POSTER #222

Effect of elinzanetant in reducing polysomnographic wakefulness after sleep onset in postmenopausal women: results from the exploratory Phase II NIRVANA study

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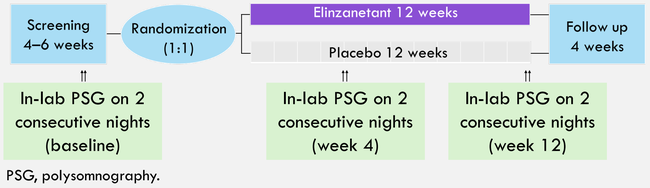
INTRODUCTION

- Sleep disturbance is frequently reported among menopausal women and can be disruptive, even impacting quality of life.[1,2] There remains an unmet need for treatment options that improve menopause-associated sleep disturbance while maintaining an acceptable safety and tolerability profile.[3]
- Elinzanetant, a dual neurokinin (NK)-targeted therapy (NK1 and NK3 receptor antagonist), significantly improved sleep disturbance based on patient-reported outcomes (PROs) in the prior OASIS studies.[4,5]
- The exploratory Phase II NIRVANA trial further evaluated the effect of elinzanetant on sleep parameters in postmenopausal women with moderate-to-severe vasomotor symptoms (VMS) and sleep disturbance. Objective polysomnography (PSG), in addition to PROs, were used. PSG is the gold standard for objective measurement of sleep disturbance.
- **This poster reports the effect of elinzanetant in improving PSG-measured wakefulness after sleep onset (WASO) from baseline to week 4 (primary endpoint) and week 12 (secondary endpoint).**

METHODS

- A total of 110 postmenopausal women (age: range 40–65 years; mean [standard deviation]: 54.8 [4.6] years) with PSG-confirmed sleep disturbance (PSG-derived WASO ≥30 minutes) and ≥20 moderate-to-severe VMS per week were randomized to elinzanetant 120 mg (n=55) or placebo (n=55) once daily for 12 weeks.
- In-lab PSG assessments were conducted at baseline, week 4, and week 12 over two consecutive nights per time point (**Figure 1**). For each participant, the mean values of the two consecutive nights at each visit are used in this analysis.

Figure 1. NIRVANA trial design

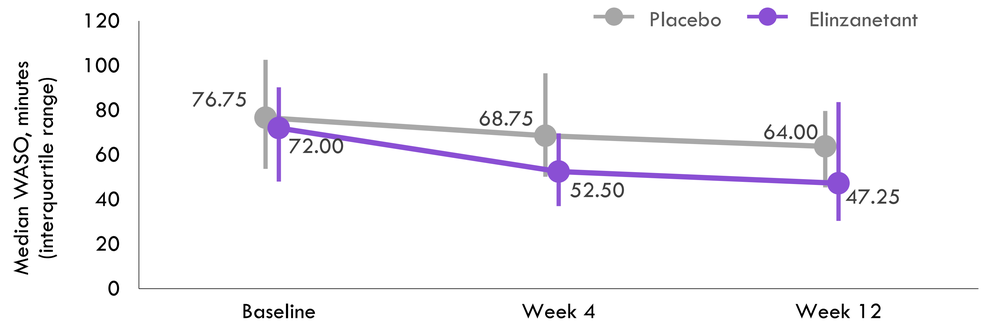


PSG, polysomnography.

- The primary and secondary endpoints were changes from baseline in WASO at weeks 4 and 12, respectively. The primary objective of this study was to estimate the treatment effect of elinzanetant; no statistical hypothesis testing was planned. A mixed model with repeated measures was used for analysis. A prespecified analysis with log transformation was applied to address deviations from the normality assumption. Least-squares geometric mean ratios (LSGMR) are therefore reported. To assess the overall treatment effect across all time points and account for night-to-night variability, a post hoc random coefficient model was applied to all individual in-lab PSG night data across the 12-week treatment period.

