



Correction: Implications of Oxybate Dosing Regimen for Sleep, Sleep Architecture, and Disrupted Nighttime Sleep in Patients with Narcolepsy: A Commentary

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In this article Russell Rosenberg is deceased; Chad Ruoff has been denoted as the corresponding author with affiliation ‘Division of Pulmonary Medicine, Mayo Clinic, 13400 East Shea Boulevard, Scottsdale, AZ 85259, USA, e-mail: Ruoff.Chad@mayo.edu’.

The original article can be found online at <https://doi.org/10.1007/s40120-023-00543-z>.

Russell Rosenberg passed away after the publication of the commentary.
Rogelio Braceras and Wayne Macfadden are former employees of Jazz Pharmaceuticals.

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In Table 2 of this Commentary article, for the number of sleep stage shifts, number of arousals, and patient-reported sleep quality, the values for the REST-ON trial were inadvertently taken from a subgroup analysis of participants taking stimulants presented in Table 2 of the source article [1], rather than from the modified intent-to-treat (mITT) population (reported in Figs. 1–3 of the source article). Additionally, a minus symbol was missing from the value reported for the number of awakenings for the placebo group corresponding to the 6 g dose for SXB trial 2 and values were adjusted to remove “0” after a decimal place where unnecessary for this trial. Table 2 in our Commentary article has been corrected (see next page) to provide the values for the mITT population for the 3 parameters from the REST-ON trial and add the omitted minus symbol and align the decimal places for SXB trial 2.

Similarly, in the section “Both Twice-Nightly and Once-Nightly Oxybate Regimens Improve PSG Measures of DNS, With a Similar Magnitude of Effect” of this article, the number of stage shifts was incorrectly given as – 19.6 (the value for the subgroup analysis) instead of – 20.5 (the value for the modified intent-to-treat population). The corrected sentence is as follows: “Following 13 weeks of SXB-ER treatment (titrated to 9 g), total shifts per night from N1/2/3/REM to wake and N2/3/REM to N1 decreased significantly from baseline (LSM, – 20.5); this trial did not report stage shifts

