

Abstract

Background

Nalmefene is the only medication marketed to reduce the consumption of alcohol in patients with alcohol dependence, but it remains unclear which patients could most benefit from it. This study aimed to identify clinical moderators that affect treatment response to nalmefene in patients with alcohol dependence.

Methods

In a multicenter, randomized, controlled, double-blind, phase 3 study of nalmefene on Japanese patients with alcohol dependence, the relationship between the reduction of heavy drinking days (HDD) and total alcohol consumption (TAC) at 12 and 24 weeks of treatment and baseline variables of the participants were analyzed in a linear regression and multiple adjusted analysis.

Results

Age <65, no family history of problem drinking, age at onset of problem drinking ≥ 25 , and not currently smoking were possible positive moderators. Nalmefene showed a significant HDD reduction in patients with age <65 or no family history of problem drinking, and a significant TAC reduction in patients with age at onset of problem drinking ≥ 25 or who were not currently smoking. After multiple adjusted analyses, age

<65 ($p = .028$), no family history of problem drinking ($p = .047$), and age at onset of problem drinking ≥ 25 ($p = .030$) were statistically significant. Not currently smoking ($p = .071$) was marginally significant. In combination, these moderators indicated synergistic effects.

Conclusions

Alcohol-dependent patients with favorable prognostic factors such as non-smoking status, no family history of problem drinking, and a late-onset of problem drinking selectively benefit from nalmefene. Further research is needed to validate these exploratory results.

Keywords: Alcohol dependence, Alcohol use disorder, Nalmefene, Naltrexone, Clinical moderators, Kappa opioid receptors