LETTER TO THE EDITOR

Factors Related to the Continuation of Lemborexant

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ABSTRACT

Objective: **Here we retrospectively examined regarding predictive factors for lemborexant treatment adherence.**

Methods: **We used the Cox proportional hazards regression model with lemborexant adherence period as the dependent variable and the patient characteristics of age, gender, the duration of benzodiazepine hypnotics use, diazepam equivalent dose of benzodiazepine hypnotics before switching to lemborexant, diazepam equivalent of combined use of benzodiazepine hypnotics, lemborexant dose, Athens Insomnia Scale (AIS) total score before lemborexant administration, AIS score change, and Global Assessment of Functioning (GAF) score.**

Results: **We analyzed 150 (male/female; 57/93) in total. Because 21 patients stopped taking lemborexant due to improved insomnia, they were excluded from the continuation rate analysis. We found that lemborexant dose, AIS total score before lemborexant administration, and GAF, all significantly affected lemborexant continuation duration ($p < 0.01$; $p < 0.05$: $p < 0.01$, respectively).**

Conclusions: **We specifically examined the factors affecting the treatment adherence rate of lemborexant, and the results suggested that it may be improved if the insomnia is less severe before lemborexant administration and the degree of improvement in social functioning level is higher when the lemborexant dose is increased.**

KEY WORDS

lemborexant, treatment continuation, dose, insomnia

Dear Editor,

Lemborexant has a low dependence potential, less muscle relaxant effect, less effect on cognitive function. Therefore, it has potential as an insomnia medication that lacks the problematic side effects of other pharmacological treatment options. We reported that lemborexant may be safe and effective in patients with insomnia in real-world clinical practice[1)] (Suzuki and Hibino 2021). However, in Japan, there are few reports on factors associated with adherence to lemborexant in patients with insomnia. Here we retrospectively examined regarding predictive factors for lemborexant treatment adherence.

All participants were diagnosed with insomnia disorder based on the guidelines of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, and were followed up for 6 months after their first lemborexant prescription. The observation period lasted from July 2020 (when it was introduced for clinical use) to December 2020. This study was approved by the ethics committee of Fukui Kinen Hospital. Cox regression analysis was performed, with lemborexant adherence period as the dependent variable and the patient characteristics of age, gender, the duration of benzodiazepine hypnotics use, diazepam equivalent dose of benzodiazepine hypnotics before switching to lemborexant, diazepam equivalent of combined use of benzodiazepine hypnotics, lemborexant dose, Athens Insomnia Scale (AIS) total score before lemborexant administration, AIS score change, and Global Assessment of Functioning (GAF) score. The significance level was $p < 0.05$.

We analyzed 150 (male/female; 57/93) in total. The mean subject age and mean duration of illness were 47.8 ± 19.9 years and 4.2 ± 7.2 years, respectively. Because 21 patients stopped taking lemborexant due to improved insomnia, they were excluded from the continuation rate analysis. We found that lemborexant dose, AIS total score before lemborexant administration, and GAF, all significantly affected lemborexant continuation duration ($p < 0.01$; $p < 0.05$: $p < 0.01$, respectively).

In this study, we specifically examined the factors affecting the treatment adherence rate of lemborexant, and the results suggested that it may be improved if the insomnia is less severe before lemborexant administration and the degree of improvement in social functioning level is higher when the lemborexant dose is increased. In both lemborexant 5 mg and 10 mg, earlier sleep onset and improved sleep maintenance have been reported in both short- and long-term studies via both objective and subjective evaluations using polysomnography and sleep diaries, respectively[2)] (Kärppä *et al*. 2020). Previous studies suggested that lemborexant affected lightheadedness and cognitive function little when waking up, regardless of dose[3)] (Murphy *et al*. 2020). Therefore, it was suggested that it may be possible to bring about a high adherence rate through the introduction of lemborexant in patients identified as having a low risk for discontinuation. However, due to selection bias, the results should be interpreted with caution. In addition, it had a small sample size and short research period.

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