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Research Article

Comparison of Acamprosate and Naltrexone Treatment in Patients with Alcohol Use Disorder (AUD) for Relapse Prevention

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Abstract:

Alcohol use disorder (AUD) is a common disorder in the modern world. Interventions and treatments for AUD have not changed since 2010, using psychosocial interventions and medications such as acamprosate and naltrexone. The comparison between the effectiveness of acamprosate and naltrexone was conducted to provide the best option for relapse prevention and abstinence maintenance. The results were that some studies found that naltrexone was twice as effective as acamprosate in preventing relapses over a year. Others showed that acamprosate had better results in increasing the abstinence rate [OR: 1.88 (1.57, 2.25), P < 0.001] and naltrexone, on the other hand, had a significantly reduced relapse rate [OR: 0.62 (0, 52, 0.75), P < 0.001], but with no noticeable difference in abstinence rate [OR: 1.26 (0.97, 1.64), P = 0.08]. Furthermore, the combination of acamprosate and naltrexone was incomparably better at preventing relapse. In summary, naltrexone shows overall better results in preventing relapse and increasing abstinence rates.

Keywords: alcoholism; acamprosate; naltrexone; alcohol use disorder; relapse prevention

Introduction

Alcohol use disorder (AUD) refers to the abuse of alcohol. Several specifically defined conditions better categorize patterns of alcohol abuse. [1]. Alcoholism is another more common name for (AUD). Alcohol is a drug that is widely used in the world and accessible to many people, which opens the door to many more related problems. Since it is easyto obtain, it can be misused and mistreated, which can lead to many complications and health problems. According to a survey conducted in America, around 14.1 million adults aged 18 and over had AUD in 2019 [2]. AUD is caused by many factors; some are controllable, others are not. For example, genetic predisposition and family history of alcoholism are uncontrollable risk factors for alcoholism, which significantly increase the risk of alcoholism. On the other hand, controllable factors may include exposure to stress and trauma at a young age and consuming alcohol early in life [3]. Alcohol abuse has massive effects on health. It can affect most if not all major organs and cause diseases such as alcoholic hepatitis, gastritis, hypoglycemia, nystagmus, osteoporosis and many more. In addition, it can also affect areas of life other than health. It can ruin relationships, affect performance in the workplace, increase the likelihood of committing violent crimes and, even worse, lead to problems with the use of other riskier substances. There are some medications that are approved by the FDA to treat alcohol use disorders. These are (from first to last approval) disulfiram, acamprosate and naltrexone. Naltrexone was the last drugapproved by the FDA in 1994. Since then, there have been some drugs that have been manufactured but not approved by the FDA and are used in some countries, such as: E.g. baclofen [3]. The FDA-approved drugs are used so far, but each drug has its own benefits and shows differences in response to treatment [4]. According to BMJ Best Practice [1], the treatment algorithm for moderate to severe alcohol dependence primarily includes psychosocial interventions and additionally the use of medications such as naltrexone or acamprosate. This method of prescribing acamprosate and naltrexone has been used since 2010 and is still used today. Therefore, this research is important because in the end it will be clear which drug is the most effective for treating alcohol use disorders, that is, drugs that can be used more effectively, do not waste resources, and prevent further complications of the already dangerous addiction from which they suffer.

Methods:

During my research I used PUBMED using the MESH terms alcoholism ANDacamprosate AND naltrexone. This returned 225 results. I then narrowed my search to clinical trials, randomized clinical trials, English, human species and full text and got 52 results, 4 of which I used. Finally,

I narrowed my search to the systemic review, which gave me three results and used one of them.

Results:

