

eTable 1. No differences in patient-reported outcome measures between ELC and NYU MS Centers

Characteristic	Elliot Lewis, N = 60 [†]	NYU, N = 43 [†]	p-value ²
EDSS at 24th week >3			0.043
3 less	28 (52%)	29 (72%)	
4 or more	26 (48%)	11 (28%)	
EDSS at 48th week >3			0.030
3 less	26 (51%)	24 (75%)	
4 or more	25 (49%)	8 (25%)	
Frontage NFL at 24th week	16.75 (10.07, 41.95)	8.52 (5.81, 10.85)	<0.001
Frontage NFL at 48th week	8.48 (6.74, 11.82)	5.47 (4.57, 8.36)	<0.001
Walking_4	2.00 (0.00, 3.00)	1.00 (1.00, 2.00)	0.10
Walking_12	1.00 (0.00, 3.00)	1.00 (0.00, 2.00)	0.3
Walking_22	2.00 (0.00, 3.00)	1.00 (1.00, 2.50)	0.3
Hand.Function.Dexterity..Poor.hand.coordination..tremors.._4	1.00 (0.00, 2.00)	1.00 (0.00, 1.00)	0.4
Hand.Function.Dexterity..Poor.hand.coordination..tremors.._12	1.00 (0.00, 2.00)	1.00 (0.00, 2.00)	>0.9
Hand.Function.Dexterity..Poor.hand.coordination..tremors.._22	1.00 (0.00, 2.00)	1.00 (0.00, 1.50)	>0.9
Spasticity...Stiffness..Muscle.cramping.or.muscle.tightness.._4	2.00 (0.00, 3.00)	2.00 (1.00, 3.00)	0.8
Spasticity...Stiffness..Muscle.cramping.or.muscle.tightness.._12	2.00 (1.00, 3.00)	2.00 (0.50, 3.00)	0.7
Spasticity...Stiffness..Muscle.cramping.or.muscle.tightness.._22	2.00 (1.00, 2.00)	2.00 (1.00, 3.00)	0.7
Bodily.Pain..Achininess..tenderness.._4	1.00 (0.00, 2.00)	2.00 (0.00, 3.00)	0.10
Bodily.Pain..Achininess..tenderness.._12	1.00 (0.00, 3.00)	1.00 (0.00, 3.00)	0.5
Bodily.Pain..Achininess..tenderness.._22	1.00 (0.00, 2.00)	2.00 (1.00, 3.00)	0.079
Sensory..Numbness..tingling..or.burning.._4	1.00 (1.00, 2.00)	1.00 (0.00, 2.00)	0.3
Sensory..Numbness..tingling..or.burning.._12	1.00 (0.50, 2.00)	1.00 (1.00, 2.00)	0.6
Sensory..Numbness..tingling..or.burning.._22	1.00 (1.00, 1.25)	1.00 (1.00, 2.00)	0.10
Bladder.Control..Urinary.urgency..urinary.frequency.._4	2.00 (0.00, 3.00)	1.00 (0.00, 3.00)	>0.9
Bladder.Control..Urinary.urgency..urinary.frequency.._12	2.00 (0.00, 2.50)	1.00 (0.00, 2.50)	>0.9
Bladder.Control..Urinary.urgency..urinary.frequency.._22	1.00 (0.75, 2.00)	1.00 (0.00, 3.00)	0.8
Fatigue_4	2.00 (1.00, 3.00)	2.00 (1.00, 3.00)	0.5
Fatigue_12	2.00 (1.00, 3.00)	1.00 (1.00, 3.50)	>0.9
Fatigue_22	2.00 (1.00, 3.00)	2.00 (1.00, 3.00)	0.7
Vision..Blurry.vision..double.vision.._4	0.00 (0.00, 1.00)	0.00 (0.00, 2.00)	0.4
Vision..Blurry.vision..double.vision.._12	0.00 (0.00, 1.00)	0.00 (0.00, 1.00)	0.5
Vision..Blurry.vision..double.vision.._22	0.00 (0.00, 1.00)	1.00 (0.00, 2.00)	0.074
Dizziness..Feeling.off.balance...spinning..vertigo.._4	0.50 (0.00, 1.00)	1.00 (0.00, 2.00)	0.2
Dizziness..Feeling.off.balance...spinning..vertigo.._12	0.00 (0.00, 1.00)	1.00 (0.00, 1.50)	0.3
Dizziness..Feeling.off.balance...spinning..vertigo.._22	0.00 (0.00, 1.00)	1.00 (0.00, 1.75)	0.12
Cognitive.Function..Memory..concentration.problems.._4	1.00 (0.00, 2.00)	1.00 (1.00, 2.00)	0.036
Cognitive.Function..Memory..concentration.problems.._12	1.00 (0.00, 2.00)	1.00 (1.00, 2.00)	0.090
Cognitive.Function..Memory..concentration.problems.._22	1.00 (0.00, 2.00)	1.00 (0.25, 2.00)	0.063
Depression..Depressed.thoughts..low.mood.._4	1.00 (0.00, 2.00)	1.00 (0.00, 2.00)	0.8
Depression..Depressed.thoughts..low.mood.._12	0.00 (0.00, 1.00)	1.00 (0.00, 1.50)	0.6
Depression..Depressed.thoughts..low.mood.._22	0.00 (0.00, 2.00)	1.00 (0.00, 2.00)	0.2
Anxiety..Feelings.of.stress..panic.attacks.._4	1.00 (0.00, 2.00)	1.00 (0.00, 2.00)	0.4
Anxiety..Feelings.of.stress..panic.attacks.._12	1.00 (0.00, 1.00)	1.00 (0.00, 2.00)	0.2
Anxiety..Feelings.of.stress..panic.attacks.._22	0.50 (0.00, 1.25)	1.00 (0.00, 2.00)	0.2
SymptomScreen.Total_4	14.50 (7.00, 24.50)	15.50 (8.75, 26.00)	0.8
SymptomScreen.Total_12	15.00 (7.00, 23.00)	14.00 (6.50, 24.50)	0.7
SymptomScreen.Total_22	14.00 (6.75, 22.00)	17.00 (9.00, 26.00)	0.2
Social.T.Score_4	45.75 (41.30, 53.40)	43.40 (39.90, 49.20)	0.3
Social.T.Score_12	45.40 (42.70, 53.40)	45.40 (40.95, 60.20)	>0.9
Social.T.Score_22	46.80 (42.53, 60.20)	44.00 (39.90, 55.10)	0.066
Anxiety.T.Score_4	50.50 (40.68, 55.90)	52.30 (47.30, 56.80)	0.2
Anxiety.T.Score_12	50.50 (42.10, 55.90)	49.50 (44.30, 58.00)	0.7
Anxiety.T.Score_22	48.40 (36.40, 55.00)	52.80 (42.10, 58.40)	0.087
Depression.T.Score_4	45.30 (36.90, 51.30)	46.80 (36.90, 55.10)	0.3
Depression.T.Score_12	45.30 (36.90, 50.60)	43.10 (36.90, 53.20)	0.9

