SUICIDALITY AND SELF INJURIOUS BEHAVIOR

mhc MENTAL HEALTH CLINICIAN

CASE REPORT Open Access

Off-label use of naltrexone for compulsive behavior

Erika E. Tillery, PharmD, BCPP, CGP[1]
Amber N. Stark, PharmD candidate[2]

How to cite: Tillery EE, Stark AN. Off-label use of naltrexone for compulsive behavior. Ment Health Clin [Internet]. 2015;5(5):244-7. DOI: 10.9740/mhc.2015.09.244.

Abstract

Purpose: The objective of this case summary is to evaluate the potential role of naltrexone in reducing compulsive behaviors in a psychiatric patient.

Summary: Naltrexone is an opioid antagonist that is approved for the treatment of opioid dependence and alcohol dependence. Naltrexone has been studied in autism, self-injurious behavior, and trichotillomania, which indicates that it has a possible benefit in compulsive disorders. A hospitalized patient who exhibited compulsive behaviors received naltrexone therapy. Naltrexone was effective in reducing the patient's compulsive behaviors after a dosage increase. No adverse effects were noted in this patient.

Conclusion: Literature sources have demonstrated mixed results with naltrexone therapy in treating a variety of compulsive disorders. Naltrexone was initially effective as an adjunctive treatment option in reducing compulsive behaviors in the psychiatric patient described in this case report; however, naltrexone's efficacy waned over time. Further investigation of the use of naltrexone in treating compulsive behaviors is needed to determine whether naltrexone is consistently effective when used as an adjunctive agent in treatment.

Keywords: naltrexone, compulsive behavior, self-injurious behavior, impulsivity

[1] (Corresponding author) Assistant Professor of Pharmacy Practice, South University School of Pharmacy, and Clinical Pharmacist, G. Werber Bryan Psychiatric Hospital, Columbia, SC, etillery@southuniversity.edu; [2] PharmD candidate, South University School of Pharmacy, Columbia, SC

Disclosures: Authors of this article have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.

Background

Compulsive behavior is demonstrated in a wide-ranging set of disorders and can be detrimental to the sufferer, his or her family, and society at large.[1] Compulsions are repetitive behaviors or mental acts that one performs in response to an obsession in order to prevent or reduce distress.[2] Compulsions are noticeable in such disorders as kleptomania, trichotillomania, excoriation disorder, compulsive sexual behaviors, obsessive-compulsive disorder, self-injurious behavior, and compulsive gambling. The current research suggests dopamine dysregulation as a possible cause of compulsive disorders. This theory is supported by evidence of dopamine agonist therapy resulting in pathological gambling or hypersexuality in patients who previously did not exhibit problems with compulsive disorders.[3]

When determining the most appropriate treatment for compulsive behavior, it is important to consider all treatment options, including medication, exposure therapy, and cognitive behavioral therapy.[4] A treatment strategy may also include participation in support groups, which are often helpful in the recovery process.[5] The most commonly prescribed medications for compulsive behaviors, specifically with obsessive-compulsive disorder, are antianxiety medications and antidepressants.[6] While evidence demonstrates that the use of selective serotonin reuptake inhibitors may provide benefit in compulsive behaviors, data on treatment response to pharmacotherapy are limited.[7] When first-line treatment fails, other pharmacotherapy avenues may be explored.

Naltrexone is an opioid antagonist that is approved for the treatment of opioid dependence and alcohol dependence.[8] Naltrexone works in the opioid pathway by decreasing the urge for repetitive behavior.[9] In a study of alcohol-dependent patients, it was shown that a single dose of naltrexone decreased the impulses for further alcohol consumption.[10] Adverse reactions for naltrexone appear to be dependent on naltrexone's being used for alcoholism or opioid addiction and include nausea, headache, and dizziness.[11] Naltrexone is contraindicated in patients currently receiving opioid analgesics, patients who are dependent on opioids (including those who are maintained on opiate agonists or partial agonists), patients in acute opioid withdrawal, and patients who have failed a naltrexone challenge or have a positive urine screen for opioids.[11] Due to naltrexone's potential for dose-related hepatic injury, it should be avoided in patients with acute hepatitis or liver failure.[11] Additional warnings for naltrexone include possible desensitization to opioid analgesics, and naltrexone should be used with caution in patients with renal and/or hepatic impairment.[11]

Naltrexone has been used as monotherapy and as an augmentation agent in the treatment of compulsive disorders. A review of the evidence presents mixed results; some studies have demonstrated a possible relationship between the dose administered and effectiveness in decreasing the undesirable behaviors. Several trials have been conducted determining naltrexone's role in attenuating self-injurious behavior in patients with diminished mental capacity. Naltrexone has also been used to treat kleptomania, trichotillomania, compulsive gambling, and compulsive sexual behavior.