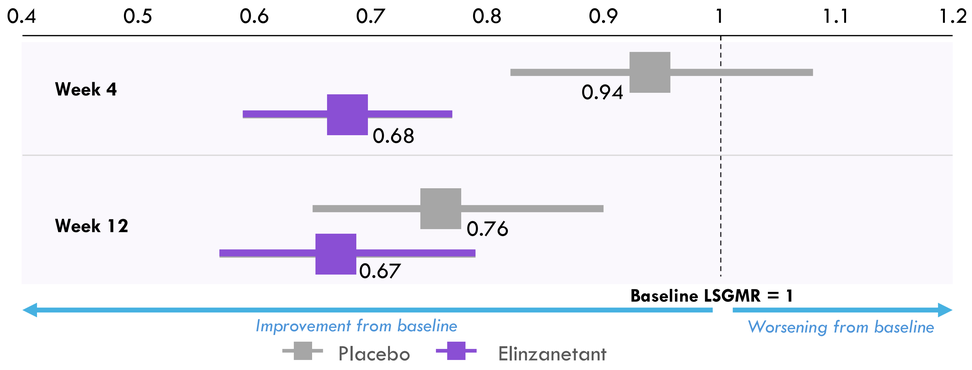
RESULTS

Figure 2. Median WASO in minutes, measured by PSG



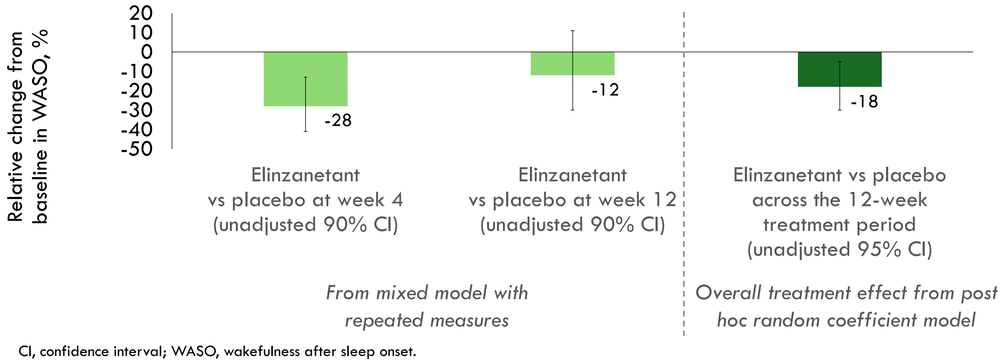
Medians are reported due to skewed distribution of data.
PSG, polysomnography; WASO, wakefulness after sleep onset.

Figure 3. Least-squares geometric mean ratio (unadjusted 90% CI) to baseline for WASO, shown as week 4 and 12 for each treatment arm



Data are from mixed model with repeated measures.
CI, confidence interval; LSGMR, least-squares geometric mean ratio; WASO, wakefulness after sleep onset.

Figure 4. Relative change from baseline in WASO for elinzanetant compared with placebo



CI, confidence interval; WASO, wakefulness after sleep onset.

- **Median WASO duration numerically decreased from baseline at week 4 and week 12 (Figure 2).**
- **The improvement from baseline, as shown with the LSGMR, was greater with elinzanetant than placebo at week 4. There was a slightly greater improvement with elinzanetant vs. placebo at week 12 (Figure 3).**
- **The reduction in WASO duration for elinzanetant vs. placebo was 28% greater at week 4, 12% greater at week 12, and 18% greater across the 12-week treatment period (Figure 4). This equates to an absolute reduction for elinzanetant over placebo of approximately 13 minutes per night based on a WASO baseline assumption of 75 minutes.**

CONCLUSIONS

These findings showed the beneficial effect of elinzanetant for menopause-related sleep disturbance, objectively measured with PSG. This adds to the existing evidence for efficacy in PRO-evaluated sleep disturbance from the pivotal OASIS trials.[4,5]

A greater reduction in WASO was observed with elinzanetant vs. placebo; this was more pronounced at week 4 than week 12.

While the magnitude of improvement is modest, these results are important given the prevalence of sleep disturbance and the lack of effective therapies with benefit confirmed by PSG in postmenopausal women.

NIRVANA was the first study to evaluate the effects of elinzanetant in reducing PSG-measured sleep disturbance in postmenopausal women with VMS and objectively confirmed sleep disturbance.

REFERENCES

1. Maki PM, et al. Menopause 2024;31:724–33; 2. DePree B, et al. Menopause 2023;30(9):887–97; 3. Schaedel Z, et al. Post Reprod Health 2021;27(4):209–14; 4. Pinkerton JV, et al. JAMA 2024;332:1343–54; 5. Cardoso F, et al. N Engl J Med 2025;393(8):753–63.

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