

Supplementary file 4 Data and synthesis script

2023-09-26

Dataset

id	ee	ne	ec	nc	factor	corticosteroid	outcome	RoB	zero
Van Runnard 2006	1	15	1	16	anteipartum	prednisolone	Abruptio placenta	low	F
Magann 1994	3	12	3	13	anteipartum	dexa	Apgar score at 5 minutes < 7	some concerns	F
Van Runnard 2006	1	16	2	17	anteipartum	prednisolone	Apgar score at 5 minutes < 7	low	F
Ozer 2009	23	30	26	30	anteipartum	beta	Cesarean section	low	F
Van Runnard 2006	15	15	14	16	anteipartum	prednisolone	Cesarean section	low	F
Fonseca 2019	6	35	8	38	mixed	dexa	Composite morbidity	low	F
Van Runnard 2006	1	15	4	16	anteipartum	prednisolone	Composite morbidity	low	F
Ozer 2009	1	30	0	30	anteipartum	beta	Dialysis	low	F
Fonseca 2005	8	66	10	66	mixed	dexa	Eclampsia	low	F
Fonseca 2019	2	40	1	41	mixed	dexa	Eclampsia	low	F
Magann 1994	1	12	0	13	anteipartum	dexa	ICH	some concerns	F
Van Runnard 2006	4	16	2	17	anteipartum	prednisolone	ICH	low	F
Fonseca 2005	3	66	1	66	mixed	dexa	Maternal death	low	F
Fonseca 2019	0	42	2	45	mixed	dexa	Maternal death	low	F
Katz 2008	2	56	2	49	postpartum	dexa	Maternal death	low	F
Ozer 2009	0	30	0	30	anteipartum	beta	Maternal death	low	T
Van Runnard 2006	0	15	1	16	anteipartum	prednisolone	Maternal death	low	F
Vigil-De Gracia 1997	0	17	1	17	postpartum	dexa	Maternal death	high	F
Ozer 2009	0	30	1	30	anteipartum	beta	Maternal liver morbidity	low	F
Van Runnard 2006	0	15	3	16	anteipartum	prednisolone	Maternal liver morbidity	low	F
Fonseca 2005	3	66	1	66	mixed	dexa	Maternal pulmonary edema	low	F
Fonseca 2019	0	41	1	43	mixed	dexa	Maternal pulmonary edema	low	F
Katz 2008	2	56	5	49	postpartum	dexa	Maternal pulmonary edema	low	F

Corticosteroids in HELLP syndrome

Ozer 2009	1	30	1	30	ante partum	beta	Maternal pulmonary edema	low	F
Fonseca 2005	6	66	8	66	mixed	dexa	Maternal renal failure	low	F
Fonseca 2019	1	37	6	42	mixed	dexa	Maternal renal failure	low	F
Katz 2008	9	56	12	49	postpartum	dexa	Maternal renal failure	low	F
Ozer 2009	2	30	3	30	ante partum	beta	Maternal renal failure	low	F
Yalcin 1998	3	15	3	15	postpartum	dexa	Maternal renal failure	some concerns	F
Van Runnard 2006	0	16	2	17	ante partum	prednisolone	Necrotizing enterocolitis	low	F
Magann 1994	3	12	1	13	ante partum	dexa	Neonatal RDS	some concerns	F
Van Runnard 2006	6	16	8	17	ante partum	prednisolone	Neonatal RDS	low	F
Magann 1994	1	12	3	13	ante partum	dexa	Perinatal death	some concerns	F
Van Runnard 2006	3	16	4	17	ante partum	prednisolone	Perinatal death	low	F
Fonseca 2005	12	66	10	66	mixed	dexa	Platelet transfusion	low	F
Fonseca 2019	12	42	15	45	mixed	dexa	Platelet transfusion	low	F

Synthesis

Pre-specified outcomes

1. Maternal Death
2. Liver morbidity (hematoma, rupture, failure)
3. Acute pulmonary edema
4. Acute renal failure
5. Dialysis
6. Platelet transfusion
7. Perinatal death

Maternal Death

Pairwise meta-analysis

Study	RR	95%-CI %	W(common)
Fonseca 2005	3.0000	[0.3202; 28.1042]	25.4
Fonseca 2019	0.2141	[0.0106; 4.3328]	14.1
Katz 2008	0.8750	[0.1280; 5.9809]	34.5
Ozer 2009	NA		0.0
Van Runnard 2006	0.3548	[0.0156; 8.0730]	13.0
Vigil-De Gracia 1997	0.3333	[0.0146; 7.6344]	13.0