Methods

A retrospective, noninterventional case study was conducted to determine the safety and efficacy of naltrexone in a psychiatric patient with compulsive behavior. Approval from the Institutional Review Board of the South Carolina Department of Mental Health was received before data collection. Data collection included patient demographics, length of hospital stay, initial diagnosis, psychiatric history, comorbidities, concomitant medications, and history of drug abuse. The naltrexone regimen included dose and frequency as well as type, duration, and management of adverse events. The compulsive behaviors exhibited in the selected patient were based on current symptoms, primary compulsive behavior, frequency of the behavior, and management of the behavior.

Case Summary

A 56-year-old man with a history of schizophrenia, dementia secondary to head injury, and pica behavior was admitted to an acute care psychiatric hospital for delusions, swallowing foreign objects, and inability to care for himself. Pica is classified under feeding and eating disorders and includes persistent eating of nonnutritive, nonfood substances over a period of at least 1 month that is inappropriate to the person's developmental level.[2] The patient did not have a history of substance abuse. After admission, the patient was found picking up nonfood substances, such as paper clips, lint, pens, and pencils and swallowing or inserting them into various orifices (e.g., mouth, eyes, penis), two or three times per day. The patient also presented with delusions and stated that he was compelled to swallow the foreign objects in order to save the world.

Psychiatric medications initiated on admission included fluvoxamine 200 mg by mouth daily, olanzapine orally disintegrating tablet (ODT) 10 mg by mouth at bedtime, and lorazepam 2 mg by mouth every 4 hours as needed for agitation. His medications during his hospitalization included clozapine 300 mg by mouth twice daily for 3 months, which was discontinued due to frequent constipation; lorazepam 0.5 mg by mouth twice daily for 9 months; fluvoxamine 100 mg by mouth daily for 9 months; and olanzapine ODT 10 mg by mouth at bedtime for 6 months. Because of the patient's erratic and dangerous compulsive behaviors, he was placed on observation precautions that required a staff member to stay with him at all times. The olanzapine ODT was increased to 20 mg by mouth at bedtime and, because the lorazepam was given 3 or 4 times each day, it was changed to clonazepam 0.5 mg by mouth 3 times daily. Haloperidol oral concentrate 5 mg every 6 hours as needed for agitation was prescribed but only given once.

In spite of multiple medication changes, the patient continued to demonstrate compulsive behaviors; as a result, a decision was made to initiate naltrexone 50 mg by mouth daily. After 2 weeks of naltrexone treatment, the compulsive behaviors remained; hence, naltrexone was increased to 100 mg by mouth daily. Based on nursing notes and physician progress notes, the compulsive behaviors subsided within 48 hours of the increase in dose, and the patient no longer placed lint, paper clips, pens, or pencils in his mouth, eyes, or penis. No adverse effects of naltrexone use were reported.

At the time of this study the patient was maintained on a naltrexone dose of 100 mg once daily. However, further review and follow-up revealed that his compulsive symptoms (e.g., picking up nonfood substances and swallowing or inserting them into his mouth, eyes, or penis) returned 2 months later. Naltrexone was increased to 150 mg by mouth in the morning, and the patient was placed on observation precautions again. Although the compulsive behaviors were reported to occur less

TABLE 1: Self-injurious behavior in patients with diminished mental capacity[12-16]