Depression.T.Score_22	44.20 (36.90, 51.30)	46.05 (36.90, 51.50)	0.3
Emotional.T.Score_4	46.70 (37.20, 52.00)	49.40 (45.30, 54.50)	0.075
Emotional.T.Score_12	45.30 (32.20, 53.20)	48.10 (37.20, 53.85)	0.5
Emotional.T.Score_22	44.50 (32.20, 52.30)	46.70 (39.22, 53.53)	0.3
Fatigue..T.score_4	46.05 (39.50, 53.30)	51.30 (43.80, 58.80)	0.052
Fatigue..T.score_12	45.60 (39.50, 51.80)	43.80 (38.20, 52.80)	0.9
Fatigue..T.score_22	46.50 (39.17, 52.55)	50.30 (42.80, 56.50)	0.029
LowerExtremity.T.score_4	45.95 (38.90, 58.60)	48.60 (39.90, 58.60)	0.8
LowerExtremity.T.score_12	48.60 (38.70, 58.60)	48.60 (42.25, 58.60)	0.8
LowerExtremity.T.score_22	45.20 (39.10, 58.60)	46.70 (41.70, 58.60)	0.8
Positive.T.Score_4	54.00 (47.88, 58.80)	53.20 (46.30, 56.80)	0.3
Positive.T.Score_12	53.20 (49.45, 60.60)	54.90 (47.65, 65.65)	>0.9
Positive.T.Score_22	54.00 (49.90, 62.30)	54.90 (48.77, 59.90)	0.5
Sleep.T.Score_4	51.10 (43.80, 56.80)	54.40 (47.30, 59.20)	0.13
Sleep.T.Score_12	48.90 (41.70, 56.80)	50.40 (43.80, 58.60)	0.6
Sleep.T.Score_22	49.65 (41.05, 54.40)	53.10 (41.05, 58.00)	0.2
UpperExtremity.T.score_4	53.80 (39.30, 53.80)	53.80 (37.10, 53.80)	>0.9
UpperExtremity.T.score_12	53.80 (39.30, 53.80)	53.80 (37.10, 53.80)	>0.9
UpperExtremity.T.score_22	53.80 (37.10, 53.80)	48.75 (39.30, 53.80)	>0.9
SocialSatisfaction.T.Score_4	46.30 (42.45, 50.02)	44.45 (41.20, 52.00)	0.5
SocialSatisfaction.T.Score_12	46.30 (42.70, 49.80)	46.30 (42.20, 53.70)	>0.9
SocialSatisfaction.T.Score_22	46.60 (42.08, 51.03)	44.95 (42.20, 50.35)	0.9
Cognitive.T.Score_4	50.90 (43.90, 64.20)	47.10 (39.65, 52.40)	0.051
Cognitive.T.Score_12	50.90 (44.90, 59.00)	47.10 (41.90, 53.30)	0.069
Cognitive.T.Score_22	50.90 (43.90, 64.20)	49.60 (42.90, 52.85)	0.10
Fatigue.Category_4			0.3
None	27 (45%)	12 (29%)	
Mild	19 (32%)	16 (39%)	
Moderate	13 (22%)	10 (24%)	
Severe	1 (1.7%)	3 (7.3%)	
Fatigue.Category_22			0.070
None	27 (45%)	11 (28%)	
Mild	26 (43%)	17 (42%)	
Moderate	6 (10%)	11 (28%)	
Severe	1 (1.7%)	1 (2.5%)	
LE.Category_4			0.9
None	27 (45%)	18 (44%)	
Mild	14 (23%)	12 (29%)	
Moderate	18 (30%)	10 (24%)	
Severe	1 (1.7%)	1 (2.4%)	
LE.Category_22			0.7
None	27 (45%)	17 (42%)	
Mild	16 (27%)	14 (35%)	
Moderate	16 (27%)	8 (20%)	
Severe	1 (1.7%)	1 (2.5%)	
Sleep.Category_4			0.7
None	16 (27%)	9 (22%)	
Mild	36 (60%)	23 (56%)	
Moderate	5 (8.3%)	6 (15%)	
Severe	3 (5.0%)	3 (7.3%)	
Sleep.Category_22			0.8
None	20 (33%)	12 (30%)	
Mild	33 (55%)	21 (52%)	
Moderate	5 (8.3%)	6 (15%)	
Severe	2 (3.3%)	1 (2.5%)	
UE.Category_4			0.6
None	31 (52%)	22 (54%)	
Mild	25 (42%)	14 (34%)	
Moderate	4 (6.7%)	5 (12%)	
UE.Category_22			0.9

None	33 (55%)	20 (50%)	
Mild	24 (40%)	18 (45%)	
Moderate	3 (5.0%)	2 (5.0%)	
responder.Fatigue			0.8
improved	12 (20%)	7 (18%)	
no	41 (68%)	25 (66%)	
worsen	7 (12%)	6 (16%)	
responder.Sleep			0.2
improved	10 (17%)	9 (24%)	
no	46 (77%)	23 (61%)	
worsen	4 (6.7%)	6 (16%)	
responder.LE			0.8
improved	6 (10%)	3 (7.9%)	
no	50 (83%)	34 (89%)	
worsen	4 (6.7%)	1 (2.6%)	
responder.UE			0.035
improved	4 (6.7%)	6 (16%)	
no	55 (92%)	28 (74%)	
worsen	1 (1.7%)	4 (11%)	
Percent.work.time.missed.due.to.health_4	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.5
Percent.work.time.missed.due.to.health_12	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.4
Percent.work.time.missed.due.to.health_22	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.6
Percent.impairment.while.working.due.to.health_4	10.00 (0.00, 20.00)	15.00 (0.00, 27.50)	0.8
Percent.impairment.while.working.due.to.health_12	10.00 (0.00, 20.00)	10.00 (0.00, 25.00)	>0.9
(Missing)	33	25	
Percent.impairment.while.working.due.to.health_22	5.00 (0.00, 27.50)	10.00 (0.00, 30.00)	0.3
Percent.overall.work.impairment.due.to.health_4	10.00 (0.00, 20.00)	15.00 (0.00, 29.25)	0.7
Percent.overall.work.impairment.due.to.health_12	10.00 (0.00, 20.00)	10.00 (0.00, 25.00)	>0.9
Percent.overall.work.impairment.due.to.health_22	5.00 (0.00, 28.50)	10.00 (0.00, 30.00)	0.3
Percent.activity.impairment.due.to.health_4	30.00 (10.00, 60.00)	30.00 (10.00, 50.00)	0.8
Percent.activity.impairment.due.to.health_12	20.00 (10.00, 57.50)	10.00 (2.50, 50.00)	0.6
Percent.activity.impairment.due.to.health_22	30.00 (10.00, 60.00)	30.00 (10.00, 50.00)	0.7
Percent.work.time.missed.due.to.health.diff	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.12
Percent.impairment.while.working.due.to.health.diff	0.00 (0.00, 10.00)	0.00 (-7.50, 17.50)	>0.9
Percent.overall.work.impairment.due.to.health.diff	0.00 (-1.00, 10.00)	0.00 (-3.75, 17.50)	0.8
Percent.activity.impairment.due.to.health.diff	0.00 (-10.00, 10.00)	0.00 (-10.00, 20.00)	>0.9
¹ Median (IQR); n (%)			
² Wilcoxon rank sum test; Pearson's Chi-squared test; Fisher's exact test			

Abbreviations: NYU – New York University MS Care Center; ELC – Elliot-Lewis MS Center; UE – upper extremity/arm; LE – lower extremity/leg

eTable 2: Comparing patients with clinically meaningful worsening, improvement and no change on NeuroQoL scale in cycle 1 and cycle 2