Table 2 Effects of oxybate treatment on PSG measures of DNS

	Twice-nightly oxybate (SXB)			Once-nightly oxybate (SXB-ER)	
	SXB trial 1	SXB trial 2	Pediatric SXB trial	SXB trial 3	REST-ON trial
PSG measures of DNS	Median change from baseline to 8 weeks	Median change from baseline to 4 weeks (6 g) or 8 weeks (9 g)	Median change from baseline to end of study (individual doses)	Mean at 4 weeks (4.5 g), 6 weeks (6 g), 8 weeks (7.5 g), or 10 weeks (9 g)	LSMD vs placebo at week 3 (6 g), week 8 (7.5 g), or week 13 (9 g)
TST, min	Increased Placebo: 0.3 SXB 4.5 g: 0 SXB 6 g: 13.0 SXB 9 g: 18.0 [†]	Not significant Placebo: - 5.5 SXB 6 g: - 5 Placebo: - 0.5 SXB 9 g: - 4.5	-	Not significant (4.5 g decreased) Baseline: 383.4 SXB 4.5 g: 364.8* SXB 6 g: 363.0 SXB 7.5 g: 374.1 SXB 9 g: 380.8	-
WASO, min	Decreased Placebo: 2.0 SXB 4.5 g: - 5.8 SXB 6 g: - 3.8 SXB 9 g: - 22.0 [†]	-	-	-	-
N1, min (except pediatric data)	Decreased Placebo: - 2.3 SXB 4.5 g: - 9.5 SXB 6 g: - 13.5 ^{†††} SXB 9 g: - 22.5 ^{†††}	Decreased Placebo: 3.25 SXB 6 g: - 9.5 Placebo: 1.5 SXB 9 g: - 16 ^{†††}	Decreased SXB-naive: - 4.6% Taking SXB at study entry: - 0.6%	Not significant Baseline: 74.8 SXB 4.5 g: 72.3 SXB 6 g: 68.1 SXB 7.5 g: 69.4 SXB 9 g: 62.6	Decreased SXB-ER 6 g: - 5.9 [†] SXB-ER 7.5 g: - 11.0 ^{†††} SXB-ER 9 g: - 13.4 ^{†††}
N2, min	Not significant Placebo: 3.5 SXB 4.5 g: 9.5 SXB 6 g: 13.0 SXB 9 g: 31.5	Not significant Placebo: - 5.25 SXB 6 g: 0.5 Placebo: - 8.25 SXB 9 g: 3.5	No change Values not reported	Not significant Baseline: 217.8 SXB 4.5 g: 216.9 SXB 6 g: 216.9 SXB 7.5 g: 224.1 SXB 9 g: 238.0	Not significant SXB-ER 6 g: - 6.6 SXB-ER 7.5 g: 3.6 SXB-ER 9 g: - 13.5
SWS, min (except pediatric data)	Increased Placebo: 0 SXB 4.5 g: 3.0 [†] SXB 6 g: 21.0 ^{†††} SXB 9 g: 52.5 ^{†††}	Increased Placebo: 0 SXB 6 g: 11 [†] Placebo: 0 SXB 9 g: 43.5 ^{†††}	Increased SXB-naive: 12.6% Taking SXB at study entry: - 1.0%	Increased Baseline: 3.0 (1st half), 0.6 (2nd half) SXB 4.5 g: 3.5 (1st half), 0.7 (2nd half) SXB 6 g: 5.5 (1st half), 4.5 (2nd half) SXB 7.5 g: 9.8 (1st half), 4.5* (2nd half) SXB 9 g: 14.2 (1st half), 12.6* (2nd half)	Increased SXB-ER 6 g: 22.1 ^{†††} SXB-ER 7.5 g: 26.8 ^{†††} SXB-ER 9 g: 38.4 ^{†††}

Table 2 continued

	Twice-nightly oxybate (SXB)			Once-nightly oxybate (SXB-ER)	
	SXB trial 1	SXB trial 2	Pediatric SXB trial	SXB trial 3	REST-ON trial
REM, min (except pediatric data)	Decreased Placebo: – 1.0 SXB 4.5 g: – 6.0 SXB 6 g: – 7.0 SXB 9 g: – 22.0 [†]	Decreased Placebo: 6.25 SXB 6 g: – 14.5 ^{††} Placebo: 10 SXB 9 g: – 38.5 ^{†††}	Decreased SXB-naive: – 6.0% Taking SXB at study entry: not reported	Decreased Baseline: 31.2 (1st half), 56.0 (2nd half) SXB 4.5 g: 29.7 (1st half), 43.5* (2nd half) SXB 6 g: 26.3 (1st half), 42.7*** (2nd half) SXB 7.5 g: 31.3 (1st half), 34.9*** (2nd half) SXB 9 g: 22.9 (1st half), 30.5*** (2nd half)	Decreased SXB-ER 6 g: – 16.7 ^{†††} SXB-ER 7.5 g: – 27.2 ^{†††} SXB-ER 9 g: – 24.5 ^{†††}
Shifts from N2/N3/REM to N1/wake	Decreased (LSM change from baseline in shifts per hour) Placebo: – 0.8 SXB 4.5 g: – 1.7 SXB 6 g: – 2.7 [†] SXB 9 g: – 4.4 ^{†††}	Decreased (LSM change from baseline in shifts per night) Placebo: – 0.6 SXB 9 g: – 16.5 ^{†††}	–	–	Decreased (LSMD change from baseline in shifts per night to wake or N1 from N1, N2, N3, and REM) SXB-ER 6 g: – 11.0 ^{†††} SXB-ER 7.5 g: – 17.7 ^{†††} SXB-ER 9 g: – 22.6 ^{†††}
Shifts from N2/N3 to N1/wake	Decreased (LSM change from baseline in shifts per hour) Placebo: – 0.3 SXB 4.5 g: – 0.9 SXB 6 g: – 1.7 [†] SXB 9 g: – 3.1 ^{†††}	–	–	–	
Shifts from REM to N1/wake	Decreased (LSM change from baseline in shifts per hour) Placebo: – 1.9 SXB 4.5 g: – 3.8 SXB 6 g: – 5.0 SXB 9 g: – 7.6 [†]	Decreased (LSM change from baseline in shifts per night) Placebo: – 0.6 SXB 9 g: – 6.0 ^{†††}	–	–	

