

Concomitant Medication Usage With Levodopa-Carbidopa Intestinal Gel: Results From the COSMOS Study

Supplemental Information

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Supplemental Table 1. Unified Parkinson's Disease Rating Scale Part V: Modified Hoehn & Yahr Scores Before LCIG Initiation

Description	LCIG monotherapy ^a N = 120		LCIG daytime monotherapy ^a N = 94		LCIG polytherapy ^a N = 164		Total population N = 409	
	n	%	n	%	n	%	n	%
UPDRS Part V: modified H&Y scores								
Stage 1–2.5	14	20.3	20	40.8	21	25.6	60	26.9
Stage 1	0	0	1	2.0	2	2.4	3	1.3
Stage 1.5	1	1.4	0	0	0	0	1	0.4
Stage 2	4	5.8	7	14.3	8	9.8	23	10.3
Stage 2.5	9	13.0	12	24.5	11	13.4	33	14.8
Stage 3–5	55	79.7	29	59.2	61	74.4	163	73.1
Stage 3	34	49.3	16	32.7	36	43.9	96	43.0
Stage 4	20	29.0	11	22.4	23	28.0	62	27.8
Stage 5	1	1.4	2	4.1	2	2.4	5	2.2

H&Y, Hoehn & Yahr; UPDRS, Unified Parkinson's Disease Rating Scale.

^aPatients were grouped by their treatment regimen at 12 months with 31 patients missing data, these patients are included in the total population.

Supplemental Table 2. Reasons for initiation of LCIG therapy

Reason for starting LCIG	LCIG						Total population	
	monotherapy ^a		LCIG daytime monotherapy ^a		LCIG polytherapy ^a		N = 409	
	n	%	n	%	n	%	n	%
Disabling motor fluctuations	109	90.8	89	94.7	147	89.6	375	91.7
Decrease in QoL	66	55.0	58	61.7	96	58.5	231	56.5
Uncontrolled dyskinesia	53	44.2	51	54.3	95	57.9	210	51.3
Lack of efficacy of previous treatment	59	49.2	53	56.4	84	51.2	206	50.4
Safety	17	14.2	11	11.7	19	11.6	47	11.5
Other	3	2.5	3	3.2	3	1.8	10	2.4

LCIG, levodopa-carbidopa intestinal gel; PD, Parkinson's disease; QoL, quality of life.

^aPatients were grouped by their treatment regimen at 12 months with 31 patients missing data, these patients are included in the total population.

Supplemental Table 3. LCIG infusion settings

	LCIG Monotherapy	LCIG Daytime Monotherapy	LCIG Polytherapy	Total Population
Duration of LCIG treatment (at month 12)	n=118	n=94	n=164	n=389
Months, mean \pm SD	39.3 \pm 25.6	31.8 \pm 22.3*	35.7 \pm 21.9	35.8 \pm 23.2
Nasogastric test phase performed, n (%)	112 (93.3%)	73 (77.7%)*	137 (83.5%)*	350 (85.6%)
Duration of LCIG titration	n=117	n=93	n=163	n=393
Days, mean \pm SD	6.0 \pm 3.4	8.8 \pm 6.2***	7.9 \pm 7.9	7.5 \pm 6.4
LCIG Infusion (at month 12)	n=114	n=92	n=157	n=376
Hours/day, mean \pm SD	16.2 \pm 2.9	15.8 \pm 1.1	16.1 \pm 2.8	16.1 \pm 2.5

P-values indicate significant difference compared with LCIG monotherapy: $P < .001$ (***) and $P < .05$ (*). LCIG = levodopa-carbidopa intestinal gel; PD = Parkinson's disease; SD = standard deviation.

Supplemental Table 4 Percentage of patients with reported add-on PD medication usage by class and LCIG treatment regimen over time^a

