynamically stable	159	126	58	68	-	•	72	Primary	Non-primary	-	In-hospital
Jiménez et al. 2007 [8]	•	-	Hemodynamically stable	214	214	86	128	•	•	48	-	Primary	Non-primary	30 days
Zhu et al. 2008 [9]	•	•	All	468	468	198	270	•	•	Not reported	Primary	-	Non-primary	14 days
Gallotta et al. 2008 [10]	•	-	Hemodynamically stable	90	90	63	27	-	•	Emergency room	Primary	-	-	In-hospital
Palmieri et al. 2008 [11]	•	-	Hemodynamically stable	89	89	48	41	•	•	Emergency room	Primary	-	Non-primary	In-hospital
Vanni et al. 2009 [12]	•	-	Hemodynamically stable	386	386	201	185	-	•	1	Primary	-	-	In-hospital
Bova et al. 2009 [13]	•	•	Hemodynamically stable	201	201	117	84	-	•	12	-	Primary	Non-primary	In-hospital
Kostrubiec et al. 2009 [14]	-	-	Hemodynamically stable	56	56	30	26	-	•	24	Primary	Non-primary	-	In-hospital
Ozsu et al. 2010 [15]	•	-	Hemodynamically stable	108	108	44	62	•	•	24	-	Primary	Non-primary	30 days
Kostrubiec et al. 2010 [16]	•	-	Hemodynamically stable	212	211	123	88	-	•	24	-	Primary	-	30 days
Stein et al. 2010 [17]	-	•	Hemodynamically stable	1273	900	237	663	•	•	Not reported	-	Non-primary	Primary	In-hospital
Dellas et al. 2010 [18]	•	•	Hemodynamically stable	126	112	44	68	-	•	2	Primary	-	-	30 days
Jimenez et al. 2011 [19]	•	-	Hemodynamically stable	591	591	120	471	-	•	24	-	-	Primary	30 days
Yoo et al. 2012 [20]	-	-	All	180	144	74	70	•	•	-	Non-primary	Primary	Non-primary	In-hospital
Choi et al. 2012 [21]	-	-	Hemodynamically stable	84	84	51	33	-	•	6	-	-	Primary	In-hospital
Labyk et al. 2012 [22]	-	-	All	330	330	-	-	-	-	-	Primary	-	-	In-hospital
Lankeit et al. 2013 [23]	•	-	Hemodynamically stable	136	102	48	54	-	•	-	Primary	-	-	30 days
Sanchez et al. 2013 [24]	•	•	Hemodynamically stable	484	484	79	405	•	-	24	Primary	-	-	30 days
Becattini et al. 2013 [25]	•	•	Hemodynamically stable	1515	1106	756	350	•	•	48	Non-primary	Primary	Non-primary	In-hospital
Duran et al. 2014 [26]	•	-	Hemodynamically stable	40	40	17	23	-	•	4	-	Primary	-	30 days
Pruszczyk et al. 2014 [27]	•	-	Hemodynamically stable	411	411	241	170	•	•	72	Primary	-	-	In-hospital

