Introduction

Continuous levodopa/carbidopa infusion is considered the optimal delivery route for treating patients with PD and advanced motor fluctuations because it avoids the peaks and troughs associated with oral dosing. However, current infusion systems must be surgically routed to the duodenum and are therefore associated with potentially serious complications. NeuroDerm has developed ND0612, a proprietary drug-device combination that continuously delivers liquid levodopa/carbidopa (60/7.5 mg/mL) by subcutaneous infusion through a non-surgical mini-pump system to reduce motor complications in fluctuating PD.

Design

BeyoND is an ongoing study of ND0612 for the management of motor fluctuations in PD. It is registered at ClinicalTrials.gov as NCT02726386.

Study design

The study has 2 cohorts:
1. Patients who recently (within 1 month of enrollment to BeyoND) completed the previous 006 study (See poster P231 at this Congress).
2. ND0612 naïve subjects and subjects who completed treatment in a ND0612 clinical study >1 month before screening.

Early Phase 2 trials have demonstrated that the low dose of ND0612 maintained steady, therapeutic levodopa plasma concentrations that were associated with reduced OFF time. The aim of this multi-center, international, open-label, Phase 2b safety study is to assess the long-term safety (systemic and local) and tolerability of continuous subcutaneous infusion of ND0612 by adverse events, vital signs, local tolerability.

Study design

R1: ND0612 24h/day
0.64ml/h × 24h + 0.08ml/h × 6h. Total LD/CD dose: 720/90mg

R2: ND0612 16h/day + morning dose of oral LD
0.75ml/h × 16h. Total LD/CD dose: 720/90mg

Baseline characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>(N=209)</th>
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<tbody>
<tr>
<td>Percent male</td>
<td>66%</td>
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<tr>
<td>Age (years); mean ±SD</td>
<td>64.1 ± 8.76</td>
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<tr>
<td>Duration of disease (years); mean ±SD</td>
<td>9.5 ± 4.9</td>
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<tr>
<td>Time with motor fluctuations (years); mean ±SD</td>
<td>5.23 ± 4.20</td>
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<tr>
<td>Duration of daily OFF time (hours); mean ±SD</td>
<td>5.47 ± 2.72</td>
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<td>UPDRS motor score; mean ±SD</td>
<td>27.4 ± 12.5</td>
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<td>MMSE score; mean ±SD</td>
<td>28.8 ± 1.2</td>
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<tr>
<td>Levodopa dose (mg); mean ±SD</td>
<td>1040 ± 665</td>
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<td>H (β) patients taking ≥900mg LD/day</td>
<td>109 (52.2%)</td>
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<tr>
<td>Use of COMT inhibitor; H (%)</td>
<td>54 (25.8%)</td>
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</tbody>
</table>

Conclusions

Baseline characteristics are typical of patients with PD who suffer from motor fluctuations despite optimized oral treatment.

This will be the first study to evaluate the long-term safety of high dose ND0612 in patients with PD experiencing motor fluctuations not adequately controlled with oral therapies.

References


Disclosures

Werner Poewe, Fabrizio Stocchi, Alberto Espay, Tamar Rachmilewitz Miné, Sheila Oren, Ryan Case, Karl Kieburtz, C. Warren Olanow
Department of Neurology, RICK San Raffaele Pisana, Rome, Italy; Michael J. Fox Foundation for Parkinson’s Research, Irvine, CA; University of Cincinnati, Cincinnati, OH; Universidad de las Américas, Mexico City; Clinica Botnar, Barcelona, Spain; *previously at NeuroDerm

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Study baseline characterisics (%)

N (%) patients taking ≥900mg LD/day

109 (52.2%)