Characteristic	Cycle 1, Fatigue				Cycle 1, Sleep			
	Improved N = 19 [†]	No change N = 66 [†]	worsen, N = 13 [†]	p-value ²	improved, N = 19 [†]	No change, N = 69 [†]	worsen, N = 10 [†]	p-value ²
Center				0.8				0.2
Elliot Lewis	12 (63%)	41 (62%)	7 (54%)		10 (53%)	46 (67%)	4 (40%)	
NYU	7 (37%)	25 (38%)	6 (46%)		9 (47%)	23 (33%)	6 (60%)	
Age	47 (38, 52)	45 (36, 57)	56 (48, 60)	0.2	48 (41, 55)	50 (35, 58)	43 (38, 47)	0.8
Sex				0.8				>0.9
Female	13 (68%)	44 (67%)	10 (77%)		14 (74%)	46 (67%)	7 (70%)	
Male	6 (32%)	22 (33%)	3 (23%)		5 (26%)	23 (33%)	3 (30%)	
Race/Ethnicity				0.6				0.2
White	12 (63%)	47 (71%)	9 (69%)		11 (58%)	52 (75%)	5 (50%)	
African Ancestry	5 (26%)	9 (14%)	1 (7.7%)		4 (21%)	9 (13%)	2 (20%)	
Hispanic/Latino	2 (11%)	7 (11%)	3 (23%)		3 (16%)	7 (10%)	2 (20%)	
Other	0 (0%)	3 (4.5%)	0 (0%)		1 (5.3%)	1 (1.4%)	1 (10%)	
BMI	26.3 (24.1, 31.4)	26.9 (23.0, 30.9)	27.5 (25.9, 29.4)	0.8	27.7 (25.2, 33.6)	27.1 (23.3, 30.6)	26.2 (24.1, 30.1)	0.5
				0.7				>0.9
Current	1 (5.3%)	6 (9.1%)	0 (0%)		1 (5.3%)	6 (8.7%)	0 (0%)	
Former	6 (32%)	13 (20%)	3 (23%)		5 (26%)	15 (22%)	2 (20%)	
Never	12 (63%)	47 (71%)	10 (77%)		13 (68%)	48 (70%)	8 (80%)	
Disease Duration	15 (8, 20)	14 (7, 20)	18 (10, 23)	0.7	15 (10, 25)	14 (7, 23)	14 (10, 15)	0.6
Diagnosis				0.091				0.6
Primary	5 (26%)	8 (12%)	5 (38%)		2 (11%)	13 (19%)	3 (30%)	
Relapsing	10 (53%)	43 (65%)	4 (31%)		13 (68%)	38 (55%)	6 (60%)	
Secondary	4 (21%)	15 (23%)	4 (31%)		4 (21%)	18 (26%)	1 (10%)	
Time from last replate to enrollment, yrs				0.6				0.8
Unknown	6	15	6		3	19	5	
Naive To Ocrevus				0.8				>0.9
1	1 (5.3%)	3 (4.5%)	1 (7.7%)		1 (5.3%)	4 (5.8%)	0 (0%)	
2	18 (95%)	63 (95%)	12 (92%)		18 (95%)	65 (94%)	10 (100%)	
Ocr. Duration days	1,046 (773, 1,244)	959 (574, 1,218)	970 (555, 1,118)	0.7	1,142 (798, 1,270)	969 (571, 1,152)	797 (587, 966)	0.2
Unknown	1	3	1		1	4	0	
EDSS at baseline	2.50 (2.00, 6.00)	3.00 (1.50, 6.00)	3.00 (2.50, 3.50)	>0.9	3.50 (2.00, 5.00)	3.00 (1.50, 5.50)	3.00 (2.12, 4.12)	>0.9
COVID 19 on study				0.8				0.9
No	14 (74%)	51 (77%)	9 (69%)		15 (79%)	52 (75%)	7 (70%)	
Yes	5 (26%)	15 (23%)	4 (31%)		4 (21%)	17 (25%)	3 (30%)	
EDSS at baseline>3				>0.9				0.5
3 less	11 (58%)	37 (56%)	8 (62%)		9 (47%)	40 (58%)	7 (70%)	
4 or more	8 (42%)	29 (44%)	5 (38%)		10 (53%)	29 (42%)	3 (30%)	
Total # Comorbidities				>0.9				0.3
0	5 (26%)	18 (27%)	2 (15%)		4 (21%)	18 (26%)	3 (30%)	
1	5 (26%)	17 (26%)	5 (38%)		9 (47%)	16 (23%)	2 (20%)	
2 or more	9 (47%)	31 (47%)	6 (46%)		6 (32%)	35 (51%)	5 (50%)	
Patient Perceived WOE at 48th week				0.3				0.046
Always	0 (0%)	2 (3.3%)	0 (0%)		0 (0%)	1 (1.6%)	1 (12%)	
Never	4 (27%)	33 (55%)	6 (50%)		5 (29%)	35 (56%)	3 (38%)	
Sometimes	9 (60%)	18 (30%)	3 (25%)		8 (47%)	19 (31%)	3 (38%)	
Usually	2 (13%)	6 (10%)	3 (25%)		4 (24%)	7 (11%)	0 (0%)	
Unknown	4	6	1		2	7	2	

Patients perceived WOE at 48th weeks				0.15				0.13
No	4 (27%)	33 (55%)	6 (50%)		5 (29%)	35 (56%)	3 (38%)	
Yes	11 (73%)	27 (45%)	6 (50%)		12 (71%)	27 (44%)	5 (62%)	
Unknown	4	6	1		2	7	2	
EDSS at 24th week	2.25 (1.75, 6.00)	2.75 (1.50, 5.50)	3.00 (3.00, 3.75)	0.7	2.50 (2.00, 6.00)	3.00 (1.50, 5.50)	3.00 (2.00, 3.50)	>0.9
Unknown	3	4	2		2	6	1	
EDSS at 24th week				0.9				0.8
3 or less	10 (62%)	37 (60%)	6 (55%)		9 (53%)	38 (60%)	6 (67%)	
4 or more	6 (38%)	25 (40%)	5 (45%)		8 (47%)	25 (40%)	3 (33%)	
Unknown	3	4	2		2	6	1	
EDSS at 48th week	3.00 (2.00, 6.00)	2.50 (1.50, 6.00)	3.00 (2.50, 3.50)	0.8	3.00 (2.00, 6.00)	3.00 (1.50, 5.75)	3.00 (2.38, 4.12)	0.9
Unknown	4	13	2		3	14	2	
EDSS at 48th week				>0.9				>0.9
3 or less	9 (60%)	32 (60%)	6 (55%)		9 (56%)	33 (60%)	5 (62%)	
4 or more	6 (40%)	21 (40%)	5 (45%)		7 (44%)	22 (40%)	3 (38%)	
Unknown	4	13	2		3	14	2	
Frontage NFL (pg/mL), 24th week	15 (10, 28)	10 (7, 32)	12 (10, 26)	0.4	13 (8, 32)	12 (8, 35)	9 (6, 9)	0.12
Unknown	4	5	2		2	8	1	
Frontage NFL (pg/mL), 48th week	9.2 (4.8, 10.8)	7.1 (5.4, 9.5)	8.0 (6.3, 14.1)	0.4	7.0 (5.0, 10.1)	7.9 (5.7, 10.4)	5.7 (4.8, 7.2)	0.4
Unknown	5	10	3		2	12	4	
OCR concentration (ng/mL)	1,520 (518, 2,605)	985 (456, 1,255)	744 (529, 1,795)	0.5	1,150 (348, 2,530)	812 (462, 1,430)	1,225 (1,000, 2,060)	0.5
Unknown	5	19	5		4	19	6	
Cycle 1, LE					Cycle 1, UE			
Characteristic	improved, N = 9[†]	No change N = 84[†]	worsen, N = 5[†]	p-value²	Improved N = 10[†]	No change N = 83[†]	Worsen N = 5[†]	p-value²
Center				0.8				0.035
Elliot Lewis	6 (67%)	50 (60%)	4 (80%)		4 (40%)	55 (66%)	1 (20%)	
NYU	3 (33%)	34 (40%)	1 (20%)		6 (60%)	28 (34%)	4 (80%)	
Age	47 (42, 60)	47 (36, 57)	52 (50, 56)	0.4	40 (33, 47)	50 (38, 57)	33 (31, 46)	0.038
Sex				>0.9				>0.9
Female	6 (67%)	57 (68%)	4 (80%)		7 (70%)	56 (67%)	4 (80%)	
Male	3 (33%)	27 (32%)	1 (20%)		3 (30%)	27 (33%)	1 (20%)	
Race/Ethnicity				0.3				0.034
White	6 (67%)	57 (68%)	5 (100%)		6 (60%)	60 (72%)	2 (40%)	
African Ancestry	0 (0%)	15 (18%)	0 (0%)		2 (20%)	12 (14%)	1 (20%)	
Hispanic/Latino	2 (22%)	10 (12%)	0 (0%)		2 (20%)	10 (12%)	0 (0%)	
Other	1 (11%)	2 (2.4%)	0 (0%)		0 (0%)	1 (1.2%)	2 (40%)	
BMI	27.3 (23.7, 27.7)	26.8 (23.3, 30.7)	30.3 (27.6, 32.1)	0.4	25.8 (23.9, 32.2)	27.3 (23.4, 30.5)	27.7 (27.1, 38.5)	0.6
Smoking Status				0.3				0.9
Current	0 (0%)	7 (8.3%)	0 (0%)		1 (10%)	6 (7.2%)	0 (0%)	
Former	2 (22%)	17 (20%)	3 (60%)		1 (10%)	20 (24%)	1 (20%)	
Never	7 (78%)	60 (71%)	2 (40%)		8 (80%)	57 (69%)	4 (80%)	
Disease Duration	11 (9, 20)	14 (7, 20)	23 (16, 30)	0.2	10 (6, 19)	15 (8, 22)	14 (2, 20)	0.6
Diagnosis				0.10				>0.9
Primary	4 (44%)	12 (14%)	2 (40%)		2 (20%)	16 (19%)	0 (0%)	
Relapsing	3 (33%)	52 (62%)	2 (40%)		6 (60%)	47 (57%)	4 (80%)	
Secondary	2 (22%)	20 (24%)	1 (20%)		2 (20%)	20 (24%)	1 (20%)	
Time from last replate to enrollment, yrs				0.7				0.11
Unknown	4 (3, 8)	5 (2, 11)	7 (7, 8)		3 (2, 6)	6 (2, 12)	2 (1, 3)	
Unknown	3	22	2		2	25	0	
NaiveToOcrevus				>0.9				0.3
1	0 (0%)	5 (6.0%)	0 (0%)		0 (0%)	4 (4.8%)	1 (20%)	
2	9 (100%)	79 (94%)	5 (100%)		10 (100%)	79 (95%)	4 (80%)	