Lobo et al. 2014 [28]	•	•	Hemodynamically stable	1326	1326	306	1020	•	-	24	-	Primary	Non-primary	30 days
Aribas et al. 2014 [29]	•	-	Hemodynamically stable	120	120	70	50	-	•	24	Non-primary	Primary	-	In-hospital
Kukla et al. 2014 [30]	-	•	Intermediate	245	245	211	34	-	•	Not reported	Non-primary	Primary	-	In-hospital
Vanni et al. 2015 [31]	•	•	Hemodynamically stable	496	496	201	295	-	•	24	Primary	-	-	7 days
Kaeberich et al. 2015 [32]	•	•	Hemodynamically stable	682	588	219	369	-	•	2	Primary	-	-	30 days
Hofmann et al. 2016 [33]	•	•	Hemodynamically stable	400	400	143	257	•	•	72	Non-primary	Primary	-	30 days
Paczynska et al. 2016 [34]	•	-	Hemodynamically stable	76	76	16	52	•	-	As soon as possible	-	-	Primary	30 days
Langer et al. 2016 [35]	•	-	Hemodynamically stable	161	161	99	62	-	•	2	-	-	Primary	30 days
Dahhan et al. 2016 [36]	-	-	Hemodynamically stable	69	69	-	-	•	-	48	-	Primary	-	30 days
Weekes et al. 2017 [37]	•	-	Hemodynamically stable	123	123	29	94	•	•	-	Primary	-	-	In-hospital
Ozsu et al. 2017 [38]	-	-	Hemodynamically stable	489	456	140	316	-	•	48	-	Primary	-	30 days
Ciurzynski et al. 2018 [39]	-	-	Hemodynamically stable	400	400	19	381	•	-	24	Primary	-	-	30 days
Lee et al. 2019 [40]	•	-	Hemodynamically stable	144	144	-	-	•	-	168	Primary	-	-	In-hospital
Beigel et al. 2019 [41]	-	-	Intermediate	179	179	39	140	-	•	Not reported	Primary	-	-	30 days
Domaradzki et al. 2019 [42]	-	-	Intermediate	178	178	-	-	-	-	48	Primary	-	-	48 hours
Mirambeaux et al. 2020 [43]	•	•	Hemodynamically stable	848	848	191	643	•	•	24	Primary	Non-primary	Non-primary	30 days
Acar et al. 2020 [44]	-	-	Hemodynamically stable	160	310	163	147	•	-	48	-	Primary	-	In-hospital
Yuriditsky et al. 2020 [45]	-	-	All	52	52	30	22	•	-	Not reported	Primary	-	-	In-hospital
Kurnicka et al. 2020 [46]	Not reported	-	Hemodynamically stable	139	139	-	-	•	-	72	Primary	-	-	30 days
Prosperi-Porta et al. 2020 [47]	-	•	Intermediate	665	642	-	-	•	-	48	Primary	-	-	In-hospital
Pruszczyk et al. 2020 [48]	•	•	Hemodynamically stable	490	490	60	430	•	-	48	Primary	-	-	30 days
Matos et al. 2020 [49]	-	•	Hemodynamically stable	362	362	42	320	•	-	48	Primary	-	-	30 days
Santos et al. 2020 [50]	-	•	Intermediate	81	81	30	51	-	•	At admission	Primary	-	-	30 days
Caglar et al. 2021 [51]	•	-	Hemodynamically stable	525	119	82	37	-	•	24	-	Primary	-	30 days
Osken et al. 2021 [52]	-	•	Hemodynamically stable	635	635	-	-	•	-	24	-	Primary	-	In-hospital
Acar et al. 2021 [53]	-	•	Hemodynamically stable	116	116	-	-	•	-	48	-	Primary	-	In-hospital
Lyhne et al. 2021 [54]	-	-	Hemodynamically stable	627	627	-	-	•	-	48	Primary	Non-primary	-	7 days
Kamran et al. 2021 [55]	-	-	Hemodynamically stable	215	215	112	103	•	-	Not reported	Primary	-	-	In-hospital

Supplemental Table 3. Newcastle-Ottawa Scale for grading of methodological article quality

Cohort Studies									
Author and year	**Representativeness of exposed cohort**	**Selection of non-exposed cohort**	**Ascertainment of exposure**	**Demonstration outcome of interest was NOT present at the start of study**	**Comparability of cohorts on the basis of the design or analysis**	**Assessment of outcome**	**Was follow-up long enough for outcomes to occur**	**All subjects accounted for?**	**Total Score**
Grifoni et al. 2000 [1]	●	●	●	●	●	-	●	-	6
Pruszczyk et al. 2003 [3]	●	●	●	●	-	-	●	-	5
Pruszczyk et al. 2003 [2]	●	●	●	●	●	-	●	-	6
Kucher et al. 2005 [4]	-	●	●	-	●	-	●	●	5
Pieralli et al. 2006 [5]	●	●	●	●	-	-	●	-	5
Logeart et al. 2007 [6]	●	●	●	●	-	-	●	-	5
Toosi et al. 2007 [7]	-	●	●	●	-	●	●	-	5
Jiménez et al. 2007 [8]	●	●	●	●	●	-	●	●	7
Zhu et al. 2008 [9]	●	●	●	●	●	●	●	-	7
Gallotta et al. 2008 [10]	-	●	●	-	●	●	●	●	6
Palmieri et al. 2008 [11]	-	●	●	-	●	●	●	●	6
Vanni et al. 2009 [12]	●	●	●	●	●	-	●	-	6
Bova et al. 2009 [13]	●	●	●	●	●	●	●	-	7
Kostrubiec et al. 2009 [14]	●	●	●	●	-	-	●	-	5
Ozsu et al. 2010 [15]	●	●	●	●	●	●	●	-	7
Kostrubiec et al. 2010 [16]	●	●	●	●	-	●	●	-	6
Stein et al. 2010 [17]	-	●	●	●	●	●	●	-	6
Dellas et al. 2010 [18]	●	●	●	●	-	-	●	●	6
Jimenez et al. 2011 [19]	-	●	●	●	●●	●	●	-	7
Yoo et al. 2012 [20]	●	●	●	●	●	●	●	-	7
Choi et al. 2012 [21]	●	●	●	●	-	-	●	-	5
Labyk et al. 2012 [22]	●	●	●	●	-	●	●	●	7
Lankeit et al. 2013 [23]	●	●	-	●	-	●	●	-	5
Sanchez et al. 2013 [24]	●	●	●	-	●	●	●	●	7
Becattini et al. 2013 [25]	●	●	●	●	●●	●	●	-	8
Pruszczyk et al. 2014 [27]	●	●	●	●	●	-	●	-	6
Lobo et al. 2014 [28]	-	●	●	●	●	●	●	-	6
Aribas et al. 2014 [29]	●	●	●	●	-	-	●	-	5
Kukla et al. 2014 [30]	-	●	-	●	-	-	●	-	3
Vanni et al. 2015 [31]	●	●	●	●	●	●	-	-	6
Kaeberich et al. 2015 [32]	●	●	-	-	●	●	●	-	5
Hofmann et al. 2016 [33]	●	●	●	●	●	●	●	-	7