	At LCIG initiation	Month 3	Month 6	Month 9	Month 12
LCIG monotherapy (N = 120)					
Any medication	62 (51.7)	12 (10.0)	8 (6.7)	4 (3.3)	0
Levodopa ^b	56 (46.7)	6 (5.0)	2 (1.7)	0	0
DA	20 (16.7)	5 (4.2)	4 (3.3)	2 (1.7)	0
MAO-B inhibitors	8 (6.7)	0	0	0	0
COMT inhibitors	5 (4.2)	0	0	0	0
NMDA antagonists	6 (5.0)	2 (1.7)	2 (1.7)	2 (1.7)	0
APO injection	0	0	0	0	0
APO CI	0	0	0	0	0
Anticholinergics	1 (0.8)	0	0	0	0
Other	0	0	0	0	0
LCIG daytime monotherapy (N = 94)					
Any medication	82 (87.2)	88 (93.6)	90 (95.7)	92 (97.9)	94 (100)
Levodopa ^b	79 (84.0)	80 (85.1)	83 (88.3)	85 (90.4)	87 (92.6)
DA	34 (36.2)	21 (22.3)	21 (22.3)	22 (23.4)	22 (23.4)
MAO-B inhibitors	5 (5.3)	0	0	0	0
COMT inhibitors	8 (8.5)	0	0	0	0
NMDA antagonists	4 (4.3)	0	0	0	0
APO injection	0	0	0	0	0
APO CI	0	0	0	0	0
Anticholinergics	1 (1.1)	0	0	0	0
Other	1 (1.1)	2 (2.1)	2 (2.1)	2 (2.1)	2 (2.1)
LCIG polytherapy (N = 164)					
Any medication	151 (92.1)	157 (95.7)	161 (98.2)	162 (98.8)	164 (100)
Levodopa ^b	99 (60.4)	77 (47.0)	78 (47.6)	77 (47.0)	78 (47.6)
DA	83 (50.6)	85 (51.8)	83 (50.6)	81 (49.4)	82 (50.0)
MAO-B inhibitors	57 (34.8)	46 (28.0)	44 (26.8)	44 (26.8)	44 (26.8)
COMT inhibitors	19 (11.6)	5 (3.0)	3 (1.8)	3 (0.7)	3 (1.8)
NMDA antagonists	32 (19.5)	38 (23.2)	41 (25.0)	42 (25.6)	44 (26.8)
APO injection	3 (1.8)	0	0	0	0
APO CI	2 (1.2)	0	0	0	0
Anticholinergics	9 (5.5)	7 (4.3)	8 (4.9)	7 (4.3)	7 (4.3)
Other	8 (4.9)	11 (6.7)	11 (6.7)	11 (6.7)	11 (6.7)
Total population (N = 409)					
Any medication	296 (72.4)	259 (63.3)	261 (63.8)	260 (63.6)	260 (63.6)
Levodopa ^b	234 (57.2)	164 (40.1)	164 (40.1)	163 (39.9)	166 (63.8)

DAs	138 (33.7)	112 (27.4)	109 (26.7)	106 (25.9)	105 (25.7)
MAO-B inhibitors	70 (17.1)	46 (11.2)	44 (10.8)	44 (10.8)	44 (10.8)
COMT inhibitors	32 (7.8)	5 (1.2)	3 (0.7)	3 (0.7)	3 (0.7)
NMDA antagonists	42 (10.3)	40 (9.8)	43 (10.5)	44 (10.8)	44 (10.8)
APO injection	3 (0.7)	0	0	0	0
APO CI	2 (0.5)	0	0	0	0
Anticholinergics	11 (2.7)	7 (1.7)	8 (2.0)	7 (1.7)	7 (1.7)
Other	9 (2.2)	13 (3.2)	13 (3.2)	13 (3.2)	13 (3.2)

Data are presented as n (%).

APO, apomorphine; CI, continuous infusion; COMT, catechol-O-methyl transferase; DA, dopamine agonist; LCIG, levodopa-carbidopa intestinal gel; MAO-B, monoamine oxidase-B; NMDA, *N*-methyl-*D*-aspartate; PD, Parkinson's disease.

^aBased on the retrospective review of patient charts and are calculated for patients with reported medication usage and excluding the use of rescue medication.