Ocr. Duration days	817 (699, 1,112)	971 (580, 1,167)	1,225 (567, 1,303)	0.7	758 (563, 928)	987 (580, 1,221)	1,086 (846, 1,250)	0.2
Unknown	0	5	0		0	4	1	
EDSS at baseline	3.00 (3.00, 4.00)	2.50 (1.50, 6.00)	3.00 (2.00, 3.00)	0.6	2.50 (1.13, 3.00)	3.00 (1.75, 6.00)	2.00 (1.00, 2.00)	0.12
COVID 19 on study				0.8				0.4
No	8 (89%)	62 (74%)	4 (80%)		9 (90%)	62 (75%)	3 (60%)	
Yes	1 (11%)	22 (26%)	1 (20%)		1 (10%)	21 (25%)	2 (40%)	
EDSS at baseline>3				0.2				0.045
3 less	5 (56%)	46 (55%)	5 (100%)		9 (90%)	43 (52%)	4 (80%)	
4 or more	4 (44%)	38 (45%)	0 (0%)		1 (10%)	40 (48%)	1 (20%)	
Total # Comorbidities				0.4				0.9
0	1 (11%)	24 (29%)	0 (0%)		3 (30%)	20 (24%)	2 (40%)	
1	4 (44%)	21 (25%)	2 (40%)		2 (20%)	24 (29%)	1 (20%)	
2 or more	4 (44%)	39 (46%)	3 (60%)		5 (50%)	39 (47%)	2 (40%)	
Patient Perceived WOE at 48th week				0.5				>0.9
Always	0 (0%)	2 (2.7%)	0 (0%)		0 (0%)	1 (1.4%)	0 (0%)	
Never	3 (33%)	36 (49%)	4 (80%)		0 (0%)	2 (2.7%)	0 (0%)	
Sometimes	6 (67%)	23 (32%)	1 (20%)		4 (44%)	37 (50%)	2 (50%)	
Usually	0 (0%)	11 (15%)	0 (0%)		3 (33%)	25 (34%)	2 (50%)	
Unknown	0	11	0		2 (22%)	9 (12%)	0 (0%)	
Patients perceived WOE at 48th weeks				0.3				>0.9
No	3 (33%)	36 (49%)	4 (80%)		4 (44%)	37 (50%)	2 (50%)	
Yes	6 (67%)	37 (51%)	1 (20%)		5 (56%)	37 (50%)	2 (50%)	
Unknown	0	11	0		1	9	1	
EDSS at 24th week	3.00 (2.00, 3.50)	2.50 (1.50, 5.75)	3.00 (3.00, 3.00)	0.7	2.00 (2.00, 3.00)	3.00 (2.00, 6.00)	1.00 (0.00, 1.50)	0.014
Unknown	0	9	0		1	8	0	
EDSS at 24th week				0.2				0.063
3 or less	5 (56%)	43 (57%)	5 (100%)		7 (78%)	41 (55%)	5 (100%)	
4 or more	4 (44%)	32 (43%)	0 (0%)		2 (22%)	34 (45%)	0 (0%)	
Unknown	0	9	0		1	8	0	
EDSS at 48th week	3.00 (2.50, 3.50)	3.00 (2.00, 6.00)	3.00 (1.00, 3.00)	0.5	2.50 (1.13, 3.00)	3.00 (2.00, 6.00)	2.00 (1.50, 2.12)	0.15
Unknown	0	19	0		2	16	1	
EDSS at 48th week				0.7				0.059
3 or less	6 (67%)	37 (57%)	4 (80%)		7 (88%)	36 (54%)	4 (100%)	
4 or more	3 (33%)	28 (43%)	1 (20%)		1 (12%)	31 (46%)	0 (0%)	
Unknown	0	19	0		2	16	1	
Frontage NFL (pg/ml) ,24th week	10 (9, 11)	11 (7, 35)	13 (12, 32)	0.6	7 (5, 10)	12 (8, 36)	6 (6, 11)	0.010
Unknown	0	11	0		1	10	0	
Frontage NFL (pg/ml), 48th week	6.9 (4.7, 8.9)	7.2 (5.4, 10.2)	9.3 (8.8, 14.6)	0.15	5.8 (4.2, 9.6)	7.7 (5.7, 10.5)	6.9 (4.3, 9.2)	0.5
Unknown	3	15	0		2	15	1	
OCR concentration (ng/ml)	968 (829, 1,101)	1,010 (460, 2,175)	452 (415, 508)	0.2	735 (660, 2,260)	985 (461, 1,945)	734 (285, 1,962)	>0.9
Unknown	3	25	1		4	24	1	
Cycle 2 Fatigue					Cycle 2, Sleep			
Characteristic	improved, N = 15[†]	no, N = 61[†]	worsen, N = 10[†]	p-value²	improved, N = 6[†]	no, N = 68[†]	worsen, N = 12[†]	p-value²
Center				0.4				0.078
Elliot Lewis	6 (40%)	36 (59%)	6 (60%)		1 (17%)	38 (56%)	9 (75%)	
NYU	9 (60%)	25 (41%)	4 (40%)		5 (83%)	30 (44%)	3 (25%)	
Age	50 (42, 54)	47 (35, 57)	44 (37, 57)	0.8	36 (30, 46)	47 (36, 57)	50 (44, 56)	0.2
Sex				0.3				0.3
Female	12 (80%)	37 (61%)	7 (70%)		5 (83%)	41 (60%)	10 (83%)	
Male	3 (20%)	24 (39%)	3 (30%)		1 (17%)	27 (40%)	2 (17%)	
Race/Ethnicity				0.10				0.12
White	6 (40%)	45 (74%)	7 (70%)		2 (33%)	47 (69%)	9 (75%)	

