

Effect of acute non-oral dopaminergic (apomorphine and intra-jejunal levodopa) treatment on non-motor symptoms in Parkinson's Disease.

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OBJECTIVE

To analyse and compare the non-motor symptoms (NMS) of Parkinson's Disease (PD) using the NMS Scale (NMSS) in acute non-oral dopaminergic response tests.

BACKGROUND

Global and domain based aspects of NMS of PD can be assessed using the NMSS and it is recognised that some NMS could be dopaminergic in origin^{1,2}. Previous studies have shown that some NMS can improve with apomorphine and intrajejunal levodopa infusion.³ The study of these therapies in acute settings hopes to determine which NMS might be dopaminergic based.

METHODS

Patients were assessed using the UPDRS III and the NMSS, both pre and post dopaminergic administration.

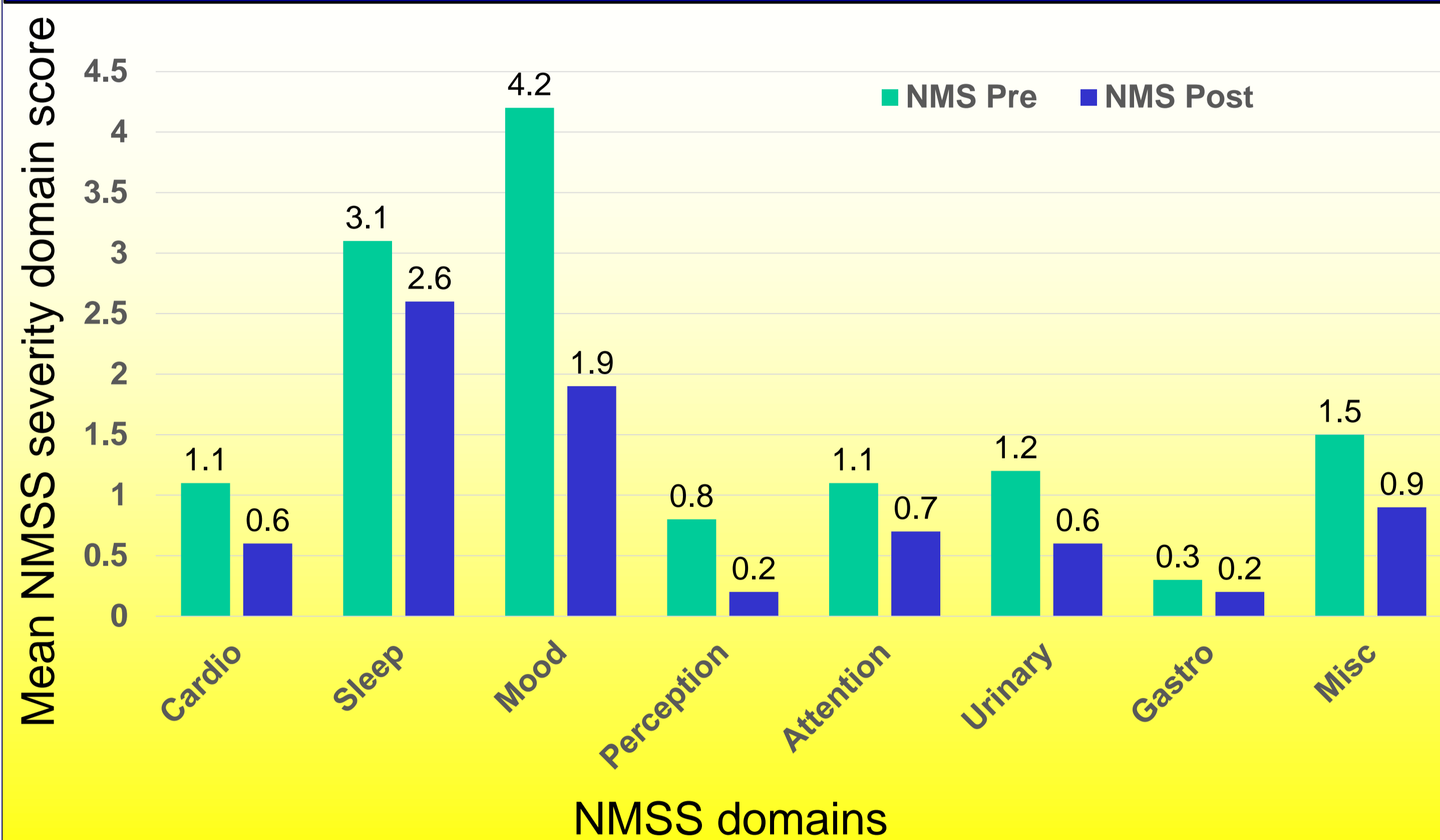
Apomorphine cohort

- An adapted NMSS was used to assess NMS severity only at 15 and 30 minutes respectively (Graph 1 shows data at 30 minutes) post pump initiation.

IJLI cohort

- The NMSS was used to calculate total scores at 4, 7 and 10 hours respectively (Graph 2 shows data at 10 hours) after the IJLI pump was initiated.