Paczynska et al. 2016 [34]	●	●	●	●	●	-	●	-	6
Langer et al. 2016 [35]	●	●	●	●	●	-	●	-	6
Dahhan et al. 2016 [36]	-	●	●	●	●	-	●	-	5
Weekes et al. 2017 [37]	●	●	●	●	-	●	●	●	7
Ozsu et al. 2017 [38]	-	●	●	-	-	●	●	-	4
Ciurzynski et al. 2018 [39]	●	●	●	●	●	-	●	-	6
Lee et al. 2019 [40]	●	●	●	●	●	●	●	-	7
Beigel et al. 2019 [41]	-	●	-	-	●	-	●	-	3
Domaradzki et al. 2019 [42]	●	●	●	-	●	●	-	-	5
Mirambeaux et al. 2020 [43]	●	●	●	●	●	●	●	-	7
Acar et al. 2020 [44]	-	●	●	●	●●	-	●	-	6
Yuriditsky et al. 2019 [45]	-	●	●	●	●	●	●	-	6
Kurnicka et al. 2020 [46]	●	●	●	●	●	-	●	-	6
Prosperi-Porta et al. 2020 [47]	-	●	●	●	●	●	●	●	7
Pruszczyk et al. 2020 [48]	●	●	●	●	●	●	●	●	8
Matos et al. 2020 [49]	-	●	●	●	●	●	●	-	6
Caglar et al. 2021[51]	-	●	●	●	-	●	●	-	5
Santos et al. 2020[50]	-	●	●	●	-	●	●	●	6
Osken et al. 2021[52]	-	●	●	●	●●	●	●	-	7
Acar et al. 2021 [53]	-	●	●	●	●	-	●	-	5
Lyhne et al. 2021 [54]	-	●	●	●	●	-	●	-	5
Kamran et al. 2021 [55]	-	●	●	●	●	-	●	-	5
Case-control studies									
Author and year	**Is the case definition adequate?**	**Representativeness of the cases**	**Selection of Controls**	**Definition of Controls**	**Comparability of cases and controls on basis of design**	**Ascertainment of exposure**	**Same method of ascertainment for cases and controls**	**Non0response rate**	**Total Score**
Duran et al. 2014 [26]	●	●	●	●	-	●	●	-	6

