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## **Supplementary Material**

**Article Title:** Characterizing Treatment Effects of Valbenazine for Tardive Dyskinesia: Additional Results From the KINECT 3 Study

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## SUPPLEMENTARY MATERIALS

**Table 1. Patient Disposition in the Valbenazine KINECT 3 Trial**

Population, n	Placebo	Valbenazine 40 mg/day	Valbenazine 80 mg/day
Double-blind, placebo-controlled period			
Randomized	78	76	80
Discontinued	7	13	9
Adverse event	2	4	2
Noncompliance	2	1	0
Withdrawal of consent	1	5	4
Lost to follow-up	2	1	1
Sponsor/investigator decision	0	2	1
Completed Week 6	71	63	71
Continued to extension period	69 <sup>a</sup>	64 <sup>b</sup>	65 <sup>b</sup>
Valbenazine extension period			
Entered		97	101
Discontinued		36	38
Adverse event		14	17
Withdrawal of consent		9	8
Lost to follow-up		8	6
Noncompliance		3	3
Sponsor/investigator decision		2	2
Death		0	1 <sup>c</sup>
Protocol deviation		0	1
Completed Week 48		61	63
Completed Week 52		60	61

<sup>a</sup>Participants in the original placebo group were re-randomized to valbenazine 40 mg/day (n=33) or 80 mg/day (n=36).

<sup>b</sup>Three participants initially randomized to valbenazine 80 mg/day had a dose reduction during the 6-week placebo-controlled period and were included in the 40-mg/day group for the valbenazine extension period.

<sup>c</sup>Attributed to multiple organ failure; judged by the investigator as unrelated to study drug.

**Table 2. Mean AIMS Total Score and Item Scores at Baseline (ITT Population)**

	<b>Placebo n=76</b>	<b>Valbenazine 40 mg/day n=70</b>	<b>Valbenazine 80 mg/day n=79</b>
Mean total score (SD)	9.9 (4.3)	9.8 (4.1)	10.4 (3.6)
Mean item score (SD)			
Face	1.1 (1.1)	0.9 (1.0)	1.2 (0.9)
Lips	1.6 (1.0)	1.5 (1.0)	1.7 (0.9)
Jaw	1.8 (1.3)	1.8 (1.2)	1.7 (1.1)
Tongue	1.7 (1.2)	1.9 (1.1)	1.6 (1.1)
Upper extremities	1.4 (0.9)	1.2 (0.8)	1.4 (0.8)
Lower extremities	1.2 (0.9)	1.2 (0.9)	1.5 (0.8)
Trunk	1.0 (1.1)	1.2 (1.3)	1.3 (1.1)

AIMS, Abnormal Involuntary Movement Scale; ITT, intent-to-treat; SD, standard deviation.

**Table 3. Response Analyses for AIMS Total Score at End of Long-Term Valbenazine Treatment (Week 48) and After 4-Week Treatment Withdrawal (Week 52)**

	<b>Week 48</b>		<b>Week 52</b>	
	<b>40 mg/day n=60</b>	<b>80 mg/day n=63</b>	<b>40 mg/day n=60</b>	<b>80 mg/day n=61</b>
Percent improvement from baseline				
≥10%	43 (71.7)	49 (77.8)	26 (43.3)	28 (45.9)
≥20%	37 (61.7)	45 (71.4)	23 (38.3)	25 (41.0)
≥30%	30 (50.0)	40 (63.5)	17 (28.3)	20 (32.8)
≥40%	22 (36.7)	35 (55.6)	15 (25.0)	17 (27.9)
≥50%	17 (28.3)	33 (52.4)	9 (15.0)	12 (19.7)
≥60%	12 (20.0)	26 (41.3)	8 (13.3)	8 (13.1)
≥70%	9 (15.0)	17 (27.0)	3 (5.0)	4 (6.6)
≥80%	7 (11.7)	11 (17.5)	0	3 (4.9)
≥90%	4 (6.7)	6 (9.5)	0	2 (3.3)
Complete response <sup>a</sup>	11 (18.3)	23 (36.5)	6 (10.0)	6 (9.8)

<sup>a</sup>Defined as a score ≤1 on all AIMS items at time of assessment.

AIMS, Abnormal Involuntary Movement Scale.

**Table 4. Response Analyses for AIMS Item Scores at End of Long-Term Valbenazine Treatment (Week 48) and After Valbenazine Withdrawal (Week 52)**

AIMS Item Response <sup>a</sup>	Week 48		Week 52	
	40 mg/day n=60	80 mg/day n=63	40 mg/day n=60	80 mg/day n=61
Face	50 (83.3)	54 (85.7)	42 (70.0)	41 (67.2)
Lips	36 (60.0)	45 (71.4)	30 (50.0)	25 (41.0)
Jaw	30 (50.0)	45 (71.4)	20 (33.3)	26 (42.6)
Tongue	36 (60.0)	43 (68.3)	26 (43.3)	19 (31.2)
Upper extremities	46 (76.7)	45 (71.4)	43 (71.7)	33 (54.1)
Lower extremities	47 (78.3)	49 (77.8)	43 (71.7)	42 (68.9)
Trunk	50 (83.3)	49 (77.8)	45 (75.0)	41 (67.2)

<sup>a</sup>Defined as a score  $\leq 1$  on AIMS item at time of assessment.  
AIMS, Abnormal Involuntary Movement Scale.

