Baclofen Modulates Psychophysiological Responses to Appetitive Cues in Treatment-seeking Alcohol Use Disorder Individuals

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Baclofen treatment for Alcohol Use Disorder (AUD)

MECHANISMS OF ACTION

- Mechanism(s) of action

Dose-response

BACLOFEN RECEPTOR

THE LANCET
Psychiatry

Lancet Psychiatry,
CR: BAC treatment response

Day 0

- Baseline assessment
- Randomisation as per BacALD study (Morley, et al, 2018)

Day 10: lab CR session

- Lower dose BAC (30 mg/day) n = 18
- Higher dose BAC (75 mg/day) n = 12
- Placebo n = 12

Trial End: Day 84

- Drinking data collected: % Heavy drinking days (HDD)

1. Dose-specific BAC effects on CR
2. Associations between BAC CR and clinical outcomes (post-test % HDD)
Laboratory CR Task

How severe is your craving now

Baseline → Water Cues → Recovery → Alcohol Cues → Recovery

How severe is your craving now:

No craving | X | Very severe craving

HEART RATE VARIABILITY
Cue reactivity: Low-dose vs. high dose

- High-dose BAC = greater parasympathetic response to appetitive cues ($t(76) = 2.7, p = .008$)
- No alcohol-specific cue reactivity

Logge, Baillie, Haber, & Morley, Human Psychopharm: Clin Exp (under review)
Recovery after cue offset

- High-dose BAC = greater HF-HRV increase vs:
  - low-dose BAC $t(113.09) = -2.1, p = .032$
  - placebo $t(160.04) = 3.1, p = .003$

→ High-dose BAC = greater parasympathetic system recovery effect

Logge, Baillie, Haber, & Morley, Human Psychopharm: Clin Exp (under review)
Association of drinking outcomes and baseline HF-HRV

→ lower baseline HF-HRV in high-dose BAC = better drinking outcomes

→ baclofen’s sedating effects, amplification of alcohol effects?

Logge, Baillie, Haber, & Morley, Human Psychopharm: Clin Exp (under review)
Highlights

→ higher BAC doses may effect psychophysiological cue responses:
  • cue reactivity
  • recovery post cues
  • lower baseline HF-HRV = reduced drinking outcomes

→ “Rescue effect” of higher-dose BAC
  → sedating effects, esp. substitution + alcohol (Evans & Bisaga, 2009; Morley et al., 2018)
  → amplifying alcohol response (Farokhnia et al. 2018).

→ Psychophys. techniques assessing treatment effects useful:
  • Mechanism of action
  • distinguish suitable subgroups
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MY HEART

resting

cue reactivity

someone stepping up to ask a question after a presentation