Corrigendum: Corticosteroids for Treating Sepsis in Adult Patients: A Systematic Review and Meta-Analysis

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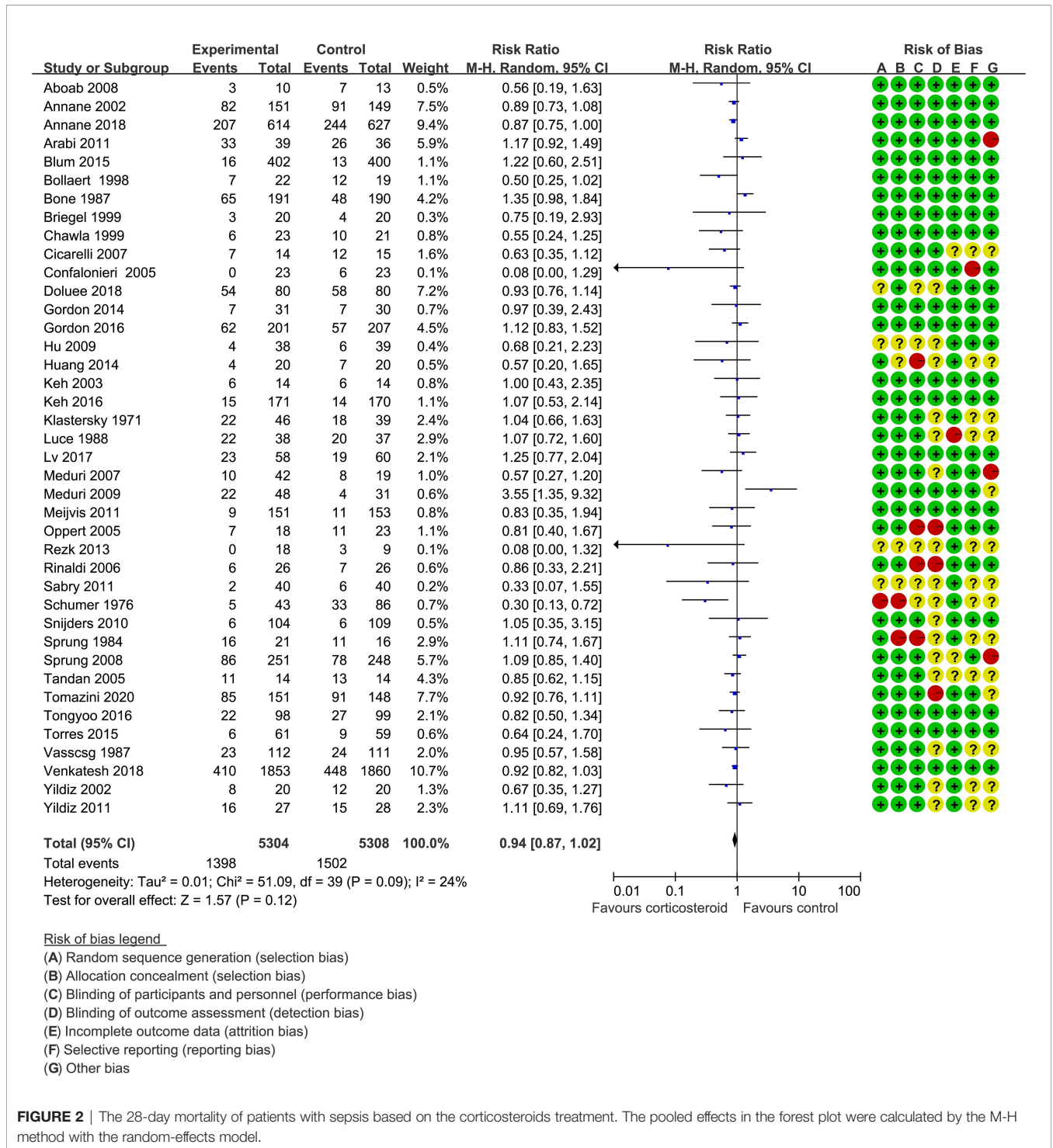
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A Corrigendum on:

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In the original article, there was a mistake in **Figure 2**, **Supplemental Figures 40-41, 43, 45-46** and **Table 2** as published. For **Figure 2**, we mistakenly adopted the fixed effect model, resulting in the difference between the picture and the actual results. In practice, we need to use the random-effect model to calculate the effect quantity and its 95% CIs, which is the most reasonable. In both the method part and the result part, we describe the calculation using the random effect model. For **Supplemental Figures 40-41, 43, 45-46** and **Table 2**, as we reworked all the figures, we made mistakes in uploading in the revised manuscript. The corrected **Figure 2**, **Supplemental Figures 40-41, 43, 45-46** and **Table 2** appear below.