**Table 5. Baseline Characteristics of Complete Responders at Week 6<sup>a</sup>**

	Placebo n=9	Valbenazine 40 mg/day n=9	Valbenazine 80 mg/day n=17
Age, mean (SD), years	54.6 (9.2)	60.8 (5.7)	56.0 (10.9)
Women, n (%)	7 (77.8)	5 (55.6)	9 (52.9)
Race, n (%)			
White	4 (44.4)	6 (66.7)	11 (64.7)
Black/African-American	5 (55.6)	2 (22.2)	5 (29.4)
Other/multiple	0	1 (11.1)	1 (5.9)
Body mass index, mean (SD), kg/m <sup>2</sup>	29.5 (7.2)	28.6 (6.1)	30.4 (6.7)
Age at TD diagnosis, mean (SD), years	48.2 (11.0)	56.0 (4.6)	48.2 (14.0)
Primary psychiatric diagnosis, n (%)			
Schizophrenia/schizoaffective disorder	7 (77.8)	7 (77.8)	12 (70.6)
Mood disorder	2 (22.2)	2 (22.2)	5 (29.4)
Antipsychotic medication use, n (%)			
Atypical only	5 (55.6)	6 (66.7)	10 (58.8)
Typical only	2 (22.2)	2 (22.2)	3 (17.6)
Both	0	1 (11.1)	2 (11.8)
None	2 (22.2)	0	2 (11.8)
Lifetime history of suicidality, n (%) <sup>b</sup>	4 (44.4)	4 (44.4)	6 (35.3)
AIMS total score, mean (SD)	6.4 (2.8)	9.0 (4.7)	8.6 (2.8)

<sup>a</sup>Defined as a score  $\leq 1$  on all AIMS items 1-7 at time of assessment.

<sup>b</sup>Based on Columbia-Suicide Severity Rating Scale.

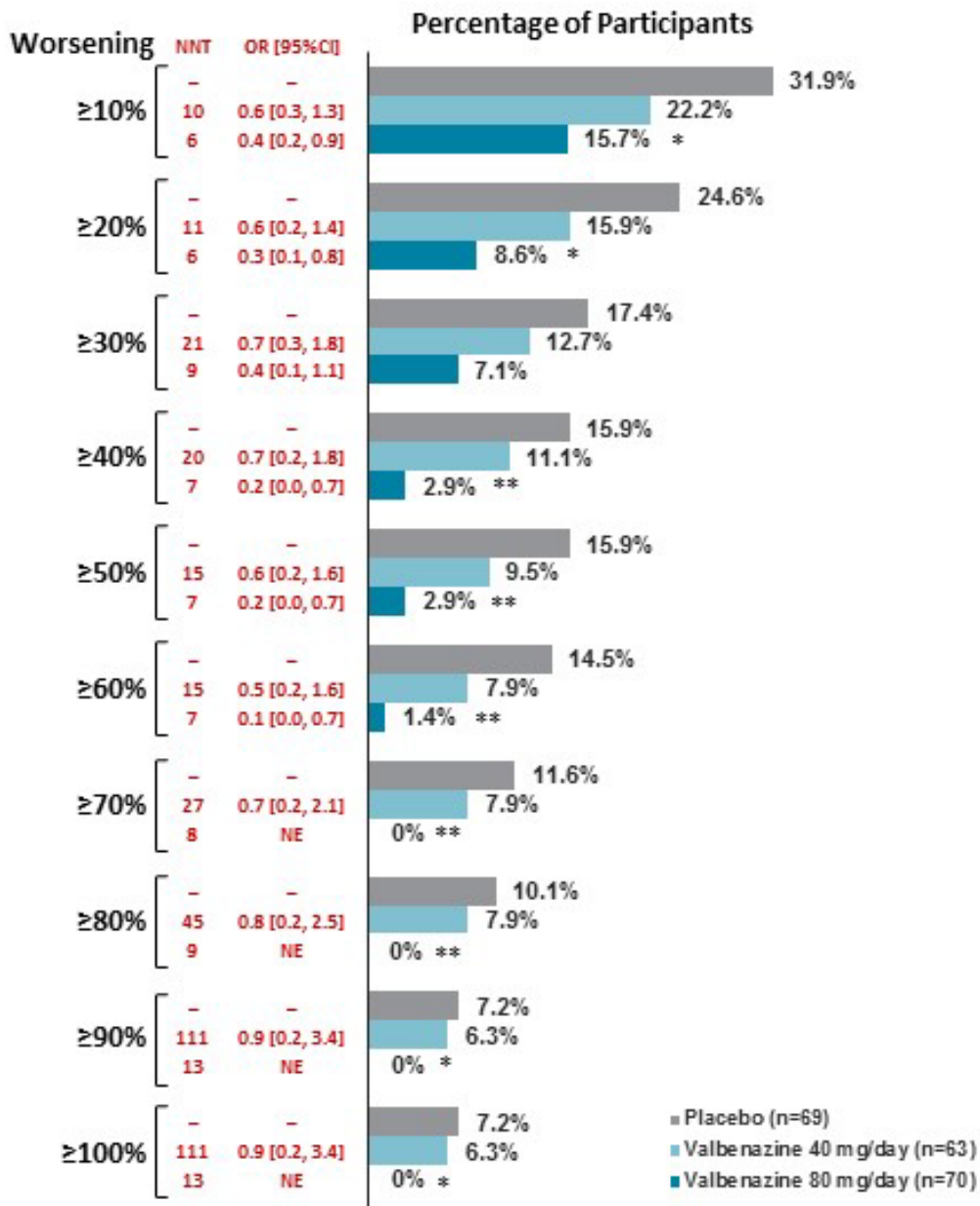
AIMS, Abnormal Involuntary Movement Scale; SD, standard deviation; TD, tardive dyskinesia.