Table 2 continued

	Twice-nightly oxybate (SXB)			Once-nightly oxybate (SXB-ER)	
	SXB trial 1	SXB trial 2	Pediatric SXB trial	SXB trial 3	REST-ON trial
Arousals	–	–	Decreased SXB-naive: – 43.0 Taking SXB at study entry: – 1.0	–	Decreased SXB-ER 6 g: – 11.3 [†] SXB-ER 7.5 g: – 19.4 ^{†††} SXB-ER 9 g: – 23.7 ^{†††}
Awakenings	Decreased Placebo: – 0.5 SXB 4.5 g: – 5.0 SXB 6 g: – 8.0 ^{††} SXB 9 g: – 12.0 ^{††}	Decreased Placebo: – 0.5 SXB 6 g: – 1 Placebo: – 0.5 SXB 9 g: – 6 ^{††}	No change SXB-naive: – 4.0 awakenings Taking SXB at study entry: 1.5 awakenings	Decreased Baseline: 50.2 SXB 4.5 g: 50.0 SXB 6 g: 45.1 SXB 7.5 g: 37.3 ^{***} SXB 9 g: 37.8 ^{**}	–
Patient-reported sleep quality	Improved (4-point Likert scale) ^a Placebo: – 0.10 SXB 4.5 g: – 0.41 [†] SXB 6 g: – 0.31 [†] SXB 9 g: – 0.46 ^{†††}	Improved (LSM change from baseline on question 6 of the PSQI) Placebo: – 0.07 SXB 9 g: – 0.52 ^{†††}	–	Improved (Self-reported degree of change) Baseline: 0% (much), 14% (somewhat) SXB 4.5 g: 19% (much), 57% (somewhat) SXB 6 g: 24% (much), 67% (somewhat) SXB 7.5 g: 24% (much), 62% (somewhat) SXB 9 g: 24% (much), 57% (somewhat)	Improved (Visual analog scale from 0–100) ^b SXB-ER 6 g: 7.0 ^{†††} SXB-ER 7.5 g: 9.9 ^{†††} SXB-ER 9 g: 10.4 ^{†††}

DNS disrupted nighttime sleep, *LSM* least squared mean, *LSMD* least squared mean difference, *NI/2* stage 1/2 non-rapid eye movement sleep, *ns* not significant, *PSG* polysomnography, *REM* rapid eye movement, *S3/S4* stage 3/4, *SWS* slow-wave sleep, *SXB* sodium oxybate, *SXB-ER* sodium oxybate for extended release, *TST* total sleep time, *WASO* wake after sleep onset

^aAssessed with 4-point Likert-type scale (0, excellent; 1, good; 2, fair; 3, poor)

^bBaseline scores were 53.8 and 55.9 in ON-SXB and placebo groups, respectively

[†] $P < 0.05$ vs placebo. ^{††} $P < 0.01$ vs placebo. ^{†††} $P < 0.001$ vs placebo. * $P < 0.05$ vs baseline. ** $P < 0.01$ vs baseline. *** $P < 0.005$ vs baseline. – denotes a variable not assessed in this trial. No statistical testing was performed in the pediatric trial

broken down by sleep stage as were reported in SXB trials 1 and 2 [20].”

These corrections do not impact the conclusions of this Commentary article.

The original article has been corrected.

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