In the original article, there was an error. **As the outcomes for Hypernatremia, Hyperglycemia and SOFA at day 7 were revised several times, and the pooled effects were not changed, but the up or low 95% CI had a little change. When we modified, we ignored the modifications in the two places.**

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Study or Subgroup	Experimental Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
Aboab 2008	3	10	7	13	0.5%	0.56 [0.19, 1.63]
Annane 2002	82	151	91	149	7.5%	0.89 [0.73, 1.08]
Annane 2018	207	614	244	627	9.4%	0.87 [0.75, 1.00]
Arabi 2011	33	39	26	36	5.9%	1.17 [0.92, 1.49]
Blum 2015	16	402	13	400	1.1%	1.22 [0.60, 2.51]
Bollaert 1998	7	22	12	19	1.1%	0.50 [0.25, 1.02]
Bone 1987	65	191	48	190	4.2%	1.35 [0.98, 1.84]
Briegel 1999	3	20	4	20	0.3%	0.75 [0.19, 2.93]
Chawla 1999	6	23	10	21	0.8%	0.55 [0.24, 1.25]
Cicarelli 2007	7	14	12	15	1.6%	0.63 [0.35, 1.12]
Confalonieri 2005	0	23	6	23	0.1%	0.08 [0.00, 1.29]
Doluee 2018	54	80	58	80	7.2%	0.93 [0.76, 1.14]
Gordon 2014	7	31	7	30	0.7%	0.97 [0.39, 2.43]
Gordon 2016	62	201	57	207	4.5%	1.12 [0.83, 1.52]
Hu 2009	4	38	6	39	0.4%	0.68 [0.21, 2.23]
Huang 2014	4	20	7	20	0.5%	0.57 [0.20, 1.65]
Keh 2003	6	14	6	14	0.8%	1.00 [0.43, 2.35]
Keh 2016	15	171	14	170	1.1%	1.07 [0.53, 2.14]
Klastersky 1971	22	46	18	39	2.4%	1.04 [0.66, 1.63]
Luce 1988	22	38	20	37	2.9%	1.07 [0.72, 1.60]
Lv 2017	23	58	19	60	2.1%	1.25 [0.77, 2.04]
Meduri 2007	10	42	8	19	1.0%	0.57 [0.27, 1.20]
Meduri 2009	22	48	4	31	0.6%	3.55 [1.35, 9.32]
Meijvis 2011	9	151	11	153	0.8%	0.83 [0.35, 1.94]
Oppert 2005	7	18	11	23	1.1%	0.81 [0.40, 1.67]
Rezk 2013	0	18	3	9	0.1%	0.08 [0.00, 1.32]
Rinaldi 2006	6	26	7	26	0.6%	0.86 [0.33, 2.21]
Sabry 2011	2	40	6	40	0.2%	0.33 [0.07, 1.55]
Schumer 1976	5	43	33	86	0.7%	0.30 [0.13, 0.72]
Snijders 2010	6	104	6	109	0.5%	1.05 [0.35, 3.15]
Sprung 1984	16	21	11	16	2.9%	1.11 [0.74, 1.67]
Sprung 2008	86	251	78	248	5.7%	1.09 [0.85, 1.40]
Tandan 2005	11	14	13	14	4.3%	0.85 [0.62, 1.15]
Tomazini 2020	85	151	91	148	7.7%	0.92 [0.76, 1.11]
Tongyoo 2016	22	98	27	99	2.1%	0.82 [0.50, 1.34]
Torres 2015	6	61	9	59	0.6%	0.64 [0.24, 1.70]
Vasscsg 1987	23	112	24	111	2.0%	0.95 [0.57, 1.58]
Venkatesh 2018	410	1853	448	1860	10.7%	0.92 [0.82, 1.03]
Yildiz 2002	8	20	12	20	1.3%	0.67 [0.35, 1.27]
Yildiz 2011	16	27	15	28	2.3%	1.11 [0.69, 1.76]
Total (95% CI)		**5304**		**5308**	**100.0%**	**0.94 [0.87, 1.02]**
Total events	1398		1502			

Heterogeneity: Tau² = 0.01; Chi² = 51.09, df = 39 (P = 0.09); I² = 24%
Test for overall effect: Z = 1.57 (P = 0.12)

Risk of bias legend
(**A**) Random sequence generation (selection bias)
(**B**) Allocation concealment (selection bias)
(**C**) Blinding of participants and personnel (performance bias)
(**D**) Blinding of outcome assessment (detection bias)
(**E**) Incomplete outcome data (attrition bias)
(**F**) Selective reporting (reporting bias)
(**G**) Other bias

FIGURE 2 | The 28-day mortality of patients with sepsis based on the corticosteroids treatment. The pooled effects in the forest plot were calculated by the M-H method with the random-effects model.