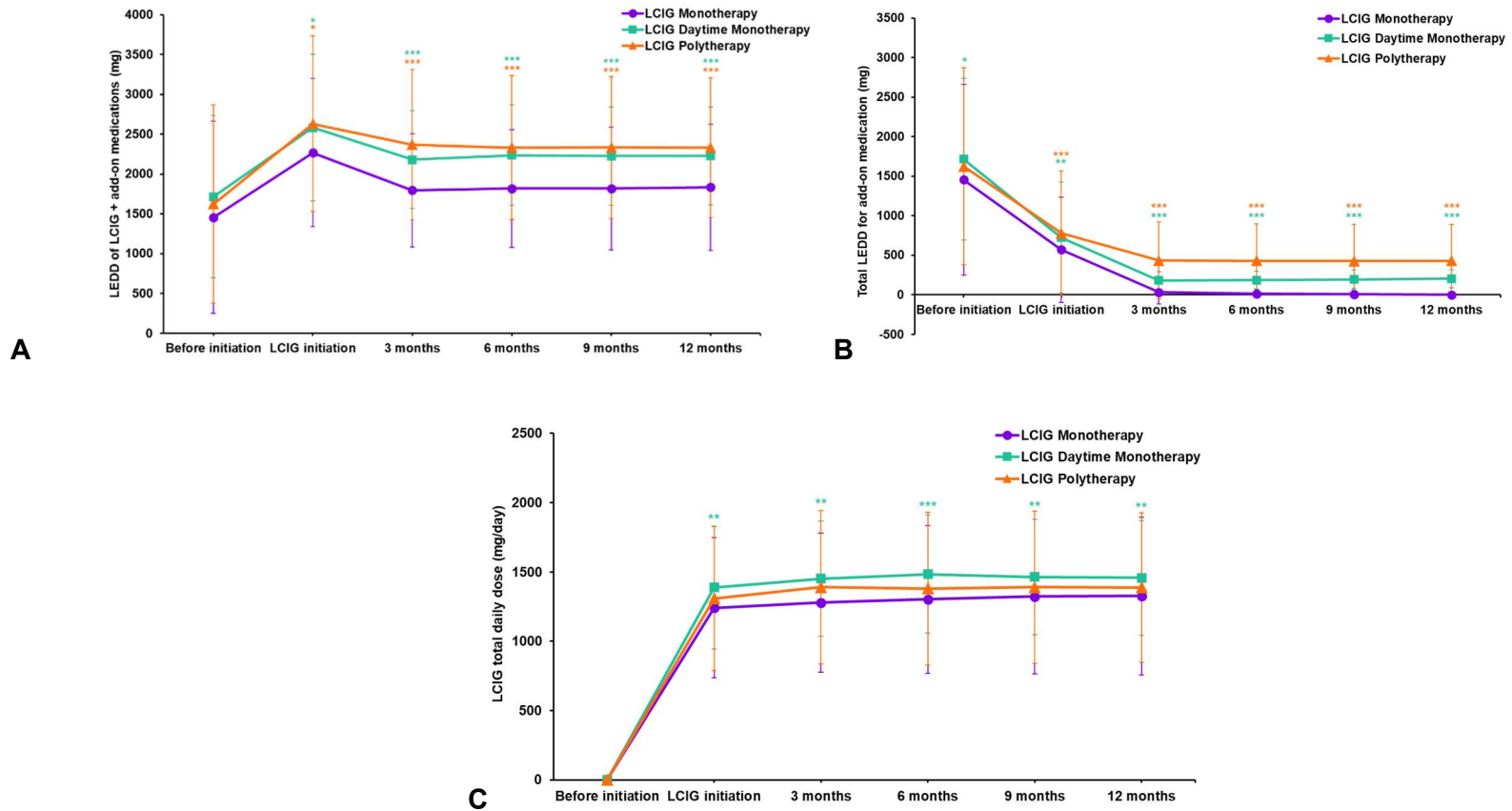
^bLevodopa use included levodopa/carbidopa, levodopa/carbidopa/entacapone, and/or levodopa/benserazide. Patient medication use at month 12 was used to group patients for this analysis.

Supplemental Table 5. Predictors of LCIG monotherapy treatment

Variable	Odds ratio estimate	Standard Error	Wald Chi-Square	Lower 95% limit	Upper 95% limit	<i>P</i> value
Patient variables						
Number of motor symptoms	0.828	0.076	6.244	0.714	0.960	0.0125
Any DA use in the past	1.743	0.238	5.464	1.094	2.777	0.0194
Site, HCP, and country variables						
Gross national income	0.976	0.009	6.6216	0.958	0.994	0.0101
Average frequency of routine visits for PD patients on device-aided therapy ≥ 3 times/year	2.297	0.341	5.964	1.178	4.478	0.0146
Approximate number of APD patients treated with LCIG per year	1.019	0.00949	3.8774	1.000	1.038	0.0489
Years of LCIG experience	0.918	0.0439	3.813	0.842	1.000	0.0509

APD, advanced Parkinson's disease; HCP, healthcare provider; LCIG, levodopa-carbidopa intestinal gel; PD, Parkinson's disease.

