

Low-dose baclofen for treatment of alcohol dependence

Mohamed Al-Garhy MD, Sona Varghese MD

Alcohol use disorder (AUD) is a growing problem in the Arabian Gulf region. Although drug treatment for AUD has largely remained the same in previous years, the dosage of the medication has always been a subject of interest. This report highlights the case of a patient on low-dose baclofen and the sustained improvement he achieved with the treatment.

Alcohol dependence is managed through a combination of treatment including pharmacotherapy and psychosocial approaches. Although psychosocial treatments are effective in reducing alcohol consumption and in maintaining abstinence in many patients, 40% to 70% of patients resume drinking within a year after treatment.¹

Over the last decade, a variety of medications have been proposed as putative therapeutic agents for alcohol dependence based upon their ability to modulate corticomesolimbic dopamine function.²

The Food and Drug Administration (FDA) in the USA has approved three medications for the treatment of alcohol dependence – disulfiram, naltrexone and acamprosate.

Although naltrexone is relatively well tolerated, the potential risk of hepatotoxicity at high dose requires caution when treating patients with liver disease. Moreover, as it is an opiate antagonist, it is contraindicated in alcoholics who also use opiate.³

Short-term randomised trials have shown improved rates of abstinence

and reduced heavy drinking with topiramate but with side-effects, including weight loss, dizziness and neurocognitive problems, often leading to discontinuation.⁴

Molecules such as nalmefene and baclofen could broaden the treatment objectives, especially reduction of alcohol consumption, an objective that is more readily accepted by some patients.⁵

Baclofen is a GABA_B receptor agonist that is FDA approved for treating spasticity. Because GABA transmission is down-regulated in chronic alcohol use disorder (AUD), it is a commonly targeted neurotransmitter when developing medications for AUD.⁶

GABA_A receptors are fast-acting inhibitory ion channels, and its agonists (*eg* benzodiazepines) have a significant abuse and cross-addiction liability. GABA_B receptors, however, are slow-acting through a complex cascade of intracellular signals, and therefore GABA_B agonists such as baclofen have been studied for treating addiction.⁷

A double-blind, randomised, placebo-controlled trial of baclofen showed that a significantly higher number of patients who achieved and maintained abstinence throughout the experimental period were found in the group of patients treated with fixed-dose baclofen compared with subjects treated with placebo.⁸

In studies for AUD, the side-effect profile for baclofen was relatively benign. Nausea, fatigue, sleepiness, vertigo, and abdominal pain were reported; overall, baclofen was found to be safe and to have no abuse liability.⁹ The addictive potential of other

muscle relaxants may have dissuaded providers from using baclofen for AUD, but it is a reasonable alternative when FDA-approved treatments fail. Baclofen is primarily eliminated by the kidneys, so it can be used in liver impairment.¹⁰ Baseline renal tests should be performed before administering baclofen, and a negative pregnancy test obtained for women of childbearing age.

Presentation

A 29-year-old male patient started using alcohol six years ago almost daily. He developed tolerance gradually to reach a daily intake of more than 25 units. He developed uncomplicated alcohol withdrawal on attempting to reduce the amount or to abstain. Prior to this he had no history of substance misuse or psychiatric disorders. He had never been treated before in rehabilitation centre and had no legal problems related to his alcohol use and no family history of substance misuse or psychiatric disorders.

Four years ago, he was brought by his father to the emergency room of Sheikh Khalifa Medical City (a general hospital in Abu Dhabi, United Arab Emirates), having not gone to work for two months and being intoxicated most of the day. He was admitted for the first time to a drug and alcohol inpatient treatment unit following 24-hour observation in the medical ward for development of withdrawal symptoms from chronic alcohol use. Prior to admission, he was investigated for any medical conditions. His liver enzymes and gamma-glutamyl transpeptidase (GGT) were slightly elevated, but he

had no medical issues that would warrant immediate medical attention.

While on the ward, he denied symptoms suggestive of psychiatric disorders or other substance misuse. He was diagnosed according to DSM-IV criteria as suffering from alcohol dependence. He was commenced on chlordiazepoxide 20mg three times a day and thiamine 100mg daily. He completed the detoxification process safely and was discharged after one month. The patient failed to attend the outpatient clinic following discharge.

A year later, he had two subsequent readmissions, for four and three weeks. He completed detoxification in both admissions, but again failed to adhere to follow-ups after discharge. His relapses usually happened shortly after discharge mostly due to work stressors and poor motivation to recover. In all the three admissions after completion of detoxification, he attended an inpatient rehabilitation program for relapse prevention.

His last admission was three years ago, where he came voluntarily for rehabilitation. Following detoxification, he was started on baclofen 5mg three times a day and over a two-week period, baclofen was increased gradually to reach 20mg three times a day. At that dose, the patient acknowledged that baclofen greatly reduced his craving and he expressed total indifference toward alcohol. He was

discharged after four weeks and since then has remained sober and attends regular follow-up visits in the outpatient clinic. His medication (baclofen 20mg three times a day) is provided on a monthly basis. Liver enzymes and GGT have returned to normal. Psychosocial support is regularly provided to prevent relapse with a focus on self-esteem and assertiveness issues. His family supports him and he resumed work shortly after discharge from the inpatient unit.

Discussion

A case of alcohol dependence with multiple relapses has been described: the patient's condition had been deteriorating until he was commenced on baclofen. In our experience, baclofen was shown to be effective even in small doses – as effective as other FDA-approved medications – for alcohol use disorders. Baclofen in small doses could help many patients to achieve complete abstinence, which is the primary goal in treating alcohol use disorders. There is a growing need for future research to reassess the current guidelines used in the treatment of AUD. It is always important to discuss all options available with the patient and their families before initiating treatment.

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Declaration of interests

No conflicts of interest were declared.

Dr Al-Garhy is a Consultant Psychiatrist and Dr Varghese is a Specialist Psychiatrist, both at the Chemical Dependency Unit, Sheikh Khalifa Medical City, Abu Dhabi, United Arab Emirates.

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