Number of studies: k = 5

Number of observations: o = 449

Number of events: e = 12

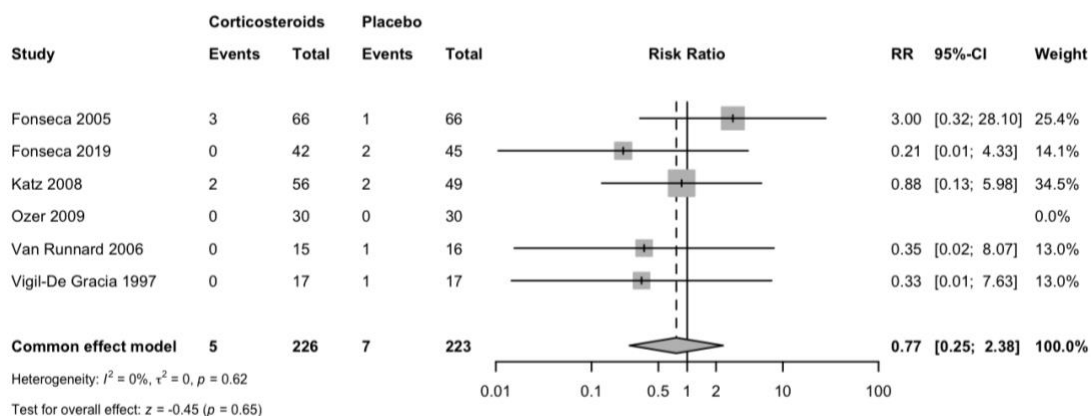
	RR	95%-CI	z	p-value
Common effect model	0.7700	[0.2492; 2.3799]	-0.45	0.6499

Quantifying heterogeneity:

 $\tau^2 = 0$ [0.0000; 7.4236]; $\tau = 0$ [0.0000; 2.7246] $I^2 = 0.0\%$ [0.0%; 79.2%]; $H = 1.00$ [1.00; 2.19]Test of heterogeneity: $Q = 2.64$; d.f. = 4; p-value 0.6192

Details on meta-analytical method:

- Inverse variance method
- Restricted maximum-likelihood estimator for τ^2
- Q-Profile method for confidence interval of τ^2 and τ
- Continuity correction of 0.5 in studies with zero cell frequencies



Risk of bias

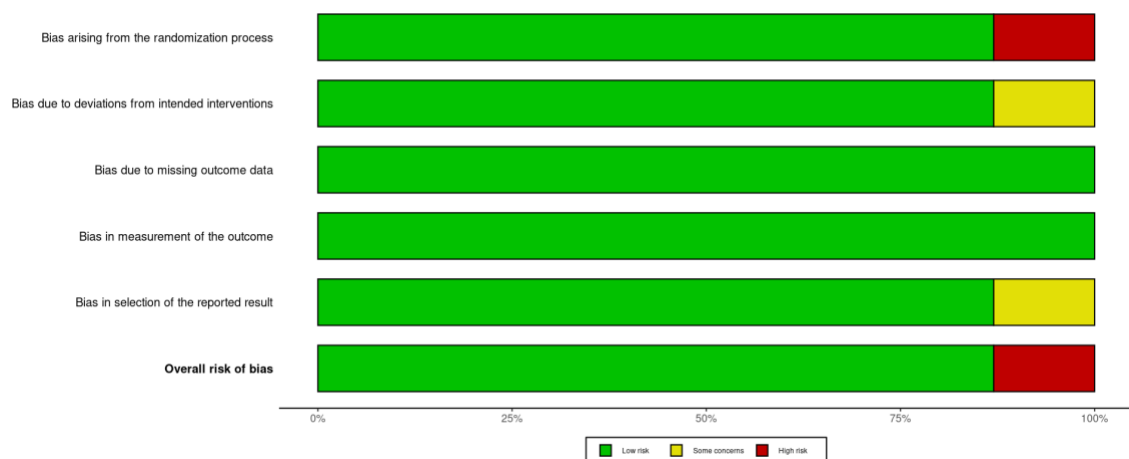
Summary traffic-light plot of risk-of-bias assessments

	Risk of bias domains					Overall
	D1	D2	D3	D4	D5	
Study	Fonseca 2005					
	Fonseca 2019					
	Katz 2008					
	Ozer 2009					
	Van Runnard 2006					
	Vigil de Garcia 1997					

Domains:
D1: Bias arising from the randomization process.
D2: Bias due to deviations from intended intervention.
D3: Bias due to missing outcome data.
D4: Bias in measurement of the outcome.
D5: Bias in selection of the reported result.