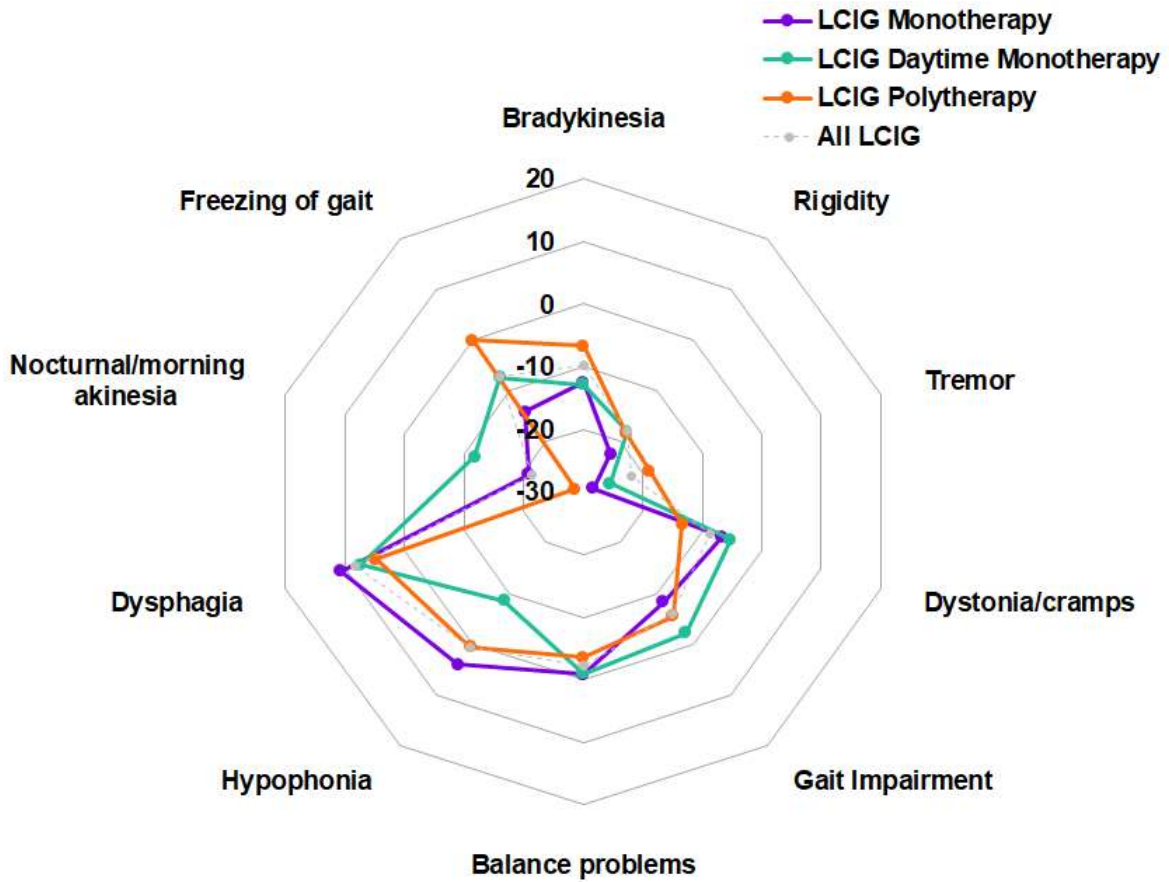
Supplemental FIG. 1. Dosages of levodopa-carbidopa intestinal gel (LCIG) and add-on medications. Total levodopa equivalent daily dose (LEDD) of LCIG and add-on medications (**A**). Total LEDD for add-on medications (**B**). LCIG total daily dose (**C**).



* $P < 0.05$, ** $P < 0.01$, and *** $P < 0.001$ compared with LCIG monotherapy.

Supplemental FIG 2. Percent change from baseline to month 12 in A) motor and B) nonmotor symptoms by treatment regimen. Prevalence of nonmotor symptoms is based on physicians' judgment of the presence of absence of each symptom at each time point. Gray dotted line represents change for all treatments combined. LCIG, levodopa-carbidopa intestinal gel

Suppl 2A.



Suppl 2B.

