Data supplement to McGirr et al. Adjunctive ketamine in electroconvulsive therapy: updated systematic review and meta-analysis. Br J Psychiatry doi: 10.1192/bjp.bp.116.195826

Supplement DS1 Database search

MEDLINE: inception-July 30th, 2016

Search terms: ((Ketamine OR Ketofol) AND (Electroconvulsive Therapy OR ECT))

EMBASE: inception-July 30th, 2016

Search terms: ((Ketamine OR Ketofol) AND (Electroconvulsive Therapy OR ECT))

Cochrane Central Register of Controlled Trials (CENTRAL): inception-July 30th, 2016

Search terms: ((Ketamine OR Ketofol) AND (Electroconvulsive Therapy OR ECT))

Table DS1. Excluded studies and reasons (for additional not meeting inclusion criteria, please see McGirr et al, 2015).

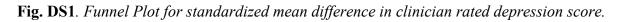
Study	Reason
Abdallah et al, 2012 (1)	Conference abstract, study results published and included
Bodnar et al, 2015 (2)	Conference abstract, study results published and included
Erdil et al, 2015a (3)	Physiological parameters only
Erdil et al, 2015b (4)	Physiological parameters only
	EEG focus - Crossover study preventing extraction of control
Erdogan et al, 2012 (5)	group
	Study protocol, study results provided by investigators and
Trevithick et al, 2015 (6)	included (Anderson et al, in press).
Wang et al, 2013 (7)	Correspondence
Wang et al, 2012 (8)	Single ECT session

 Table DS2.
 Trial evaluation using the Cochrane Collaboration's Tool for Assessing Risk of Bias

Study	Random sequence generation	Allocation participants outco		Incomplete outcome data	Selective reporting	Other Bias			
Abdallah et al, 2012	Unclear	Unclear	Low	Low	Low	Halted for Futility			
Anderson et al, in press	Low	Low	Low	Low	Low	Incorrect ketamine dosing in 11 patients			
Jarventausta et al, 2013	Low	Unclear	Low	Low	Low	-			
Kuscu et al, 2015	Unclear	Unclear	Participants – Unclear Personnel - Low	High	High (Clinical Response defined but not reported)	Data is not presented on 3 patients withdrawn due to adverse events			
Loo et al, 2012	Low	Unclear	Low	Low	Low	National thiopental shortage; n=3 propofol			
Rybakowski et al, in press	Unclear	Unclear	Participants – Unclear Personnel - Low	Low	Low	Three group design - one of the groups had 5 days of ketamine exposure whereas the other had 2. Ketamine			

						exposure was
						the same at
						session 5.
						Title and
						Abstract
						describe a
						double-blind
						RCT, however
						single-blind
						method
						description
						Unclear
						description of
						methods/miss
Salehi et al, 2015	Low	Unclear	High	Low	Low	ing
Saletii et al, 2013	LOW	Officieal	High	LOW	LOW	information
						Prolonged
						delirium
						reported in
						>60% of
						ketamine
						treated and
						>45% of
						thiopental
						treated after
						every ECT
						session.
					High	
						Data is not
Shams Alizadeh et					(Clinical	presented on
al, 2015	Low	Unclear	Low	Low	Response	2 withdrawn
., 2010					defined but	patients
					not	patients
					reported)	
Vegenti et al 2014	l a	Linglage	l a	Levi	Levi	No patients
Yoosefi et al, 2014	Low	Unclear	Low	Low	Low	meeting
						criteria for

						clinical
						response after
						6 ECT sessions
						100%
Zhong et al, 2016	Unclear	Unclear	Low	Low	Low	response rate
					Low	by 8 ECT for
						all conditions



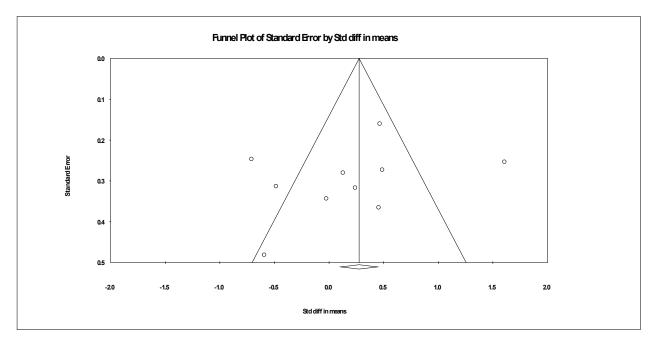


Fig. DS2. Funnel Plot for clinical response rates.