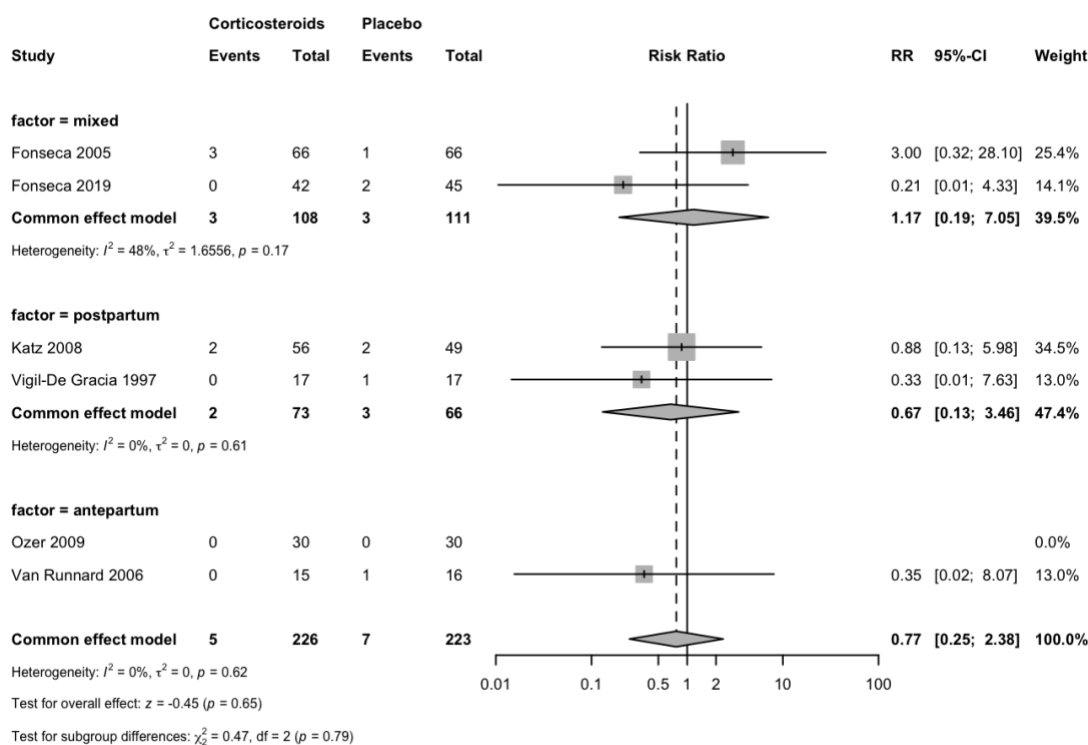
Judgement
 High
 Some concerns
 Low

Summary weighted barplot of risk-of-bias assessments

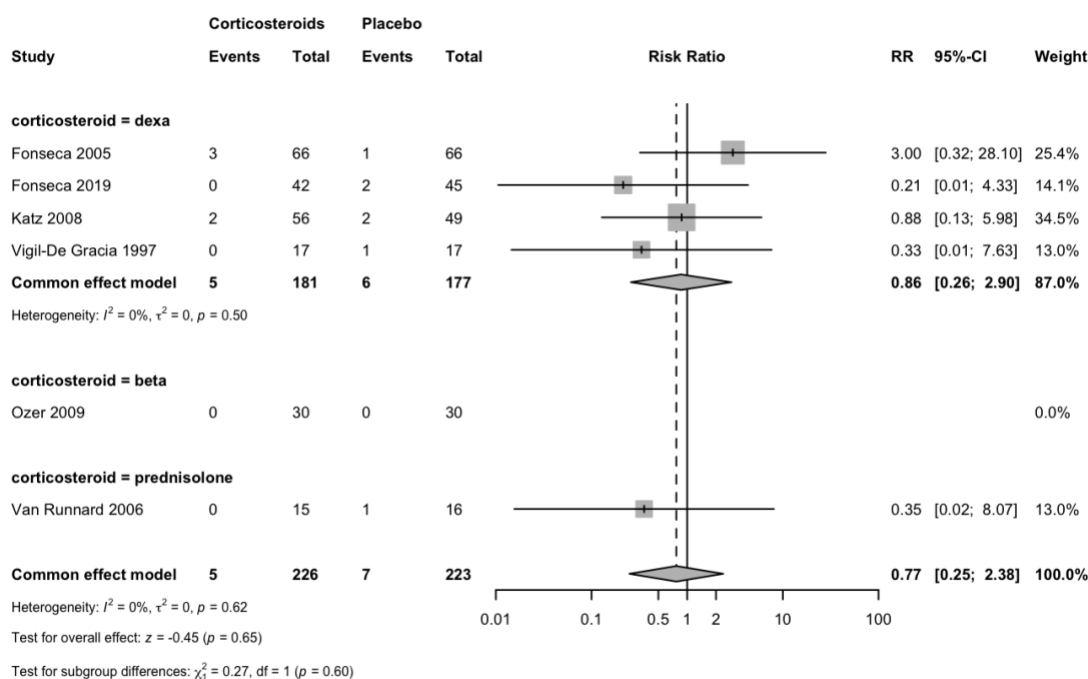


Corticosteroids in HELLP syndrome

Subgroup analysis: Antepartum vs postpartum vs mixed

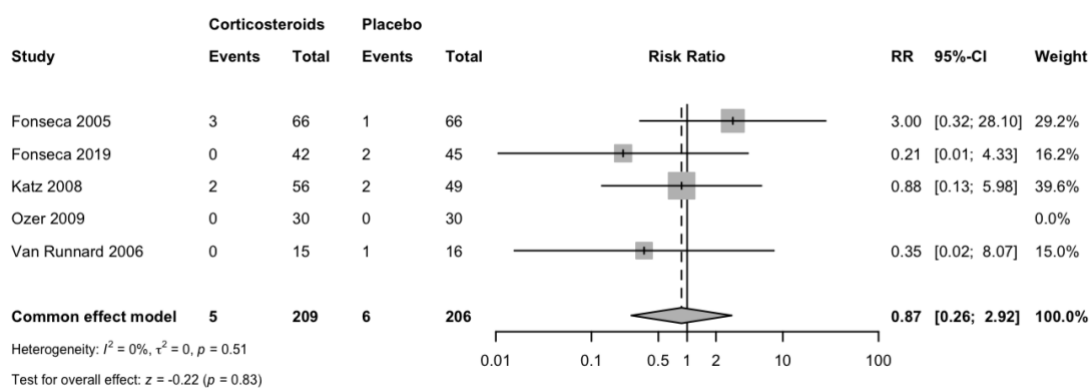


Subgroup analysis: Dexamethasone vs Betamethasone vs Prednisolone