African Ancestry	5 (33%)	8 (13%)	1 (10%)		1 (17%)	12 (18%)	1 (8.3%)	
Hispanic/Latino	3 (20%)	7 (11%)	1 (10%)		2 (33%)	8 (12%)	1 (8.3%)	
Other	1 (6.7%)	1 (1.6%)	1 (10%)		1 (17%)	1 (1.5%)	1 (8.3%)	
BMI	27.6 (25.0, 32.9)	25.5 (22.9, 28.5)	27.3 (24.8, 30.5)	0.2	23.1 (22.0, 23.6)	26.4 (23.3, 30.7)	26.1 (24.5, 28.7)	0.094
				0.7				0.4
Current	1 (6.7%)	4 (6.6%)	2 (20%)		1 (17%)	4 (5.9%)	2 (17%)	
Former	3 (20%)	12 (20%)	1 (10%)		1 (17%)	14 (21%)	1 (8.3%)	
Never	11 (73%)	45 (74%)	7 (70%)		4 (67%)	50 (74%)	9 (75%)	
Disease Duration	19 (14, 26)	11 (5, 18)	16 (12, 21)	0.078	5 (4, 15)	12 (7, 19)	20 (14, 24)	0.075
Diagnosis				0.8				0.046
Primary	4 (27%)	11 (18%)	1 (10%)		1 (17%)	10 (15%)	5 (42%)	
Relapsing	7 (47%)	35 (57%)	7 (70%)		5 (83%)	41 (60%)	3 (25%)	
Secondary	4 (27%)	15 (25%)	2 (20%)		0 (0%)	17 (25%)	4 (33%)	
Time from last replese to enrollment, yrs	4 (2, 6)	5 (2, 10)	4 (4, 7)	0.8	2 (1, 3)	5 (2, 9)	8 (4, 8)	0.11
Unknown	5	14	2		1	15	5	
Naive To Ocrevus				0.7				0.2
1	0 (0%)	4 (6.6%)	0 (0%)		1 (17%)	2 (2.9%)	1 (8.3%)	
2	15 (100%)	57 (93%)	10 (100%)		5 (83%)	66 (97%)	11 (92%)	
Ocr. Duration days	971 (665, 1,238)	925 (554, 1,165)	1,070 (966, 1,329)	0.4	894 (777, 1,036)	970 (562, 1,194)	987 (684, 1,244)	>0.9
Unknown	0	4	0		1	2	1	
EDSS at baseline	3.00 (1.75, 4.00)	3.00 (1.50, 6.00)	3.25 (2.62, 3.88)	0.7	3.25 (1.50, 3.88)	2.75 (1.50, 5.62)	3.50 (3.00, 5.62)	0.2
COVID 19 on study				0.9				0.7
No	12 (80%)	45 (74%)	7 (70%)		4 (67%)	50 (74%)	10 (83%)	
Yes	3 (20%)	16 (26%)	3 (30%)		2 (33%)	18 (26%)	2 (17%)	
EDSS at baseline>3				0.9				0.2
3 less	9 (60%)	35 (57%)	5 (50%)		3 (50%)	42 (62%)	4 (33%)	
4 or more	6 (40%)	26 (43%)	5 (50%)		3 (50%)	26 (38%)	8 (67%)	
Total # Comorbidities				0.4				>0.9
0	2 (13%)	22 (36%)	2 (20%)		2 (33%)	21 (31%)	3 (25%)	
1	4 (27%)	16 (26%)	3 (30%)		1 (17%)	18 (26%)	4 (33%)	
2 or more	9 (60%)	23 (38%)	5 (50%)		3 (50%)	29 (43%)	5 (42%)	
Patient Perceived WOE at 48 th week				0.3				0.016
Always	0 (0%)	2 (3.3%)	1 (10%)		1 (25%)	2 (2.9%)	0 (0%)	
Never	6 (43%)	33 (55%)	2 (20%)		0 (0%)	37 (54%)	4 (33%)	
Sometimes	6 (43%)	17 (28%)	6 (60%)		2 (50%)	19 (28%)	8 (67%)	
Usually	2 (14%)	8 (13%)	1 (10%)		1 (25%)	10 (15%)	0 (0%)	
Unknown	1	1	0		2	0	0	
Patients perceived WOE at 48th weeks				0.12				0.048
No	6 (43%)	33 (55%)	2 (20%)		0 (0%)	37 (54%)	4 (33%)	
Yes	8 (57%)	27 (45%)	8 (80%)		4 (100%)	31 (46%)	8 (67%)	
Unknown	1	1	0		2	0	0	
EDSS at 24th week	3.00 (2.00, 4.00)	3.00 (1.50, 6.00)	3.00 (2.12, 3.50)	0.9	2.50 (1.00, 4.00)	3.00 (1.50, 5.88)	3.50 (2.38, 4.88)	0.4
Unknown	2	1	0		1	2	0	
EDSS at 24th week				0.7				0.4
3 or less	9 (69%)	33 (55%)	6 (60%)		3 (60%)	40 (61%)	5 (42%)	
4 or more	4 (31%)	27 (45%)	4 (40%)		2 (40%)	26 (39%)	7 (58%)	
Unknown	2	1	0		1	2	0	
EDSS at 48th week	3.00 (2.38, 4.12)	3.00 (1.75, 6.00)	3.00 (2.50, 4.00)	0.9	3.00 (3.00, 4.50)	3.00 (1.50, 6.00)	3.25 (2.50, 4.88)	0.4
Unknown	3	6	1		3	7	0	
EDSS at 48th week				0.9				0.9
3 or less	8 (67%)	31 (56%)	5 (56%)		2 (67%)	36 (59%)	6 (50%)	
4 or more	4 (33%)	24 (44%)	4 (44%)		1 (33%)	25 (41%)	6 (50%)	

