

Supplementary Online Content

Frye MA, Coombes BJ, McElroy SL, et al. Association of cytomegalovirus and *Toxoplasma gondii* antibody titers with bipolar disorder. *JAMA Psychiatry*. Published online September 18, 2019. doi:10.1001/jamapsychiatry.2019.2499

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Case-control analyses

Results for each case-control analysis using either logistic regression using seropositive status as the outcome (CMV IgG, Toxo IgG, and CMV+ & Toxo-) or linear regression using z-score or log-transformed z-score as the outcome (CMV IgM, Toxo IgM, and Measles IgG). Standard error (SE) is for either log(OR) or the estimates (Est).

Control comparison	Outcome	All Cases					Matched Analysis				
		# Control	# Case	OR/Est	SE	p	# Control	# Case	OR/Est	SE	p
BD	CMV IgG	745	1207	1.24	0.10	0.0296	745	746	1.22	0.11	0.0708
	Toxo IgG			0.69	0.15	0.0115			0.71	0.17	0.0401
	CMV+ & Toxo-			1.33	0.10	0.0044			1.31	0.11	0.0140
	CMV IgM			-0.03	0.02	0.0883			-0.02	0.02	0.2793
	Toxo IgM			-0.06	0.02	0.0019			-0.06	0.02	0.0054
	Measles IgG			0.09	0.04	0.0463			0.06	0.05	0.2496
BD-I	CMV IgG	745	823	1.33	0.11	0.0064	474	475	1.21	0.13	0.1576
	Toxo IgG			0.73	0.16	0.0491			0.78	0.20	0.2364
	CMV+ & Toxo-			1.41	0.11	0.0014			1.28	0.14	0.0725
	CMV IgM			-0.02	0.02	0.3349			0.01	0.02	0.8251
	Toxo IgM			-0.05	0.02	0.0129			-0.05	0.03	0.0748
	Measles IgG			0.12	0.05	0.0150			0.14	0.06	0.0227
BD-II	CMV IgG	745	364	1.00	0.13	0.9714	267	267	1.20	0.18	0.3272
	Toxo IgG			0.60	0.22	0.0210			0.59	0.29	0.0717
	CMV+ & Toxo-			1.13	0.14	0.3871			1.35	0.19	0.1173
	CMV IgM			-0.05	0.02	0.0215			-0.07	0.03	0.0357
	Toxo IgM			-0.07	0.03	0.0114			-0.09	0.04	0.0159
	Measles IgG			0.02	0.06	0.7309			-0.09	0.08	0.2512
Manic Psychosis	CMV IgG	745	401	1.34	0.13	0.0234	251	251	1.41	0.19	0.0653
	Toxo IgG			0.74	0.20	0.1347			0.94	0.29	0.8247

	CMV+ & Toxo-			1.46	0.13	0.0035			1.58	0.19	0.0164
	CMV IgM			-0.04	0.02	0.0834			-0.02	0.03	0.6066
	Toxo IgM			-0.05	0.02	0.0286			-0.01	0.03	0.6981
	Measles IgG			0.15	0.06	0.0107			0.18	0.08	0.0319
Control comparison	Outcome	# Control	# Case	OR/Est	SE	p	# Control	# Case	OR/Est	SE	p
No	CMV IgG	745	681	1.19	0.11	0.1218	419	420	1.17	0.14	0.2714
Psychosis	Toxo IgG			0.65	0.17	0.0135			0.59	0.22	0.0156
	CMV+ & Toxo-			1.26	0.11	0.0394			1.24	0.15	0.1410
	CMV IgM			-0.03	0.02	0.1376			-0.01	0.03	0.7353
	Toxo IgM			-0.05	0.02	0.0267			-0.06	0.03	0.0272
	Measles IgG			0.07	0.05	0.1668			-0.01	0.06	0.8950
Early Onset	CMV IgG	745	237	1.11	0.17	0.5129	132	132	0.65	0.26	0.0994
	Toxo IgG			0.79	0.27	0.3924			0.71	0.43	0.4311
	CMV+ & Toxo-			1.19	0.17	0.2960			0.82	0.27	0.4575
	CMV IgM			0.00	0.03	0.9348			0.00	0.05	0.9987
	Toxo IgM			-0.04	0.03	0.1759			-0.04	0.05	0.4121
	Measles IgG			0.10	0.07	0.1833			-0.01	0.12	0.9292
Non-early Onset	CMV IgG	745	911	1.29	0.10	0.0134	565	566	1.38	0.12	0.0096
	Toxo IgG			0.63	0.16	0.0033			0.66	0.19	0.0266
	CMV+ & Toxo-			1.41	0.10	0.0010			1.45	0.13	0.0031
	CMV IgM			-0.04	0.02	0.0329			-0.03	0.02	0.1506
	Toxo IgM			-0.06	0.02	0.0045			-0.07	0.02	0.0065
	Measles IgG			0.08	0.05	0.0982			0.08	0.05	0.1485