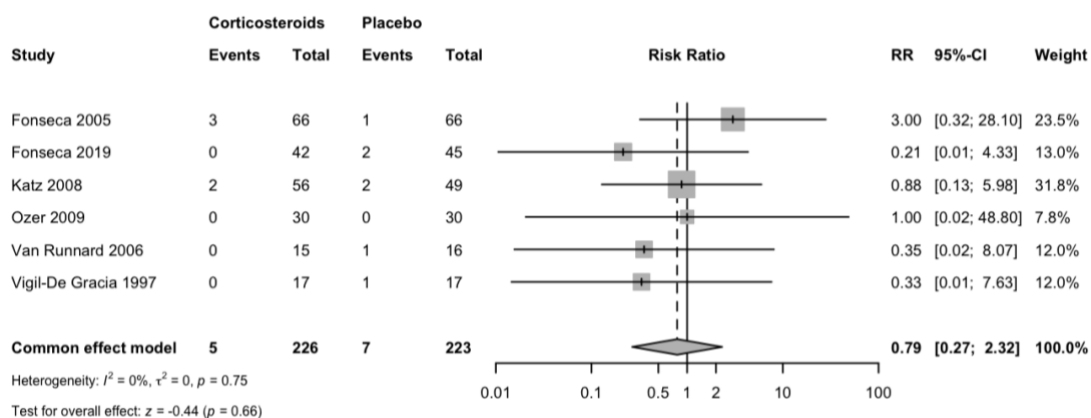


Corticosteroids in HELLP syndrome

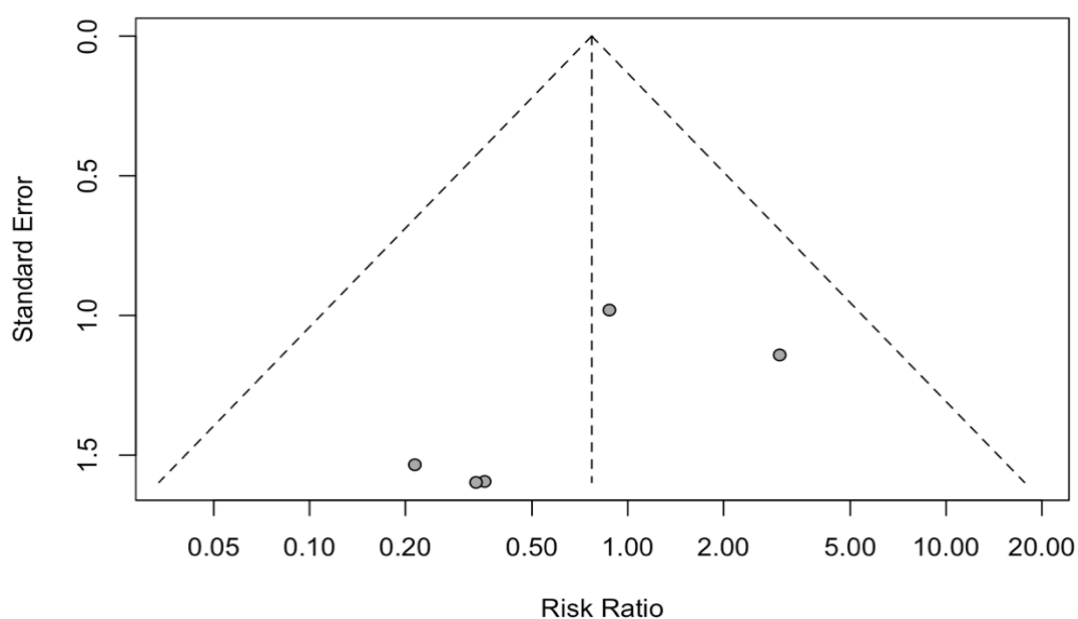
Sensitivity analysis: Low RoB



Sensitivity analysis: Studies with zero events included



Funnel plot



Acute pulmonary edema

	RR	95%-CI	%W(common)
Fonseca 2005	3.0000	[0.3202; 28.1042]	24.2
Fonseca 2019	0.3494	[0.0146; 8.3368]	12.0
Katz 2008	0.3500	[0.0711; 1.7238]	47.6
