Chronic Pain and Alcohol Use Disorder

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- No other conflicts related to this work

- Acknowledge my collaborators on this work, particularly Kevin Vowles, Tessa Frohe, Victoria Votaw, Karly Edwards, Megan Kirouac, Stephen Maisto, and Elizabeth McCallion

Kevin Vowles, PhD
Queen’s University, Belfast
Alcohol is a leading cause of morbidity and preventable mortality

<table>
<thead>
<tr>
<th>United States (source cdc.gov)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPIOID DEATHS</td>
</tr>
<tr>
<td>47,000</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>NESARC</th>
<th>NSDUH</th>
<th>TREATMENT SEEKING (TEDS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>1%</td>
<td>9%</td>
</tr>
<tr>
<td>13%</td>
<td>11%</td>
<td>39%</td>
</tr>
</tbody>
</table>

Witkiewitz & Vowles (2018). Alcoholism: Clinical & Experimental Research
Alcohol has long been used as an analgesic.
Alcohol use, negative affect, and pain are inherently linked via overlapping neural substrates.
Alcohol use, negative affect, and pain are inherently linked via overlapping neural substrates.
Acute pain increase urges to drink and alcohol self-administration in rodent and human models, which may increase hypersensitivitiy to pain.
Pain increases risk of heavy drinking relapse following alcohol treatment

(OR=1.44, 95% CI=1.07, 1.92, p=0.01)

Pain associated with heavier and more frequent drinking following alcohol treatment

Alcohol use associated with 2.5x increase in rates of misusing opioid medications to relieve pain

Witkiewitz & Vowles (2018). Alcoholism: Clinical & Experimental Research
Opioid use increases risk of heavy drinking relapse following alcohol treatment

(OR=1.38, p<0.001)

Chronic pain patients who are prescribed opioids report misuse of opioids and alcohol. According to Vowles et al. (2018), in a study published in the Journal of Pain, 36% of patients report no misuse, while 38% misuse opioids only. Additionally, 26% misuse opioids and/or alcohol (3%).
Most individuals who misuse prescription opioids report doing so for pain relief, regardless of AUD diagnosis.

Table 1. Prevalence of Motives for participants’ last episode of prescription opioid misuse by alcohol use disorder (AUD) status.

<table>
<thead>
<tr>
<th>Motive</th>
<th>All participants (N =2,627)</th>
<th>No AUD Symptoms (n = 1,440)</th>
<th>AUD Symptoms without Disorder (n=467)</th>
<th>AUD Diagnosis (n=720)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count (n)a</td>
<td>%</td>
<td>Count (n)a</td>
<td>%</td>
</tr>
<tr>
<td>Pain Relief</td>
<td>1,772</td>
<td>72.2</td>
<td>1,056</td>
<td>77.5</td>
</tr>
<tr>
<td>To Relax</td>
<td>730</td>
<td>25.8</td>
<td>328</td>
<td>21.1</td>
</tr>
<tr>
<td>To Get High</td>
<td>642</td>
<td>20.5</td>
<td>262</td>
<td>14.8</td>
</tr>
<tr>
<td>For Sleep</td>
<td>421</td>
<td>15.6</td>
<td>192</td>
<td>13.5</td>
</tr>
<tr>
<td>For Emotions</td>
<td>309</td>
<td>9.6</td>
<td>133</td>
<td>7.4</td>
</tr>
</tbody>
</table>

What can be done? Promising approaches...

What can be done?
Potential pharmacotherapies

Glucocorticoid receptor antagonism decreases alcohol seeking in alcohol-dependent individuals

Leandro F. Vendruscolo,1 David Estey,2 Vivian Goodell,3 Lauren G. Macshane,1 Marian L. Logrip,1 Joel E. Schlossburg,1 M. Adrienne McGinn,4 Eva R. Zamora-Martinez,1 Joseph K. Belanoff,4 Hazel J. Hunt,1 Pietro P. Sanna,1 Olivier George,1 George F. Koob,1 Scott Edwards,2 and Barbara J. Mason1

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European Journal of Pharmacology
Volume 524, Issues 1–3, 7 November 2005, Pages 80-83

Short communication
Effects of glucocorticoid receptor antagonists on allodynia and hyperalgesia in mouse model of neuropathic pain

Ichiro Takasaki, Takashi Kurihara, Hironao Saegusa, Shuqin Zong, Tsutomu Tanabe

Original Investigation
March 9, 2020

Efficacy of Gabapentin for the Treatment of Alcohol Use Disorder in Patients With Alcohol Withdrawal Symptoms
A Randomized Clinical Trial
Raymond F. Anton, MD1; Patricia Latham, PhD2; Konstantin Voronin, MD, PhD3; et al.


What needs to be done?

• Basic Science
  • Clinical relevance of many traditional animal models of pain and excessive alcohol consumption
  • Take precautions to NOT exclude heavy drinkers/those with AUD or OUD from human lab studies of pain

• Clinical Science
  • Gold standard measurement of substance use and pain interference
  • Carefully consider implications of exclusions that will reduce generalizability to MOST individuals
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