Unknown	3	6	1		3	7	0	
Frontage NFL (pg/ml) 24th week	12 (9, 15)	11 (8, 29)	11 (10, 39)	>0.9	6 (6, 8)	12 (8, 32)	11 (10, 19)	0.023
Unknown	1	2	1		1	3	0	
Frontage NFL, (ng/ml) 48th week	9.2 (7.5, 14.5)	7.2 (5.8, 10.7)	8.3 (5.4, 10.0)	0.4	5.0 (4.6, 11.4)	7.7 (5.8, 10.9)	8.7 (7.3, 10.1)	0.7
Unknown	2	7	1		3	6	1	
OCR concentration (ng/ml)	543 (429, 1,350)	1,040 (512, 2,465)	602 (472, 1,180)	0.3	1,627 (1,020, 2,234)	1,004 (458, 2,098)	956 (628, 1,570)	>0.9
Unknown	4	14	1		4	14	1	
Cycle 2, LE					Cycle 2, UE			
Characteristic	improved, N = 5¹	no, N = 69¹	worsen, N = 12¹	p-value²	improved, N = 8¹	no, N = 68¹	worsen, N = 10¹	p-value²
Center				0.15				0.3
Elliot Lewis	1 (20%)	42 (61%)	5 (42%)		3 (38%)	41 (60%)	4 (40%)	
NYU	4 (80%)	27 (39%)	7 (58%)		5 (62%)	27 (40%)	6 (60%)	
Age	50 (39, 52)	47 (35, 57)	48 (38, 56)	0.9	48 (38, 55)	48 (38, 56)	39 (34, 55)	0.7
Sex				0.8				0.7
Female	3 (60%)	44 (64%)	9 (75%)		5 (62%)	43 (63%)	8 (80%)	
Male	2 (40%)	25 (36%)	3 (25%)		3 (38%)	25 (37%)	2 (20%)	
Race/Ethnicity				0.004				0.030
White	1 (20%)	52 (75%)	5 (42%)		5 (62%)	50 (74%)	3 (30%)	
African Ancestry	4 (80%)	7 (10%)	3 (25%)		1 (12%)	8 (12%)	5 (50%)	
Hispanic/Latino	0 (0%)	8 (12%)	3 (25%)		1 (12%)	8 (12%)	2 (20%)	
Other	0 (0%)	2 (2.9%)	1 (8.3%)		1 (12%)	2 (2.9%)	0 (0%)	
BMI	35.1 (25.5, 36.2)	25.9 (23.0, 30.1)	26.8 (25.5, 28.1)	0.2	23.9 (22.4, 25.5)	26.8 (23.6, 30.5)	25.1 (22.7, 28.9)	0.11
Smoking Status				>0.9				0.4
Current	0 (0%)	7 (10%)	0 (0%)		1 (12%)	4 (5.9%)	2 (20%)	
Former	1 (20%)	13 (19%)	2 (17%)		2 (25%)	13 (19%)	1 (10%)	
Never	4 (80%)	49 (71%)	10 (83%)		5 (62%)	51 (75%)	7 (70%)	
Disease Duration	9 (7, 12)	14 (6, 20)	18 (8, 22)	0.3	15 (8, 17)	12 (5, 20)	19 (12, 27)	0.3
Diagnosis				>0.9				0.8
Primary	1 (20%)	12 (17%)	3 (25%)		1 (12%)	13 (19%)	2 (20%)	
Relapsing	3 (60%)	40 (58%)	6 (50%)		4 (50%)	40 (59%)	5 (50%)	
Secondary	1 (20%)	17 (25%)	3 (25%)		3 (38%)	15 (22%)	3 (30%)	
Time from last replate to enrollment, yrs				0.2				0.8
Unknown	4 (2, 4)	5 (2, 9)	3 (2, 5)		4 (1, 8)	5 (2, 8)	2 (2, 10)	
Unknown	1	18	2		2	17	2	
NaiveToOcrevus				>0.9				0.4
1	0 (0%)	4 (5.8%)	0 (0%)		1 (12%)	3 (4.4%)	0 (0%)	
2	5 (100%)	65 (94%)	12 (100%)		7 (88%)	65 (96%)	10 (100%)	
Ocr. Duration days	1,042 (894, 1,293)	971 (557, 1,172)	826 (555, 1,165)	0.6	1,143 (766, 1,150)	969 (561, 1,231)	866 (642, 1,078)	0.8
Unknown	0	4	0		1	3	0	
EDSS at baseline	6.00 (3.00, 6.50)	3.00 (1.50, 5.50)	3.50 (1.88, 4.00)	0.4	3.75 (2.00, 6.12)	3.00 (1.50, 4.12)	3.75 (1.88, 6.50)	0.3
COVID 19 on study				0.7				0.7
No	3 (60%)	52 (75%)	9 (75%)		5 (62%)	51 (75%)	8 (80%)	
Yes	2 (40%)	17 (25%)	3 (25%)		3 (38%)	17 (25%)	2 (20%)	
EDSS at baseline>3				0.3				0.3
3 less	2 (40%)	42 (61%)	5 (42%)		3 (38%)	42 (62%)	4 (40%)	
4 or more	3 (60%)	27 (39%)	7 (58%)		5 (62%)	26 (38%)	6 (60%)	
Total # Comorbidities				0.2				>0.9
0	3 (60%)	20 (29%)	3 (25%)		3 (38%)	20 (29%)	3 (30%)	
1	0 (0%)	17 (25%)	6 (50%)		2 (25%)	18 (26%)	3 (30%)	
2 or more	2 (40%)	32 (46%)	3 (25%)		3 (38%)	30 (44%)	4 (40%)	
Patient Perceived WOE at 48th week				0.074				0.2
Always	1 (20%)	2 (3.0%)	0 (0%)		0 (0%)	2 (3.0%)	1 (10%)	
Never	1 (20%)	37 (55%)	3 (25%)		4 (57%)	35 (52%)	2 (20%)	

Sometimes Usually Unknown	3 (60%) 0 (0%) 0	19 (28%) 9 (13%) 2	7 (58%) 2 (17%) 0		1 (14%) 2 (29%) 1	22 (33%) 8 (12%) 1	6 (60%) 1 (10%) 0	
Patients perceived WOE at 48th weeks				0.076				0.2
No Yes Unknown	1 (20%) 4 (80%) 0	37 (55%) 30 (45%) 2	3 (25%) 9 (75%) 0		4 (57%) 3 (43%) 1	35 (52%) 32 (48%) 1	2 (20%) 8 (80%) 0	
EDSS at 24th week	6.00 (2.50, 6.50)	3.00 (1.75, 5.50)	3.50 (2.00, 3.75)	0.6	4.75 (2.00, 6.12)	3.00 (2.00, 4.38)	3.50 (1.00, 6.00)	0.5
Unknown	0	2	1		0	2	1	
EDSS at 24th week				0.2				0.3
3 or less 4 or more Unknown	2 (40%) 3 (60%) 0	42 (63%) 25 (37%) 2	4 (36%) 7 (64%) 1		3 (38%) 5 (62%) 0	41 (62%) 25 (38%) 2	4 (44%) 5 (56%) 1	
EDSS at 48th week	6.00 (3.00, 6.50)	3.00 (2.00, 5.88)	3.00 (2.50, 4.00)	0.4	5.50 (3.50, 6.38)	3.00 (2.00, 5.25)	3.25 (0.75, 6.12)	0.2
Unknown	0	7	3		2	6	2	
EDSS at 48th week				0.8				0.3
3 or less 4 or more Unknown	2 (40%) 3 (60%) 0	37 (60%) 25 (40%) 7	5 (56%) 4 (44%) 3		2 (33%) 4 (67%) 2	38 (61%) 24 (39%) 6	4 (50%) 4 (50%) 2	
Frontage NFL (pg/ml), 24th week	15 (10, 18)	11 (8, 34)	10 (8, 12)	0.4	10 (7, 27)	12 (9, 33)	10 (7, 11)	0.2
Unknown	0	3	1		0	4	0	
Frontage NFL (pg/ml), 48 th week	10.8 (9.7, 10.9)	7.7 (6.2, 10.8)	5.7 (4.1, 9.2)	0.2	5.8 (5.4, 10.2)	8.2 (6.3, 10.9)	6.9 (5.2, 9.5)	0.5
Unknown	0	7	3		1	9	0	
OCR concentraion (ng/ml)	282 (170, 1,880)	1,025 (464, 2,128)	968 (778, 1,430)	0.5	1,120 (806, 1,442)	998 (462, 1,952)	950 (496, 2,300)	0.9
Unknown	0	15	4		2	16	1	

¹ Median (IQR); n (%) ² Friedman rank sum test ; repeated-measures ANOVA; Pearson's Chi-squared test; Fisher's exact test

Patients were compared with respect to Center, age, sex, race/ethnicity, body mass index (BMI), smoking status, disease duration, disease subtype, time from the last relapse to enrollment, whether the patient was naïve to OCR, duration of OCR treatment prior to enrollment, EDSS at baseline, whether EDSS at baseline was <3 or ≥3, EDSS at the end of the first and the second cycle, whether the patient had COVID-19 during the study, the number of comorbidities, NFL concentration (pg/ml) at the study week 24, NFL at study week 48, OCR concentration (ng/ml), patient-perceived wearing off on the study competition questionnaire. 1. n (%); Median (IQR) 2. Pearson's Chi-squared test; Kruskal-Wallis rank sum test; Fisher's exact test. Significant changes are shown in bold.

eTable 3. Differences among patients whose symptoMScreen scores improved, worsened and did not change from the start to to the end of cycle 1 and cycle 2