eTable 2. CRP Analysis

Matched analysis (Minnesota only) of CRP Adjusted for either BMI or both BMI and current smoking status. Each of the case groups are compared against controls. Standard error (SE) is for either log(OR) or the estimates (Est).

Covariates in the model:	Sex, education, age					Sex, education, age, + BMI					Sex, education, age, + BMI and smoking				
	Ctrls	Cases	Est	SE	<i>p</i>	Ctrls	Cases	Est	SE	P	Ctrls	Cases	Est	SE	<i>p</i>
BD	745	746	0.08	0.05	0.1389	704	697	0.03	0.05	0.5714	704	697	0.02	0.05	0.7263
BD-I	474	475	0.08	0.06	0.2114	444	443	0.06	0.06	0.2784	444	443	0.05	0.06	0.3652
BD-II	257	257	0.04	0.09	0.6755	247	242	-0.08	0.08	0.3589	247	242	-0.08	0.08	0.3297
Early onset BD	132	132	-0.09	0.13	0.4582	122	124	-0.10	0.12	0.3942	122	124	-0.11	0.12	0.3740
Non-early onset BD	565	566	0.12	0.06	0.0309	535	529	0.07	0.05	0.2072	535	529	0.06	0.05	0.2797
Manic psychosis	251	251	0.20	0.09	0.0243	233	236	0.11	0.08	0.1729	233	236	0.09	0.08	0.2721
No psychosis	419	420	0.01	0.07	0.9398	398	393	-0.03	0.06	0.6348	398	393	-0.04	0.07	0.5582

eTable 3. TATA+ Sensitivity Analysis Results

The non-TATA+ analysis results were provided for all Toxo-related results. Due to the potential effect TATA+ medications can have on Toxo measurements, we restrict these analyses to cases who are not taking TATA+ medications so that we can remove any potential confounding.

	Outcome	# Control	# Case	OR/Est	SE	p
BD	Toxo IgG	745	935	0.63	0.10	0.004
	CMV+/Toxo-			1.45	0.16	0.0004
	Toxo IgM			-0.05	0.10	0.018
BD-I	Toxo IgG	745	823	1.48	0.11	0.0005
	CMV+/Toxo-			0.72	0.18	0.0587
	Toxo IgM			0.45	0.11	0.0001
BD-II	Toxo IgG	745	364	0.96	0.14	0.7841
	CMV+/Toxo-			0.43	0.26	0.0013
	Toxo IgM			0.12	0.14	0.3920
Manic Psychosis	Toxo IgG	745	401	1.47	0.14	0.0069
	CMV+/Toxo-			0.71	0.23	0.1385
	Toxo IgM			0.49	0.14	0.0006
No Psychosis	Toxo IgG	745	681	1.24	0.12	0.0675
	CMV+/Toxo-			0.55	0.19	0.0023
	Toxo IgM			0.30	0.12	0.0118
Early Onset	Toxo IgG	745	237	1.11	0.19	0.5571
	CMV+/Toxo-			0.86	0.31	0.6134
	Toxo IgM			0.18	0.19	0.3186
Non-early Onset	Toxo IgG	745	911	1.38	0.11	0.0026
	CMV+/Toxo-			0.55	0.18	0.0006
	Toxo IgM			0.43	0.11	0.0001

eFigure. Distributions of Each Serology Measurement

Histograms of each serology measurement. Distribution of seropositive/seronegative dichotomization shown in right corner for CMV IgG and Toxo IgG.