Ozer 2009	1.0000	[0.0655; 15.2598]	16.3

Number of studies: k = 4

Number of observations: o = 381

Number of events: e = 14

	RR	95%-CI	z	p-value
Common effect model	0.6975	[0.2323; 2.0944]	-0.64	0.5207

Quantifying heterogeneity:

$\tau^2 = 0.1164$ [0.0000; 13.2337]; $\tau = 0.3412$ [0.0000; 3.6378]

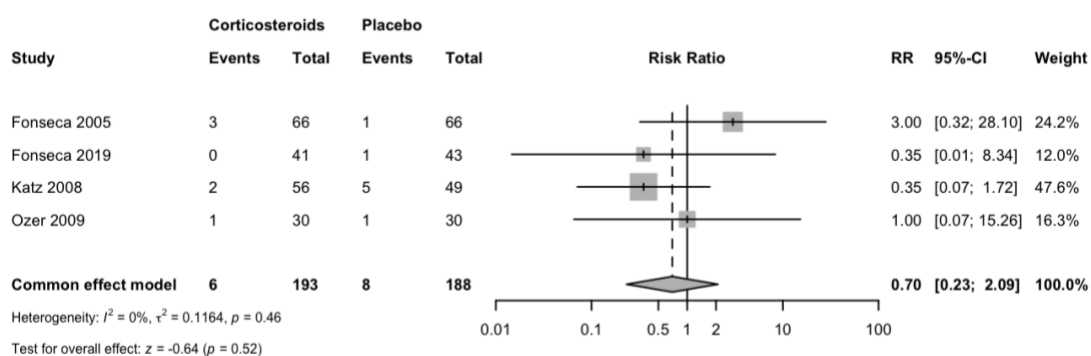
$I^2 = 0.0\%$ [0.0%; 84.7%]; $H = 1.00$ [1.00; 2.56]