Characteristic	Cycle 1 symptoMScreen scores by 0.5				Cycle 2 symptoMScreen scores by 0.5			
	improve, N = 14 ¹	no change, N = 77 ¹	worsen, N = 10 ¹	p-value ²	improved, N = 10 ¹	no, N = 70 ¹	worsen, N = 8 ¹	p-value ²
Center				0.018				<0.001
Elliot Lewis	7 (50%)	51 (66%)	2 (20%)		0 (0%)	41 (59%)	7 (88%)	
NYU	7 (50%)	26 (34%)	8 (80%)		10 (100%)	29 (41%)	1 (12%)	
Age	45 (38, 57)	47 (36, 57)	48 (38, 56)	>0.9	36 (31, 54)	47 (37, 57)	49 (42, 59)	0.3
Sex				0.7				>0.9
Female	11 (79%)	51 (66%)	7 (70%)		7 (70%)	45 (64%)	6 (75%)	
Male	3 (21%)	26 (34%)	3 (30%)		3 (30%)	25 (36%)	2 (25%)	
Race/Ethnicity				0.024				0.006
White	8 (57%)	56 (73%)	4 (40%)		3 (30%)	51 (73%)	5 (62%)	
African Ancestry	5 (36%)	10 (13%)	1 (10%)		4 (40%)	10 (14%)	0 (0%)	
Hispanic/Latino	1 (7.1%)	8 (10%)	5 (50%)		1 (10%)	8 (11%)	3 (38%)	
Other	0 (0%)	3 (3.9%)	0 (0%)		2 (20%)	1 (1.4%)	0 (0%)	
BMI	26.9 (24.6, 33.7)	27.3 (23.3, 30.7)	27.4 (25.1, 29.2)	0.7	25.2 (23.2, 26.1)	26.8 (23.3, 30.5)	24.9 (23.7, 28.2)	0.4
Smoking.Status				0.9				0.090
Current	1 (7.1%)	6 (7.8%)	0 (0%)		2 (20%)	4 (5.7%)	1 (12%)	
Former	4 (29%)	16 (21%)	3 (30%)		3 (30%)	12 (17%)	3 (38%)	
Never	9 (64%)	55 (71%)	7 (70%)		5 (50%)	54 (77%)	4 (50%)	
Disease Duration	18 (7, 30)	14 (7, 20)	15 (9, 18)	0.7	12 (4, 15)	14 (6, 20)	15 (9, 23)	0.7
Diagnosis				0.069				0.9
Primary	5 (36%)	13 (17%)	0 (0%)		1 (10%)	13 (19%)	2 (25%)	
Relapsing	6 (43%)	49 (64%)	5 (50%)		7 (70%)	39 (56%)	5 (62%)	
Secondary	3 (21%)	15 (19%)	5 (50%)		2 (20%)	18 (26%)	1 (12%)	
Time from last relapse to enrollment, yrs				0.4				0.028
Unknown	3 (1, 6)	5 (2, 10)	8 (3, 14)		2 (1, 3)	5 (2, 9)	2 (2, 4)	
Unknown	6	19	4		4	17	2	
NaiveToOcrevus				0.4				0.6
1	1 (7.1%)	4 (5.2%)	1 (10%)		1 (10%)	3 (4.3%)	0 (0%)	
2	13 (93%)	73 (95%)	9 (90%)		9 (90%)	67 (96%)	8 (100%)	
Ocr. Duration days	772 (550, 1,036)	986 (580, 1,248)	971 (557, 1,137)	0.2	959 (894, 1,043)	1,042 (568, 1,250)	741 (508, 974)	0.2
Unknown	1	4	1		1	3	0	
EDSS at baseline	3.25 (2.50, 6.00)	2.50 (1.50, 4.50)	3.75 (1.50, 4.38)	0.4	3.00 (1.13, 4.00)	3.00 (2.00, 5.88)	3.25 (1.88, 3.50)	>0.9
COVID 19 on study				>0.9				0.5
No	10 (71%)	59 (77%)	8 (80%)		7 (70%)	54 (77%)	5 (62%)	
Yes	4 (29%)	18 (23%)	2 (20%)		3 (30%)	16 (23%)	3 (38%)	
EDSS at baseline>3				0.2				>0.9
3 less	7 (50%)	49 (64%)	4 (40%)		6 (60%)	40 (57%)	4 (50%)	
4 or more	7 (50%)	28 (36%)	6 (60%)		4 (40%)	30 (43%)	4 (50%)	
Total # Comorbidities				0.11				0.3
0	5 (36%)	18 (23%)	3 (30%)		6 (60%)	20 (29%)	1 (12%)	
1	7 (50%)	20 (26%)	3 (30%)		1 (10%)	19 (27%)	3 (38%)	
2 or more	2 (14%)	39 (51%)	4 (40%)		3 (30%)	31 (44%)	4 (50%)	
Patient Perceived WOE at 48th week				<0.001				0.093
Always	1 (8.3%)	1 (1.4%)	0 (0%)		2 (22%)	1 (1.4%)	0 (0%)	
Never	1 (8.3%)	40 (58%)	2 (25%)		3 (33%)	37 (54%)	2 (25%)	
Sometimes	9 (75%)	21 (30%)	1 (12%)		3 (33%)	22 (32%)	4 (50%)	
Usually	1 (8.3%)	7 (10%)	5 (62%)		1 (11%)	9 (13%)	2 (25%)	
Unknown	2	8	2		1	1	0	
Patients perceived WOE at 48th weeks				0.001				0.2
No	1 (8.3%)	40 (58%)	2 (25%)		3 (33%)	37 (54%)	2 (25%)	
Yes	11 (92%)	29 (42%)	6 (75%)		6 (67%)	32 (46%)	6 (75%)	
Unknown	2	8	2		1	1	0	
EDSS at 24th week	4.00 (3.00, 6.12)	2.00 (1.50, 3.62)	4.50 (2.00, 5.62)	0.023	2.00 (1.00, 4.00)	3.00 (2.00, 6.00)	3.25 (2.00, 3.62)	0.6

Unknown	2	5	2		1	2	0	
EDSS at 24th week				0.027				0.8
3 or less	4 (33%)	49 (68%)	3 (38%)		6 (67%)	39 (57%)	4 (50%)	
4 or more	8 (67%)	23 (32%)	5 (62%)		3 (33%)	29 (43%)	4 (50%)	
Unknown	2	5	2		1	2	0	
EDSS at 48th week	4.25 (2.25, 6.00)	2.50 (1.50, 4.12)	4.00 (2.50, 5.50)	0.2	2.50 (0.75, 4.00)	3.00 (2.00, 6.00)	3.00 (2.00, 3.62)	0.7
Unknown	4	13	3		3	7	0	
EDSS at 48th week				0.2				0.8
3 or less	4 (40%)	42 (66%)	3 (43%)		5 (71%)	35 (56%)	5 (62%)	
4 or more	6 (60%)	22 (34%)	4 (57%)		2 (29%)	28 (44%)	3 (38%)	
Unknown	4	13	3		3	7	0	
Frontage NFL (pg/ml), 24th week	10 (9, 35)	12 (8, 32)	9 (8, 14)	0.6	8 (6, 10)	11 (8, 18)	36 (12, 41)	0.030
Unknown	1	8	2		0	4	0	
Frontage NFL (pg/ml), 48th week	5.8 (4.5, 11.7)	7.7 (5.7, 10.2)	5.7 (5.1, 10.2)	0.7	5.4 (5.2, 17.3)	8.0 (6.3, 10.4)	6.2 (5.4, 16.0)	>0.9
Unknown	2	15	3		1	8	1	
OCR concentraion (ng/ml)	653 (436, 1,363)	1,025 (462, 1,890)	742 (366, 2,664)	0.8	1,530 (826, 2,772)	1,025 (473, 2,268)	602 (438, 802)	0.3
Unknown	3	23	3		2	16	1	

1. n (%); Median (IQR); 2. Pearson's Chi-squared test, Kruskal-Wallis rank sum test, Fisher's exact test. Significant differences are shown in red (p<0.05).

