PND1

**PAIN SELF-ASSESSMENTS IN ADVANCED PARKINSON'S DISEASE WITHIN UPDRS AND "OFF" TIME SUBGROUPS: COMPARISON OF IPX066 WITH IMMEDIATE-RELEASE CARBIDOPA-LEVDOPA**

Sulama E., Rustay NR, Khanna S, Kelli S, Gupta S

Purpose: To compare IPX066 with immediate-release CD-LD (IR) as an investigational agent in advanced PD, with a focus on worsening of Parkinson’s disease (PD) in “off” time. 

**OBJECTIVES:** IPX066, an extended-release capsule formulation of carbidopa–levodopa (CD-LD), is designed to produce a rapid increase in plasma levodopa concentration similar to immediate-release CD-LD (IR), but with sustained plasma levels, allowing dosing every 6 hours. This post hoc analysis investigated whether baseline Parkinson’s disease (PD) severity influenced the patients reported efficacy of IPX066 vs. IR in advanced PD patients. METHODS: IPX066 was evaluated in a randomized, double-blind, Phase 3 study vs. IR CD-LD for 13 weeks to troublesome dyskinesia after treatment with IPX066 compared with IR CD-LD, regardless of disease severity subgroup.

**RESULTS:** IPX066 significantly improved PGI (P < 0.001) and “off” time (P < 0.001) compared with IR CD-LD in the overall randomized population. IPX066 significantly improved PGI scores compared with IR CD-LD in both higher severity subgroups (P < 0.01) and lower severity subgroups (P < 0.02). Numerical improvements from baseline in “off” time were seen with IPX066 vs. IR CD-LD in each disease severity subgroup. The improvements in “off” time were significantly greater for IPX066 subgroups (P significantly improved PGI scores compared with IR CD-LD in any subgroup (P < 0.05). Troublesome dyskinesia did not significantly worsen “on” time with treatment.

**CONCLUSIONS:** Advanced PD patients reported higher global impression of change and greater improvement in troublesome dyskinesia compared to IR CD-LD in any subgroup (P < 0.05). IPX066 did not significantly worsen “on” time with treatment.

**PND2**

**THE EFFICACY OF MELATONIN FOR PRIMARY HYPERSONIA: A SYSTEMATIC REVIEW AND META-ANALYSIS**

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Purpose: To evaluate the efficacy of melatonin in patients with primary hyperomnia (PON) and compare melatonin to placebo, antidepressants, antipsychotics, or no treatment.

**OBJECTIVES:** We conducted a systematic review of therapies (licensed and unlicensed) for primary hyperomnia. Key inclusion criteria were randomized clinical trials involving patients with unreliable and incongruent laughter and/or crying episodes that are often incongruent with the patient’s state. RESULTS: Melatonin significantly reduced sleep onset latency (MD: -6.58 min [95% confidential interval (CI): -9.75 to -3.41], p = 0.0001), and increased total sleep time (MD: 20.56 min [95% CI: 15.10-26.03], p = 0.0001). Sleep quality was also improved (SMD: 0.22 [95% CI: 0.03 to 0.40], p = 0.02) in melatonin group but this result was concluded based on a small number of studies in subgroup-analyses for each outcome, there was no clinically remarkable finding. We did not find any evidence of statistical heterogeneity and publication bias.

**CONCLUSIONS:** Melatonin showed to be effective for sleep in comparison with placebo, thus can be an effective option for the treatment of insomnia. Further studies are required to conclude safety profiles, economic usefulness and tolerance of melatonin.

**PND3**

**COMPARISON OF CLINICAL EFFECTIVENESS OF TREATMENTS FOR PSEUDOBULBAR AFFECT (PBA)**

Barcelona J., Barca L., Singh M., Mealing S., Yonan C.

In this study, we aim to identify the most effective treatment for PBA using a systematic review of randomized controlled trials (RCTs) comparing different treatments for PBA.

**METHODS:** We performed a systematic review of randomized controlled trials (RCTs) comparing different treatments for PBA. We included RCTs comparing different treatments for PBA in patients with PBA. The quality of studies was evaluated by using the Cochrane’s risk of bias.

**RESULTS:** Patients were split into 3 groups: (1) untreated patients, (2) patients treated with DM/Q, and (3) patients treated with antidepressants or antipsychotics. The results showed that DM/Q significantly improved the quality of life in patients with PBA compared to untreated patients and patients treated with antidepressants or antipsychotics.

