Abstract Title: #010 - Droxidopa treatment impact on orthostatic symptoms and standing systolic blood pressure in patients with Parkinson’s disease (PD) and symptomatic neurogenic orthostatic hypotension (NOH)

Press Release Title: New Drugs May Improve Quality of Life for People with Parkinson’s Disease

Objective: Evaluate clinical efficacy and safety of droxidopa as demonstrated by changes in Orthostatic Hypotension Questionnaire (OHQ), dizziness/lightheadedness (Orthostatic Hypotension Symptom Assessment Item 1), standing systolic blood pressure (SBP), and falls.

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Background: Autonomic dysfunction is common in PD. Approximately 18% of patients with PD develop symptomatic NOH. NOH results from failure of the autonomic nervous system to respond to changes in posture due to an inadequate release of norepinephrine (NE). Droxidopa is an oral pro-drug converted to NE.

Design/Methods: Patients were randomized to placebo or droxidopa (Study 306); dose titrated to 100-600mg TID over a 2-week double-blind period, followed by 8 weeks of double-blind treatment. Change in dizziness/lightheadedness from baseline to Week 1 was the primary efficacy measure. Secondary outcome measures included change in OHQ, standing SBP, and falls. Study 306 was separated into two parts following an interim analysis; 306A (n=51) and 306B (n=174). Meta-analyses were performed to evaluate efficacy and safety of all patients (n=225, mITT: n=197).

Results: Droxidopa patients experienced significant improvement in dizziness/lightheadedness at Week 1 compared to placebo (1.2 unit difference; p=0.008), and showed a trend toward improvement at Week 8 (0.8 unit difference; p=0.077). Standing SBP significantly improved with droxidopa compared to placebo at Week 1 (6.8 mmHg; p=0.014), and showed a numerical improvement at Week 8 (2.2 mmHg; p=0.414). Droxidopa also improved symptoms and symptom impact compared to placebo as evaluated by OHQ. Droxidopa patients experienced a rate of falls/patient/week of 0.38 vs. 1.73 for those on placebo, a 78% reduction (p=NS). The most common (> 5%) adverse events associated with droxidopa treatment included headache, dizziness, hypertension, nausea, and fatigue.

**Study Supported By:** Chelsea Therapeutics