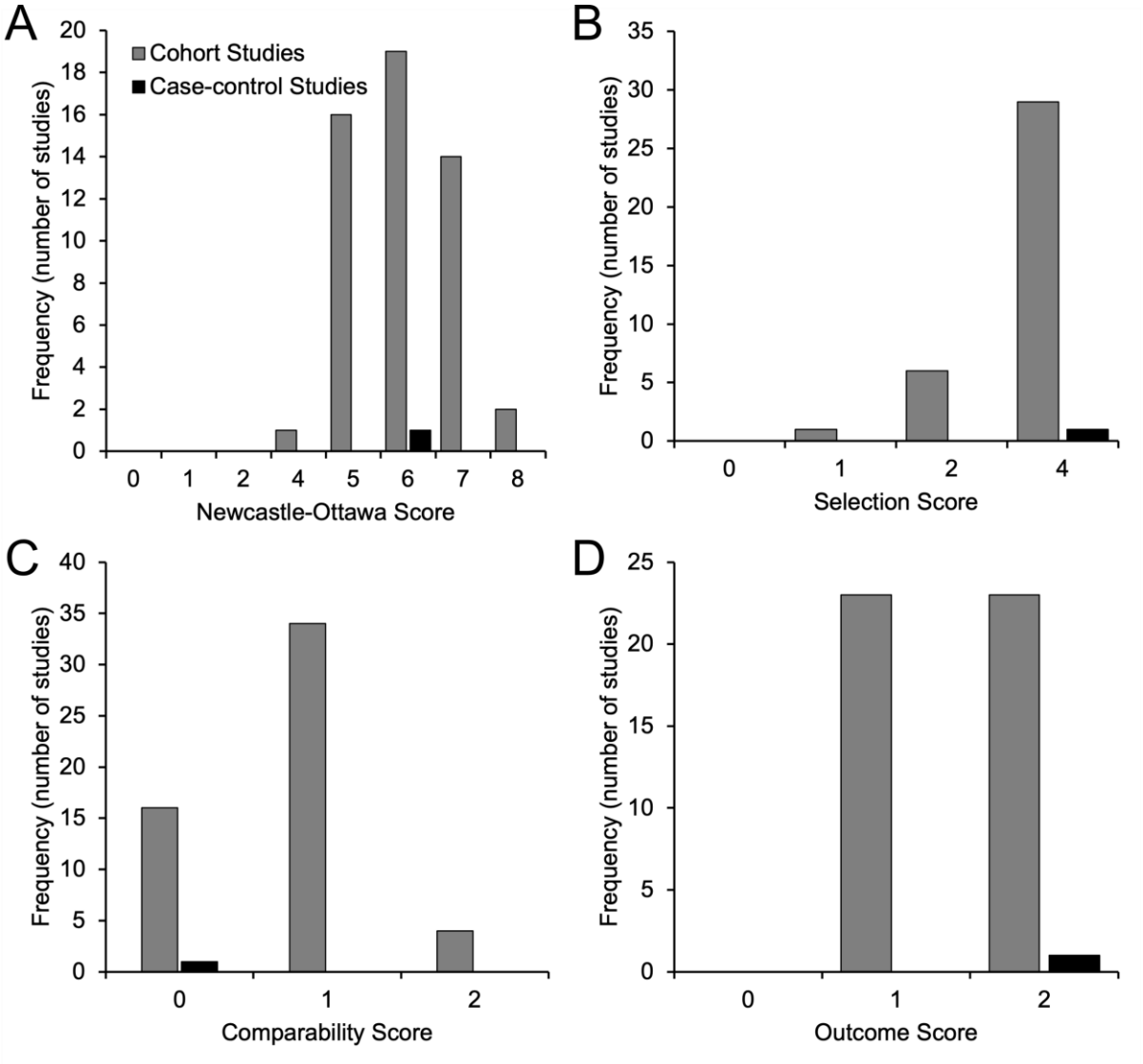
● = present, - = absent

Supplemental Table 4. Grading of Recommendations Assessment, Development and Evaluation summary of findings table