Test of heterogeneity:

Q	d.f.	p-value
2.60	3	0.4572

Details on meta-analytical method:

- Inverse variance method
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Acute renal failure

Study	RR	95%-CI %	W(common)
Fonseca 2005	0.7500	[0.2754; 2.0428]	26.7
Fonseca 2019	0.1892	[0.0239; 1.4998]	6.3
Katz 2008	0.6563	[0.3025; 1.4238]	44.8
Ozer 2009	0.6667	[0.1198; 3.7087]	9.1
Yalcin 1998	1.0000	[0.2390; 4.1844]	13.1

Number of studies: k = 5

Number of observations: o = 406

Number of events: e = 53

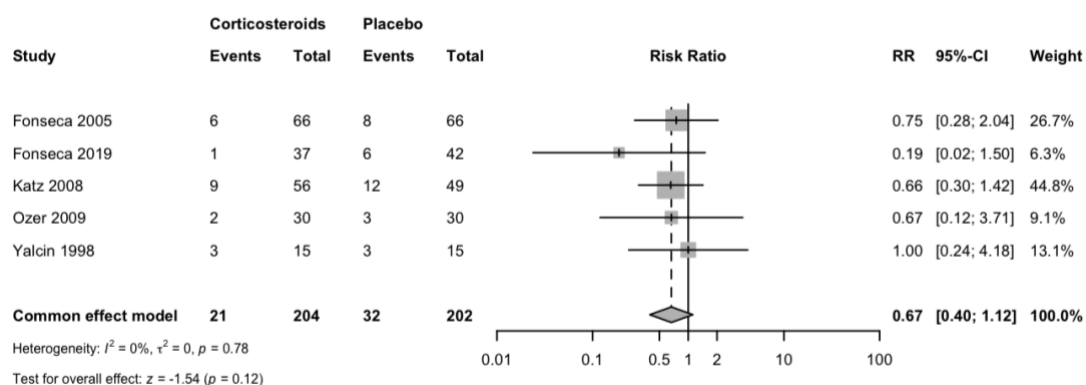
	RR	95%-CI	z	p-value
Common effect model	0.6658	[0.3965; 1.1179]	-1.54	0.1239

Quantifying heterogeneity:

 $\tau^2 = 0$ [0.0000; 2.4607]; $\tau = 0$ [0.0000; 1.5687] $I^2 = 0.0\%$ [0.0%; 79.2%]; $H = 1.00$ [1.00; 2.19]Test of heterogeneity: $Q = 1.78$; d.f. = 4; p-value = 0.7753

Details on meta-analytical method:

- Inverse variance method
- Restricted maximum-likelihood estimator for τ^2
- Q-Profile method for confidence interval of τ^2 and τ



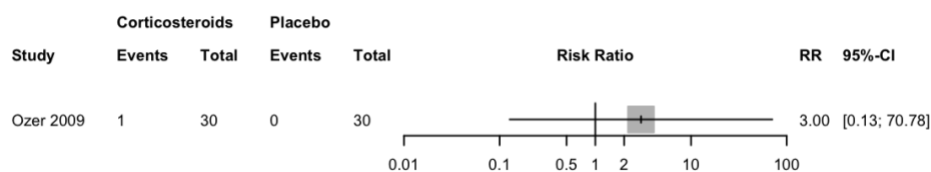
Dialysis

Number of observations: o = 60

Number of events: e = 1

Study	RR	95%-CI	z	p-value
Ozer 2009	3.0000	[0.1271; 70.7833]	0.68	0.4958

Details: Continuity correction of 0.5



Liver morbidity

	RR	95%-CI	%W(common)
Ozer 2009	0.3333	[0.0141; 7.8648]	45.4
Van Runnard 2006	0.1521	[0.0085; 2.7116]	54.6