**CONCLUSIONS:** DM/Q is the only treatment for PBA that has demonstrated efficacy in well-conducted clinical trials in patients with varied neurological disorders.

**PND4**

**TERIFLUNOMIDE SHOWS CONSISTENT CLINICAL EFFECTIVENESS ON SEVERE RELAPSING ACROSS TEMSO AND TOWER: 2 PHASE 3 TRIALS**

Leist T1, Stangel M2, Macdonell R3, Mauer M4, Thangavelu R5, Truffinet P5, Bozzi S6, Dive-Fouletty C7, Friedman M8

Objective: To evaluate the efficacy and safety of teriflunomide in the treatment of relapsing-remitting multiple sclerosis (RRMS) in 2 phase 3 studies. METHODS: The primary endpoint was the annualized relapse rate (ARR) and disability progression confirmed for 12 weeks. Additional endpoints included safety and tolerability. Post hoc analyses examined the effect of teriflunomide on several relapse outcomes: (A) relapses with sequelae defined by Expanded Disability Status Scale (EDSS) score > 3 by day 30 postrelapse; (B) relapses with investigator-defined sequelae; (C) severe relapses requiring hospitalization; and (D) relapses requiring intravenous corticosteroids. RESULTS: Teriflunomide 14 mg significantly reduced both ARB and disability progression vs placebo. Teriflunomide 7 mg significantly reduced ARB but not disability progression. Teriflunomide 14 mg significantly reduced annualized rates of severe relapse outcomes compared with placebo at TEMSO/TOWER by 76% (P = 0.001/36.6% (P = 0.021); (B) 52.6% (P = 0.0001/53.5% (P = 0.0004); (C) 35.8% (P = 0.0286/52.5% (P = 0.0015); (D) 59.3% (P = 0.0001/33.6% (P = 0.015); and 33.7% (P = 0.0003/35% (P = 0.002)).

**CONCLUSIONS:** Teriflunomide 14 mg has shown consistent and significant positive effects on ARB and disability progression in 2 phase 3 studies. Additional analyses of various relapse definitions, which may reduce relapse-related healthcare costs and improve patients’ quality of life.

**PND5**

**ESTIMATION OF TIME TO REACH RRMS EDSS HEALTH STATES ≥ 7.0 OR SPMS FOR DELAYED-RELEASE DIMETHYL FUMARATE**

Wallace J., Berling M1, Alvarez- Reyes M4

Objective: To estimate the time to reach RRMS or SPMS health states using transition probability matrices with data from the Expanded Disability Status Scale (EDSS). METHODS: We used a Markov model to estimate the probability of each health state at each year of follow-up. RESULTS: The estimated time to reach RRMS or SPMS was 4.0 years for untreated patients, 3.6 years for patients treated with DMF, and 3.4 years for patients treated with IFN-beta.

**CONCLUSIONS:** The results indicate that DMF is an effective treatment for RRMS, and IFN-beta is less effective. Future studies are needed to evaluate the long-term effects of these treatments on health state transitions.

**PND6**

**NUMBER NEEDED TO TREAT** ANALYSIS TO ASSESS THE COMPARATIVE EFFICACY OF TERIFLUNOMIDE AND DIMETHYL FUMARATE STUDIES IN RELAPSING MULTIPLE SCLEROSIS**

Leist T1, Montalban X2, Miller A2, Dive-Pouletty C4, Friedman M8

Purpose: To compare the efficacy of teriflunomide and dimethyl fumarate (DMF) in the treatment of relapsing-remitting MS, using a number needed to treat (NNT) analysis.

**OBJECTIVES:** The number needed to treat (NNT) is a measure of the effectiveness of a treatment. It represents the number of patients who need to be treated for a certain duration to achieve a beneficial effect. The NNT is calculated as the reciprocal of the absolute risk reduction (ARR) or the difference in risk between the two treatments. The NNT calculation is based on the assumption that all patients receive the same treatment effect, and it is not affected by the baseline risk.

**RESULTS:** The NNT for teriflunomide was 1.5, indicating that for every 2 patients treated with teriflunomide, 1 patient with RRMS would have a 0.5-point increase in EDSS score compared to patients treated with DMF. The NNT for DMF was 3.0, indicating that for every 3 patients treated with DMF, 1 patient with RRMS would have a 0.5-point increase in EDSS score compared to patients treated with teriflunomide.

**CONCLUSIONS:** Teriflunomide is more effective than DMF in treating RRMS, as it has a lower NNT and a higher absolute risk reduction. The results suggest that teriflunomide is a more effective treatment for RRMS than DMF.