Graph 1: Mean Adapted NMSS (domains) Pre and Post Apo



Graph 2: Mean total NMSS (domains) Pre and Post IJLI

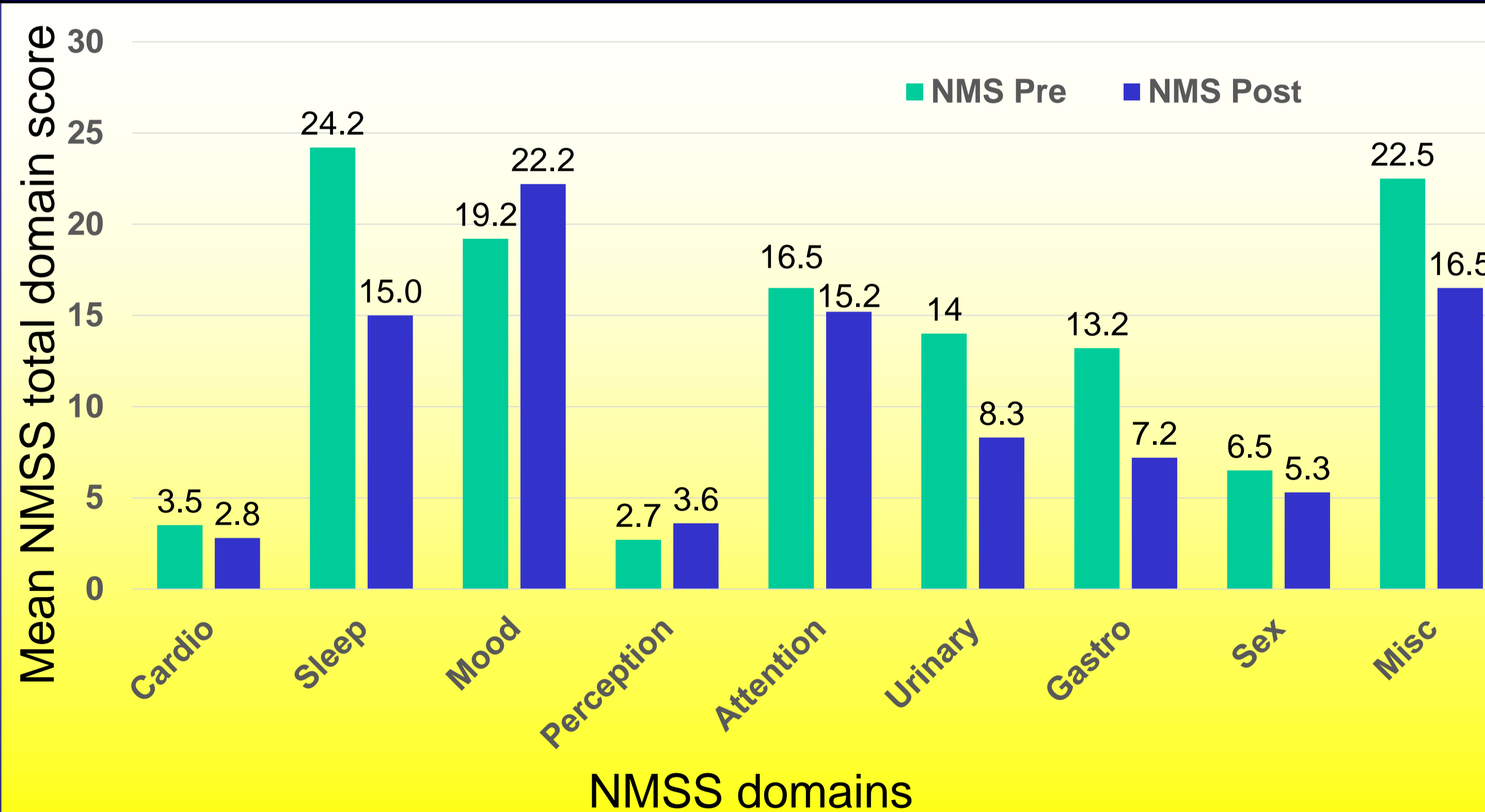


Table 1: Demographics	Apo	IJLI
Number of Patients (Males: Females)	9 (5: 4)	6 (5: 1)
Mean Age (± SD)	66.09	56.67
Duration of Disease (± SD)	9.64 (±4.5)	16.33 (±3.72)
Median H & Y OFF (range)	3 (2 - 4)	4 (4 - 5)
UPDRS OFF (± SD)	35.11 (±10.78)	53.33 (±5.91)
UPDRS ON (± SD)	22 (±7.34)	11.33 (±5.39)

RESULTS

NMS improvements in Apomorphine cohort

- Mood and anxiety (56% reduction)
- Perceptual (75% reduction)
- Urinary (50% reduction)
- Cardiovascular (46% reduction)
- Miscellaneous domains (40% reduction)

NMS improvements in IJLI cohort

- Sleep and fatigue (38% reduction)
- Gastrointestinal (45% reduction)
- Urinary domains (43% reduction)
- Sustained as long as infusion was continued for 10 hours.

CONCLUSIONS

Although not matched, these acute challenge based studies suggest that intra-jejunal levodopa therapy and the non-oral dopamine agonist apomorphine can lead to improvements in NMS. This supports theories of some NMS being of dopaminergic origin.

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