Number of studies: k = 2

Number of observations: o = 91

Number of events: e = 4

	RR	95%-CI	z	p-value
Common effect model	0.2171	[0.0258; 1.8257]	-1.41	0.1598

Quantifying heterogeneity:

$\tau^2 = 0$; $\tau = 0$; $I^2 = 0.0\%$; $H = 1.00$

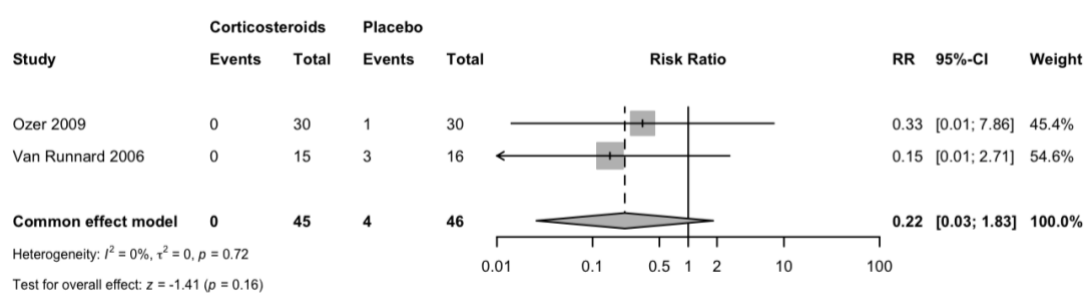
Test of heterogeneity:

Q d.f. p-value

0.13 1 0.7191

Details on meta-analytical method:

- Inverse variance method
- Restricted maximum-likelihood estimator for τ^2
- Continuity correction of 0.5 in studies with zero cell frequencies



Corticosteroids in HELLP syndrome

Platelet transfusion

	RR	95%-CI	%W(common)
Fonseca 2005	1.2000	[0.5574; 2.5832]	40.5
Fonseca 2019	0.8571	[0.4556; 1.6126]	59.5

Number of studies: k = 2

Number of observations: o = 219

Number of events: e = 49

	RR	95%-CI	z	p-value
Common effect model	0.9821	[0.6031; 1.5994]	-0.07	0.9422

Quantifying heterogeneity:

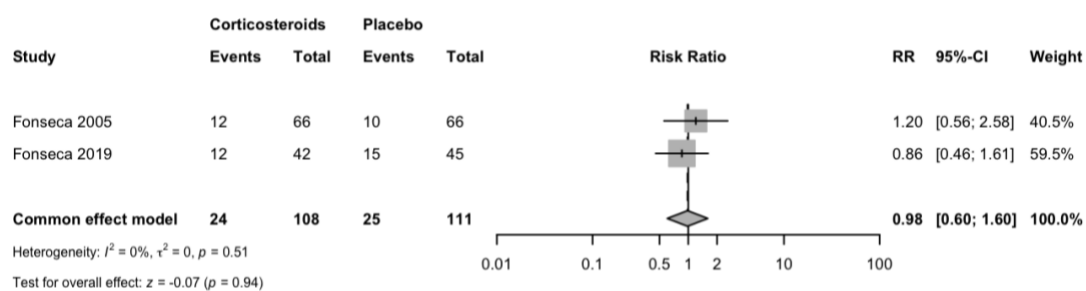
$\tau^2 = 0$; $\tau = 0$; $I^2 = 0.0\%$; $H = 1.00$

Test of heterogeneity:

	Q	d.f.	p-value
	0.44	1	0.5069

Details on meta-analytical method:

- Inverse variance method
- Restricted maximum-likelihood estimator for τ^2



Perinatal death

	RR	95%-CI	%W(common)
Magann 1994	0.3611	[0.0432; 3.0169]	28.3
Van Runnard 2006	0.7969	[0.2103; 3.0197]	71.7

Number of studies: k = 2

Number of observations: o = 58

Number of events: e = 11

	RR	95%-CI	z	p-value
Common effect model	0.6372	[0.2062; 1.9693]	-0.78	0.4337

Quantifying heterogeneity:

$\tau^2 = 0$; $\tau = 0$; $I^2 = 0.0\%$; $H = 1.00$

Test of heterogeneity:

	Q	d.f.	p-value
	0.38	1	0.5359

Details on meta-analytical method:

- Inverse variance method
- Restricted maximum-likelihood estimator for τ^2