A correction has been made to *RESULTS, Secondary Outcomes of RESULTS, Paragraph 1*:

"**Supplementary Figures 10–22 present the assessment of the secondary outcomes. Corticosteroids achieved a small reduction in length of stay in hospital (MD, −1.38; 95% CI, −2.28 to −0.49; I² = 5%; evidence rank, high), SOFA scores at day 7 (MD, −0.90; 95% CI, −1.72 to −0.09; I² = 93%;** evidence rank, low), and time to resolution of shock (MD, −1.35; 95% CI, −1.79 to −0.92; I² = 68%; evidence rank, low) for patients with sepsis. Conversely, corticosteroids resulted in higher risk of hypernatremia (RR, 1.51; 95% CI, 1.10–2.07; I² = 0%; evidence rank, moderate) and hyperglycemia (RR, 1.19; 95% CI, 1.10–1.29; I² = 49%; evidence rank, high)."

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TABLE 2 | The findings and evidence rank of the included studies in patients with sepsis.

Pooled results	No. of Patients (No. of Studies)	Relative Effect, RR, or MD (95% CI)	Heterogeneity I^2,%	Absolute effect (95%CI)	Evidence rank
Primary outcomes					
28 d mortality	10,612 (40)	0.94 (0.87, 1.02)	24	17 fewer per 1000 (from 37 fewer to 6 more)	Moderate[1]
In-hospital mortality	8049 (23)	0.90 (0.82, 0.99)	39	33 fewer per 1000 (from 3 fewer to 60 fewer)	Moderate[1]
ICU mortality	7,152 (17)	0.90 (0.83,0.97)	7	28 fewer per 1000 (from 9 fewer to 48 fewer)	High
Secondary outcomes					
Long-term mortality	6,254 (9)	0.96 (0.88, 1.05)	54	24 fewer per 1000 (from 48 fewer to 20 more)	Low[2,3]
Shock reversal at 7 d	6,738 (16)	1.16 (1.06,1.27)	72	105 more per 1000 (from 39 more to 178 more)	Moderate[2]
Shock reversal at 28 d	2,526 (12)	1.07 (1.01,1.13)	12	48 more per 1000 (from 7 fewer to 89 more)	Moderate[2]
Gastroduodenal bleeding	5,128 (24)	1.07 (0.85,1.36)	0	3 more per 1000 (from 7 fewer to 17 more)	High
Superinfection	5,375 (24)	1.06 (0.92, 1.22)	13%	10 more per 1000 (from 13 fewer to 36 more)	Moderate[2]
Hypernatremia	4,569 (3)	1.51 (1.10,2.07)	0	12 more per 1000 (from 2 more to 24 more)	Moderate[2]
Hyperglycemia	8,787 (20)	1.19 (1.10,1.29)	49%	49 more per 1000 (from 24 more to 76 more)	High
Vasopressor-free days	1,316 (2)	1.93 (0.76, 3.09)	0	1.93 more per 1000 (from 0.76 more to 3.09 more)	Moderate[2]
Ventilation-free days	1,812 (4)	1.46 (0.27, 2.65)	21	1.46 more per 1000 (from 0.27 more to 2.65 more)	Moderate[2]
Length of stay in hospital	8,383 (19)	-1.38(-2.28, -0.49)	5	1.38 fewer per 1000 (from 2.28fewer to 0.49 fewer)	High
Length of stay in ICU	8,166 (22)	-0.89 (-1.80, 0.03)	47	0.89 fewer per 1000 (from 1.8 fewer to 0.03 more)	High
Time to resolution of shock	4,091 (5)	-1.35(-1.79, -0.92)	68	1.35 fewer per 1000 (from 1.79 fewer to 0.92 fewer)	Low[2,3]
SOFA score at day 7	3,076 (13)	-0.90 (-1.72, -0.09)	93	0.9 fewer per 1000 (from 1.72 fewer to 0.08 fewer)	Low[2,3]

RR, risk ratio; MD, mean difference; ICU, intensive care unit.
[1]Inconsistencies. [2]Imprecisions. [3]Risk of bias.

The authors apologize for these errors and state that they do not change the scientific conclusions of the article in any way. The original article has been updated.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fimmu.2021.771779/full#supplementary-material