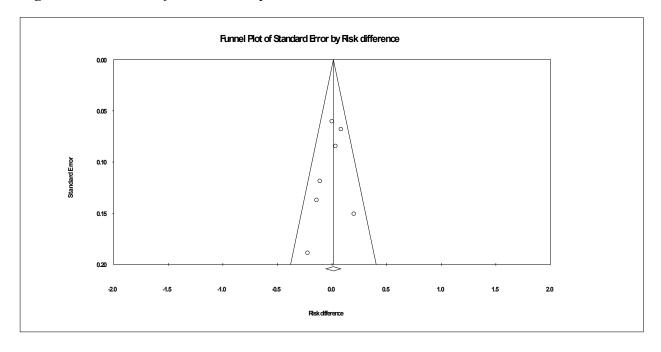


Fig. DS3. Funnel Plot for clinical remission rates.

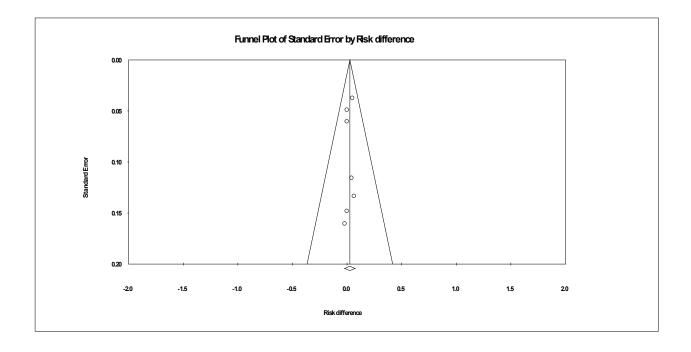


Fig. DS4. Adverse Events

Group by Adverse Event	Study name	Outcome		Statistics for each study			Events / Total				Odds ratio and 95% CI				
			Odds ratio	Lower limit	Upper limit	p-Value	Ketamine	Control							Relative weight
Affective Switch	Loo et al, 2012	Affective Switch	5.204	0.238	113.979	0.295	2/26	0 / 25	- 1	1-	_	-	_	_	100.0
Affective Switch			5.204	0.238	113.979	0.295			- 1	I	_	_			>
Agitation	Jarventausta et al, 2013	Agitation	3.581	0.136	94.305	0.445	1 / 16	0 / 18	- 1	_	-	-	-	_	11.7
Agitation	Loo et al, 2012	Agitation	1.909	0.579	6.296	0.288	14 / 22	11 / 23	- 1	- 1	-	-	-	_	88.2
Agitation			2.055	0.670	6.306	0.208			- 1	- 1		_			
Confusion	Jarventausta et al, 2013	Disorientation	39.000	4.022	378.199	0.002	15 / 16	5 / 18	- 1	- 1				+	30.9
Confusion	Loo et al, 2012	Confusion	3.281	0.968	11.125	0.056	14 / 22	8 / 23	- 1	- 1		-	+	-	48.9
Confusion	Kuscu et al, 2015	Confusion	1.481	0.058	38.053	0.813	1/40	0 / 19	⊬	-	-	-	_	-	20.1
Confusion			6.016	1.036	34.937	0.046			- 1	- 1		-	_		>
cvs	Jarventausta et al, 2013	Hypertension	3.581	0.136	94.305	0.445	1 / 16	0 / 18	- 1	-	_	-	+-		32.0
CVS	Yoosefi et al, 2014	Hypertension	2.636	0.099	69.884	0.562	1 / 17	0 / 14	⊬	—	_	—	-	_	31.9
ovs	Kuscu et al, 2015	Hypertension	2.532	0.116	55.370	0.555	2/40	0 / 19	I -	-		-	-	_	36.0
CVS			2.866	0.450	18.261	0.265			- 1	- 1	+	_)
										-		_		•	•
									0.1	0.2	0.5		2	5	10

Comparator AEs Ketamine AEs

References

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- 2. Bodnar A, Ferensztajn E, Krzywotulski M, Bartkowska-Sniatkowska A, Lewandowska A, Chlopocka-Wozniak M, et al. The effect of ketamine anesthesia on the efficacy of electroconvulsive therapy and cognitive functions in treatment-resistant depression. *European Neuropsychopharmacology*. 2015; **25**(Supplement 2): S434-S5.
- 3. Erdil F, Begec Z, Kayhan GE, Yologlu S, Ersoy MO, Durmus M. Effects of sevoflurane or ketamine on the QTc interval during electroconvulsive therapy. *J Anesth*. 2015; **29**(2): 180-5.
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