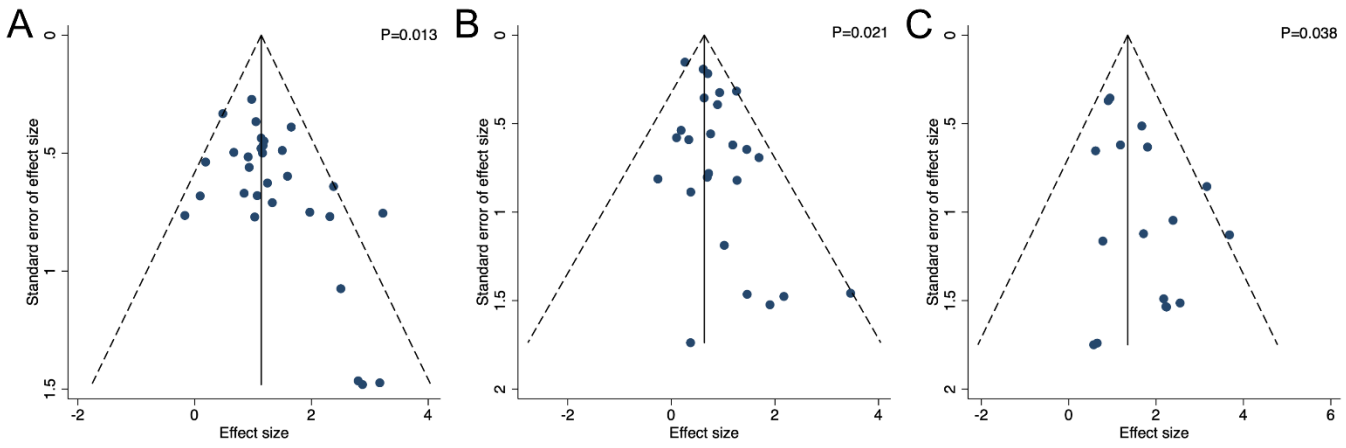
Quality assessment						Summary of findings	Quality rating	Comments
Design (number of studies)	**Limitations (risk of bias)**	**Inconsistency**	**Indirectness**	**Imprecision**	**Publication bias**	**Pooled estimates (95% CI)**		
Combined adverse events								
Observational (n=30) - 29 cohort studies - 19 prospective - 12 multicenter	- Potential for selection bias within numerous studies which only included patients with echocardiograms - Few studies adjusted for potential confounders (only 2/29 studies adjusted for potential confounders) - Few studies reported patients lost to follow-up	- Direction of effect consistent across studies with mild heterogeneity observed (as measured by the I^2=26.5% statistic for pooled results)	- Highly variable criteria used to define RVD for inclusion - Highly variable definition for combined adverse events	- Large effect size with narrow confidence interval seen across most studies	- Potential publication bias present as measured by funnel plot asymmetry	3.29 (2.49-4.18)	⊕⊕⊘⊘ Low	- Pooled estimates showed a consistent effect size supporting the prognostic value of RVD for combined adverse events. However, these findings need to be interpreted with the caveat that there was a lack of adjustment for confounders, highly variable definition for RVD and the combined adverse events, and potential publication bias.
All-cause mortality								
Observational (n=24) - 23 cohort studies - 1 case-control study - 14 prospective - 10 multicenter	- Potential for selection bias within numerous studies which only included patients with echocardiograms - Few studies adjusted for potential confounders (only 3/24 studies adjusted for potential confounders) - Few studies reported patients lost to follow-up	- Direction of effect consistent across studies with low heterogeneity (as measured by the I^2=9.6% statistic for pooled results)	- Highly variable criteria used to define RVD	- Moderate effect size with narrow confidence interval seen across most studies	- Potential publication bias present as measured by funnel plot asymmetry	2.00 (1.66 - 2.40)	⊕⊕⊘⊘ Low	- Pooled estimates showed a consistent effect size supporting the prognostic value of RVD for all-cause mortality. However, these findings need to be interpreted with the caveat that there was a lack of adjustment for confounders, highly variable definition for RVD used, and potential publication bias.
PE-related mortality								
Observational (n=17) - 17 cohort studies - 13 prospective - 6 multicenter	- Potential for selection bias within numerous studies which only included patients with echocardiograms - Few studies adjusted for potential confounders (only 2/17 studies adjusted for potential confounders) - Few studies reported patients lost to follow-up	- Direction of effect consistent across studies with low heterogeneity (as measured by the I^2=6.1% statistic for pooled results)	- Highly variable criteria used to define RVD	- Large effect size with narrow confidence interval seen across most studies	- Potential publication bias present as measured by funnel plot asymmetry	4.01 (2.79-5.78)	⊕⊕⊘⊘ Low	- Pooled estimates showed a consistent effect size supporting the prognostic value of RVD for PE-related mortality. However, these findings need to be interpreted with the caveat that there was a lack of adjustment for confounders, highly variable definition for RVD use, and publication bias.

Supplemental Figures

Supplemental Figure 1. Newcastle Ottawa Scale with subgroup scores. (A) Newcastle Ottawa overall score, (B) Selection subgroup (maximum score 4), (C) Comparability subgroup (maximum score 2), and (D) Outcome score (maximum score 3)



Supplementary Figure 2. Funnel plots showing risk of publication bias for (A) combined adverse events, (B) all-cause mortality, and (C) PE-related mortality.



References of articles included in systematic review

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