BACLOFEN MODULATES PSYCHOPHYSIOLOGICAL RESPONSES TO APPETITIVE CUES IN TREATMENT-SEEKING ALCOHOL USE DISORDER INDIVIDUALS

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Introduction: Baclofen is an emerging potential pharmacotherapy for alcohol use disorder. Little research has investigated how baclofen affects psychophysiological responses to alcohol cues, and subsequent effects upon drinking behaviours. We assessed whether baclofen-treated alcohol dependent participants show different subjective and psychophysiological responses to appetitive cues during an alcohol cue reactivity task compared to placebo participants, and whether these responses are associated with prospective drinking outcomes.

Method: Forty-two alcohol dependent participants (placebo: \(n = 12\), low-dose baclofen [30 mg/day] \(n = 18\), high-dose baclofen [75 mg/day]: \(n = 12\)) completed an alcohol cue reactivity task, whereby water and alcohol beverage cues were presented, with subsequent respective recovery periods. Subjective alcohol craving and psychophysiological indices (skin conductance; cardiovascular measures: heart rate, high-frequency heart rate variability) were recorded across the task.

Results: High-dose baclofen-treated participants showed both overall cue reactivity to both water and alcohol cues and greater recovery effects during recovery periods, revealed by high-frequency heart rate variability levels, when compared to low-dose- and placebo-treated participants. There were no medication effects on subjective alcohol craving. In high-dose baclofen participants only, there was a predictive effect of lower baseline resting heart rate variability and fewer post-test percentage of heavy drinking days.

Discussions and Conclusions: There was a dose-specific rescuing effect of high-dose baclofen on the dynamic modulation of reactivity and regulation of responses to eliciting cues. Using psychophysiological techniques to detect treatment responses may elucidate baclofen’s mechanisms of action, and potentially identify alcohol use disorder subgroups that may best benefit from this pharmacotherapy.

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