Author(s)	Subjects	Results
Symons et al (2001)	4 adult men with severe and profound mental retardation	Mixed: Naltrexone significantly decreased the rate of daily self-injurious behavior for 3 of the 4 candidates.
White and Schultz (2000)	1 child described as developmentally delayed	Effective: A dose-dependent relationship of naltrexone was observed.
Willemsen-Swinkels et al (1995)	32 subjects: 16 had autism and exhibited SIB	Failed: Naltrexone was not effective in significantly reducing self-injurious behavior.
Thompson et al (1994)	4 adult women and 4 adult men with severe and profound mental retardation	Mixed: Naltrexone may be more effective in reducing certain types of self-injurious behavior than other types.
Sandman et al (1990)	4 adult men with severe and profound mental retardation	Effective: naltrexone was successful in attenuating self-injurious behavior in all of the patients. The efficacy of naltrexone was dose-dependent in 3 patients.

frequently, they continued despite the increase in dose of naltrexone. After 1 month of treatment with naltrexone 150 mg, the medication was tapered and discontinued. The patient was never discharged and currently resides in the chronic nursing unit of the hospital, where he remains on observation precautions due to persistent compulsive symptoms.

Discussion

Although the evidence is limited, some studies have demonstrated the safe and effective use of naltrexone in treating patients with compulsive behaviors. In some cases, the efficacy of naltrexone correlated to a dose-dependent response where an increase in dose ameliorated worsening compulsive behaviors. Other data have suggested that naltrexone may be a useful augmentation agent for compulsive symptoms.

The efficacy of naltrexone in the treatment of compulsive disorders has been described in the literature with results similar to the outcome of this case. In a case report of a 3-year-old child with developmental delays and self-injurious behavior, symptoms of head banging, slapping his ears repetitively, and biting his arms improved with naltrexone therapy.[12] The child was initiated on naltrexone 12.5 mg by mouth daily and increased to 25 mg by mouth daily. Over the course of 1 month, the self-injurious behavior gradually improved. However, the dose was increased to a maximum of 37.5 mg by mouth daily when symptoms began to worsen; this resulted in symptom resolution.[12] The improvement in symptoms occurred once the naltrexone dose increased, which may suggest that naltrexone's effectiveness is dose dependent.

Naltrexone was shown to have a dose-dependent effect in the case report presented here. The increase in dose resulted in improvements in the patient's symptoms within 48 hours. After further review, the patient's symptoms returned, and another dose increase was warranted. In spite of the dose increase the patient continued to present with compulsive behaviors, although they occurred less frequently. The results of this case report were similar to the available evidence summarized in Tables 1 and 2.

Conclusion

In this case report, a patient demonstrated a reduction in the frequency of his compulsive behaviors once naltrexone therapy was added to his psychiatric medications. The compulsions ceased for 2 months after a dosage increase,

TABLE 2: Role of naltrexone in treating various compulsive disorders[7, 17-19]

Author(s)	Behavior Type	Results
Grant et al (2014)	Trichotillomania	Failed: Naltrexone (n = 20) was not more effective than placebo (n = 24) in decreasing the urge to pull.
Raymond et al (2010)	Compulsive sexual behaviors	Mixed: Naltrexone was administered to augment current pharmacologic therapy and was effective in reducing compulsive sexual behaviors in 17 of the 19 subjects.
Grant and Kim (2002)	Kleptomania	Effective: Of the 10 subjects receiving naltrexone, 9 were much or very much improved at the end of the study according to the study's rating scale.
Kim et al. (2001)	Compulsive gambling	Effective: Of the 20 subjects receiving naltrexone, 15 were much or very much improved according to the study's rating system.

which indicates a possible dose-dependent relationship. Once the compulsive behaviors returned, another increase in the naltrexone dose did not provide additional benefit; consequently, naltrexone was discontinued. Higher doses of naltrexone may be warranted for controlling compulsive behaviors. The ideal candidate for naltrexone therapy would be a patient who has failed conventional pharmacologic therapy and continues to exhibit compulsive behaviors.