eTable 4: Characteristics of patients with and without wearing-off self-report

Characteristic		N (%) or median (IQR)		Univariate logistic regression			Multivariate logistic regression		
		***No **, N = 45 [†]	Yes, N = 54 [†]	OR [†]	95% CI [†]	p-value	OR [†]	95% CI [†]	p-value
Center									
	Elliot Lewis	27 / 45 (60%)	25 / 54 (46%)	—	—	0.17			
	NYU	18 / 45 (40%)	29 / 54 (54%)	1.74	0.79, 3.92				
Age		50.00 (17.00)	43.00 (17.75)	0.97	0.93, 1.00	0.065	0.90	0.82, 0.97	0.004
Sex						0.39			
	Female	28 / 45 (62%)	38 / 54 (70%)	—	—				
	Male	17 / 45 (38%)	16 / 54 (30%)	0.69	0.30, 1.61				
Race						0.004			0.7
	White	37 / 45 (82%)	27 / 54 (50%)	—	—		—	—	
	African Ancestry	5 / 45 (11%)	12 / 54 (22%)	3.29	1.08, 11.4		0.45	0.06, 2.87	
	Hispanic/Latino	3 / 45 (6.7%)	13 / 54 (24%)	5.94	1.71, 27.8		0.77	0.08, 8.43	
	Other	0 / 45 (0%)	2 / 54 (3.7%)						
BMI		26.62 (6.53)	27.73 (10.22)	1.06	0.99, 1.14	0.12	1.02	0.91, 1.14	0.8
Smoking Status						0.97			
	Current	3 / 45 (6.7%)	3 / 54 (5.6%)	—	—				
	Former	10 / 45 (22%)	12 / 54 (22%)	1.20	0.19, 7.80				
	Never	32 / 45 (71%)	39 / 54 (72%)	1.22	0.21, 6.98				
Disease Duration		14.00 (14.00)	12.50 (12.75)	0.99	0.96, 1.03	0.78			
Diagnosis						0.77			
	Primary	6 / 45 (13%)	10 / 54 (19%)	—	—				
	Relapsing	29 / 45 (64%)	32 / 54 (59%)	0.66	0.20, 2.01				
	Secondary	10 / 45 (22%)	12 / 54 (22%)	0.72	0.19, 2.66				
Time from last relapse to enrollment, years		6.00 (6.00)	3.00 (5.50)	0.94	0.87, 1.01	0.11			
Naïve To Ocrevus (yes)		43 / 45 (96%)	52 / 54 (96%)	1.21	0.14, 10.4	0.85			
Ocr.Duration..days		976.00 (603.00)	952.50 (580.75)	1.00	1.00, 1.00	0.70			
COVID 19 on study						0.40			
	No	35 / 45 (78%)	38 / 54 (70%)	—	—				
	Yes	10 / 45 (22%)	16 / 54 (30%)	1.47	0.60, 3.77				
EDSS at baseline>3						0.006			0.029
	3 less	33 / 45 (73%)	25 / 54 (46%)	—	—		—	—	
	4 or more	12 / 45 (27%)	29 / 54 (54%)	3.19	1.39, 7.67		6.49	1.21, 44.7	
Total # Comorbidities						0.99			
	0	12 / 45 (27%)	15 / 54 (28%)	—	—				
	1	13 / 45 (29%)	15 / 54 (28%)	0.92	0.32, 2.68				
	2 or more	20 / 45 (44%)	24 / 54 (44%)	0.96	0.36, 2.52				
EDSS at 24th week >3						0.021			
	3 less	31 / 43 (72%)	26 / 53 (49%)	—	—				
	4 or more	12 / 43 (28%)	27 / 53 (51%)	2.68	1.16, 6.48				
EDSS at 48th week >3						0.12			
	3 less	28 / 41 (68%)	25 / 48 (52%)	—	—				
	4 or more	13 / 41 (32%)	23 / 48 (48%)	1.98	0.84, 4.81				
Frontage NFL (pg/ml) 24th week		11.30 (12.20)	10.50 (11.94)	1.00	0.98, 1.02	0.85			
Frontage NFL (pg/ml), 48th week		8.17 (4.12)	6.34 (4.93)	0.96	0.88, 1.03	0.29			
OCR concentraion (ng/ml)		1,065.00 (2,266.00)	692.00 (856.00)	0.928	0.928, 0.9287	0.021	1.06	0.98, 1.17	0.2
	Week 4								
Walking		1.00 (2.00)	2.00 (2.00)	1.54	1.15, 2.15	0.003			
Hand Function/Dexterity		0.00 (1.00)	1.00 (1.00)	1.87	1.22, 3.03	0.003			
Spasticity & Stiffness		1.00 (2.00)	2.00 (2.25)	2.03	1.46, 2.97	<0.001			
Bodily Pain		0.00 (2.00)	2.00 (2.25)	2.13	1.51, 3.15	<0.001			

Sensory	1.00 (2.00)	2.00 (2.00)	2.00	1.38, 3.08	<0.001		
Bladder Control	1.00 (2.00)	2.00 (2.00)	1.88	1.35, 2.72	<0.001		
Fatigue	1.00 (2.00)	3.00 (2.00)	2.16	1.53, 3.22	<0.001		
Vision	0.00 (0.00)	1.00 (2.00)	1.69	1.12, 2.71	0.012		
Dizziness	0.00 (1.00)	1.00 (2.00)	2.01	1.32, 3.29	<0.001		
Cognitive Function	1.00 (1.00)	1.00 (2.00)	1.37	0.98, 1.95	0.063		
Depression	0.00 (1.00)	2.00 (2.00)	3.48	2.13, 6.27	<0.001		
Anxiety	0.00 (1.00)	2.00 (1.00)	2.90	1.83, 4.96	<0.001		
Symptom Screen Total	10.00 (12.25)	23.50 (12.25)	1.14	1.08, 1.21	<0.001		
% work time missed due to health.	0.00 (0.00)	0.00 (0.00)	1.06	0.97, 1.23	0.22		
% impairment while working due to health	0.00 (15.00)	20.00 (50.00)	1.03	1.00, 1.07	0.024		
% overall work impairment due to health	5.00 (15.00)	20.00 (50.00)	1.03	1.00, 1.06	0.025		
% activity impairment due to health	10.00 (35.00)	45.00 (42.50)	1.04	1.02, 1.06	<0.001		
Social Score	50.90 (14.10)	43.40 (6.20)	0.85	0.79, 0.91	<0.001		
Anxiety Score	47.85 (15.90)	55.90 (7.00)	1.17	1.09, 1.26	<0.001		
Depression Score	36.90 (9.90)	50.60 (9.80)	1.16	1.09, 1.25	<0.001		
Emotional Score	43.70 (13.45)	50.05 (11.70)	1.09	1.04, 1.15	<0.001		
Fatigue Score	42.80 (8.05)	52.30 (10.40)	1.14	1.08, 1.22	<0.001		
Lower Extremity Score	58.60 (16.08)	41.70 (14.50)	0.93	0.89, 0.97	0.002		
Positive Score	54.90 (9.00)	49.90 (9.50)	0.91	0.85, 0.96	<0.001		
Sleep Score	47.30 (12.70)	58.00 (9.80)	1.14	1.08, 1.22	<0.001		
Upper Extremity Score	53.80 (11.20)	43.70 (16.70)	0.97	0.92, 1.01	0.14		
Social Satisfaction Score	48.20 (15.80)	43.20 (5.85)	0.90	0.84, 0.96	<0.001		
Cognitive Score	54.20 (13.20)	44.90 (13.20)	0.92	0.88, 0.96	<0.001		

Multivariate logistic regression was fitted controlling for age, sex, BMI, EDSS at baseline, PPD PK Results. Significant results are shown in red.