The first source shows that the combination of acamprosate and naltrexone was much more effective in preventing relapses in alcohol-dependent patients. This meant that they reduced relapse rates [5]. The second source mentions that naltrexone was more effective in preventing relapses in alcohol dependent patients and that it was a better treatment for the period before the first relapse in order not to develop depression. Acamprosate also had only minor effects on patients [6]. The third source was a one-year long-term period to compare the effectsof naltrexone and acamprosate in their ability to keep alcohol-dependent patients away from alcohol and reduce their relapses. It has been shown that patients treated with naltrexone were twice as likely to abstain from alcohol than patients treated with acamprosate. Another statistic isthat 41% of the naltrexone group did not relapse and 54% abstained from alcohol, compared to 17% (no relapse) and 27% (abstinence) in the acamprosate treatment. Another important finding is that patients treated with naltrexone experienced a relapse on average 12 days later, compared to just 6 days after acamprosate if a patient had consumed some alcohol [7]. The fourth study. This study tested the blood concentration of naltrexone in patients with alcohol dependence. The concentration of naltrexone in the blood has been found to be highly correlated with the reduction in cravings for alcohol and the reduction of the compulsive drinking scale (OCDS). This suggests that a reduction in alcohol craving may be related to reduced relapse in patients with alcohol dependence when using naltrexone [8]. The fifth study. In this study, the aim was to compare disulfiram, naltrexone and acamprosate for their ability to reduce the day of first heavy drinking (HDD), days of alcohol abstinence and severity of alcohol dependence (SADD). It was shown that there was no difference in (HDD) or increase in time to first drink between naltrexone and acamprosate. However, SADD levels were much higher in the naltrexone group than in the acamprosate group. This suggests that naltrexone works significantly better in patients who are heavily dependent on alcohol [9]. The sixth study. This study tested the results of other literature that naltrexone is only beneficial for severe alcohol dependence and for reducing heavy drinking, and not for abstinence. This study found that patients with more severe alcohol dependence had much fewer days of heavy drinking when taking XR-NTX 380 mg (n = 50) compared to placebo (n = 47) (hazard ratio = 0.583; p = 0 ,0049). There was also an average reduction in heavy drinking days of 37.3% compared to 27.4% with placebo (p = 0.039). Patientswith lead-in abstinence had high levels of maintenance of initial and six-month abstinence. This shows us that naltrexone has a high ability to reduce heavy drinking and maintain abstinence [10]. This study tested the effectiveness of acamprosate in maintaining complete abstinence in alcohol-dependent patients. The results of this study were that the acamprosate-treated group hada higher rate of complete abstinence of 47.2% (77/163 subjects) compared to 36% (59/164 subjects) on placebo (P = 0.039). of the two groups was 11.3% (95% CI: 0.6%–21.9%) [11]. Theeighth study. This systemic review and meta-analysis compared the effectiveness of naltrexone and acamprosate in the treatment of alcohol dependence. Measuring relapse, abstinence rates, and treatment compliance. Acamprosate was associated with a significant improvement in abstinence rate [odds ratio (OR): 1.88 (1.57, 2.25), P < 0.001] and cumulative days of abstinence[WMD: 26.55 (17.56, 36.54)] tied together. The administration of naltrexone reduced the relapserate. It shows that acamprosate is better for achieving abstinence, but naltrexone was found to be more effective in controlled consumption [12].

Discussion:

The different treatments such as naltrexone and acamprosate have shown varying effectiveness in treating alcohol addiction. In the first study, the limitation was the limited duration of treatment, as 12 weeks was not enough to obtain the full results of the study [5]. The third source was that the study was not blinded. Another point is that the advantage of naltrexone may lie in the fact that the participants were patients with moderate alcohol dependence. In addition, the level of compliance with treatment was tested using questionnaires to the family, which may not have been very accurate, and another accurate method was to use riboflavin as a urine marker. Another possibility is that the use of GGT (a useful but not perfect indicator of alcohol consumption) appeared to confirm a better reported outcome in the naltrexone group, but the benefit did not reach statistical significance. Finally, in this study there was a high level of family support for the patients, if this had not been available the results could have differed [7]. The fourth limitation of the study was that the predictive validity of plasma levels for relapse could not be determined because blood was not collected after the event. Therefore, decrease in craving was chosen as the primary outcome measure. Although craving decreased with increasing plasma concentrations of naltrexone and 6-naltrexole, no upper threshold typically determined by adverse events was established because side effects were not known at the time [8]. The fifth study had some limitations. First, the comparison between study groups is not adequately justified and limits the results as the exact average daily/weekly pill count is unknown as the count was calculated using only the patient diary. With the exception of the DIS group, where average weekly alcohol consumption doubled but was still well below baseline, average weekly alcohol consumption remained at the level of the continuous medication period. The research drug was not under strict control or monitoring, which is the second limitation. The patients were asked to name a companion, which was not regulated by the research doctors. Therefore, the results are not comparable to studies that include a strict drug regimen or surveillance control [9].

Conclusion: In conclusion, naltrexone has shown better results than acamprosate in maintaining abstinence and preventing relapses, and in keeping alcohol-dependent patients away from alcohol and preventing relapses.

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