References

1. American Psychiatric Association. Obsessive compulsive disorder [Internet]. Arlington, VA: American Psychiatric Association Available from: http://www.psychiatry.org.
2. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington, VA: American Psychiatric Association. 2013.
3. Bostwick JM, Hecksel KA, Stevens SR, Bower JH, Ahlskog JE. Frequency of new-onset pathologic compulsive gambling or hypersexuality after drug treatment of idiopathic Parkinson disease. Mayo Clin Proc. 2009;84(4):310-6. DOI: 10.1016/S0025-6196(11)60538-7. PubMed PMID: 19339647.
4. McLean PD, Whittal ML, Thordarson DS, Taylor S, Söchting I, Koch WJ, et al. Cognitive versus behavior therapy in the group treatment of obsessive-compulsive disorder. J Consult Clin Psychol. 2001;69(2):205-14. DOI: 10.1037/0022-006X.69.2.205.
5. Anxiety and Depression Association of America. Helping others [Internet]. Silver Spring (MD): Anxiety and Depression Association of America. Available from: http://www.adaa.org/finding-help/helping-others.
6. National Institute of Mental Health. Obsessive compulsive disorder [Internet]. Bethesda (MD): National Institute of Mental Health. Available from: http://www.nimh.nih.gov/health/topics/obsessive-compulsive-disorder-ocd/index.shtml.
7. Raymond NC, Grant JE, Coleman E. Augmentation with naltrexone to treat compulsive sexual behavior: a case series. Ann Clin Psychiatry. 2010;22(1):56-62. PubMed PMID: 20196983.
8. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment Division of Pharmacologic Therapies. Naltrexone [Internet]. 2007 Apr. Rockville (MD): DHHS. Available from: http://www.dpt.samhsa.gov/medications/naltrexone.aspx.
9. Modesto-Lowe V, Van Kirk J. Clinical uses of naltrexone: a review of the evidence. Exp Clin Psychopharmacol. 2002;10(3):213-27. PubMed PMID: 12233982.
10. Rohsenow DJ. What place does naltrexone have in the treatment of alcoholism?. CNS Drugs. 2004;18(9):547-60. PubMed PMID: 15222772.
11. Accord Healthcare, Inc. Naltrexone Hydrochloride (naltrexone hydrochloride) tablet, film-coated. 2011 [rev. 2014 Oct; cited 2014 Dec 30]. In: DailyMed [Internet]. [2005] Bethesda (MD): National Library of Medicine (US). Available from: http://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=49aa3d6d-2270-4615-aafa-b440859ab870.
12. White T, Schultz SK. Naltrexone treatment for a 3-year-old boy with self-injurious behavior. Am J Psychiatry. 2000;157(10):1574-82. PubMed PMID: 11007709.
13. Symons FJ, Tapp J, Wulfsberg A, Sutton KA, Heeth WL, Bodfish JW. Sequential analysis of the effects of naltrexone on the environmental mediation of self-injurious behavior. Exp Clin Psychopharmacol. 2001;9(3):269-76. PubMed PMID: 11534537.
14. Willemsen-Swinkels SH, Buitelaar JK, Nijhof GJ, van England H. Failure of naltrexone hydrochloride to reduce self-injurious and autistic behavior in mentally retarded adults. Double-blind placebo-controlled studies. Arch Gen Psychiatry. 1995;52(9):766-73. PubMed PMID: 7654128.
15. Sandman CA, Barron JL, Coleman H. An orally administered opiate blocker, naltrexone attenuates self-injurious behavior. Am J Ment Retard. 1990;95(1):93-102.
16. Thompson T, Hackenberg T, Cerutti D, Baker D, Axtell S. Opioid antagonist effects on self-injury in adults with mental retardation: response form and location as determinants of medication effects. Am J Ment Retard. 1994;99(1):85-102.
17. Grant JE, Odlaug BL, Schreiber LR, Kim SW. The opiate antagonist, naltrexone, in the treatment of trichotillomania: results of a double-blind, placebo-controlled study. J Clin Psychopharmacol. 2014;34(1):134-8. DOI: 10.1097/JCP.0000000000000037. PubMed PMID: 24145220.
18. Kim SW, Grant JE, Adson DE, Shin YC. Double-blind naltrexone and placebo comparison study in the treatment of pathological gambling. Biol Psychiatry. 2001;49(11):914-921. DOI: 10.1016/S0006-3223(01)01079-4.
19. Grant JE, Kim SW. An open-label study of naltrexone in the treatment of kleptomania. J. Clin Psychiatry. 2002;63(4):349-56. DOI: 10.4088/JCP.v63n0413.