**Table 6. Shift Analyses for AIMS Item Scores at End of Long-Term Valbenazine Treatment (Week 48) and After Valbenazine Withdrawal (Week 52)**

	Score $\geq 3$ at Baseline Score $\leq 2$ at Week 48/52		Score $\geq 2$ at Baseline Score Decrease $\geq 2$ points at Week 48/52		Score $\geq 1$ at Baseline Score Decrease $\geq 1$ point at Week 48/52	
	40 mg/day	80 mg/day	40 mg/day	80 mg/day	40 mg/day	80 mg/day
Face						
Week 48	3/4 (75.0)	3/6 (50.0)	9/22 (40.9)	14/25 (56.0)	22/34 (64.7)	32/48 (66.7)
Week 52	3/4 (75.0)	3/6 (50.0)	7/22 (31.8)	9/25 (36.0)	16/34 (47.1)	23/46 (50.0)
Lips						
Week 48	9/10 (90.0)	13/14 (92.9)	8/37 (21.6)	18/37 (48.7)	28/49 (57.1)	35/59 (59.3)
Week 52	5/10 (50.0)	9/13 (69.2)	6/37 (16.2)	6/35 (17.1)	20/49 (40.8)	20/57 (35.1)
Jaw						
Week 48	14/21 (66.7)	13/18 (72.2)	10/34 (29.4)	17/37 (46.0)	26/48 (54.2)	34/51 (66.7)
Week 52	10/21 (47.6)	7/17 (41.2)	7/34 (20.6)	5/35 (14.3)	19/48 (39.6)	17/49 (34.7)
Tongue						
Week 48	12/18 (66.7)	15/21 (71.4)	13/37 (35.1)	14/32 (43.8)	31/51 (60.8)	33/53 (62.3)
Week 52	8/18 (44.4)	12/21 (57.1)	7/37 (18.9)	4/31 (12.9)	21/51 (41.2)	16/51 (31.4)
Upper extremities						
Week 48	2/2 (100)	7/8 (87.5)	4/24 (16.7)	16/36 (44.4)	30/48 (62.5)	38/57 (66.7)
Week 52	0/2 (0.0)	6/8 (75.0)	4/24 (16.7)	8/35 (22.9)	21/48 (43.8)	24/55 (43.6)
Lower extremities						
Week 48	3/3 (100)	5/6 (83.3)	6/22 (27.3)	9/35 (25.7)	20/41 (48.8)	39/56 (69.6)
Week 52	3/3 (100)	4/6 (66.7)	4/22 (18.2)	7/33 (21.2)	19/41 (46.3)	27/54 (50.0)
Trunk						
Week 48	6/7 (85.7)	7/10 (70.0)	13/25 (52.0)	15/34 (44.1)	27/37 (73.0)	34/44 (77.3)
Week 52	5/7 (71.4)	8/10 (80.0)	7/25 (28.0)	13/34 (38.2)	24/37 (64.9)	25/42 (59.5)

AIMS, Abnormal Involuntary Movement Scale.

**Figure 1. Worsening in AIMS Total Score at End of Double-Blind Placebo-Controlled Treatment (Week 6)**



\* $P < 0.05$ ; \*\* $P \leq 0.01$ ; \*\*\* $P \leq 0.001$  versus placebo.

AIMS, Abnormal Involuntary Movement Scale; NE, not estimable; NNT, number needed to treat for valbenazine to prevent at least 1 patient from worsening; OR, odds ratio.