Evaluation of naltrexone use in psychiatric patients at an academic medical center

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Purpose

Naltrexone is an opioid receptor antagonist used as a first-line maintenance medication in patients with alcohol use or opioid use disorder[1]. The American Psychiatric Association recommends naltrexone not be used in patients who have hepatic failure and must be used cautiously in patients with hepatic impairment. Naltrexone is a competitive antagonist that displaces opiate molecules as well as blocking access of narcotics to opiate receptor sites resulting in decreased euphoric effects and prevention of cravings[2]. Naltrexone comes in a tablet form given orally once daily and in a long-acting injection form given intramuscularly once monthly. This medication safety use evaluation aims to evaluate whether naltrexone is appropriately and safely introduced in patients with alcohol and/or opioid use disorder, and to review hospital readmission rates in patients prescribed the oral formulation versus long-acting injectable formulation.

Methods

This is a randomized, non-interventional, retrospective analysis at an academic medical center. Study investigators obtained a report from the electronic record system to include hospitalized patients who received a dose of oral and/or long-acting injectable naltrexone from August 8, 2019 to March 1, 2020. Investigators then reviewed clinical documentations of naltrexone indication, liver function tests, urine drug screens, readmissions, return visits to the emergency departments (ED), and psychiatric service consultations. Based on the medical center's policy, inappropriate initiation was denoted if naltrexone was administered to a patient with a Class C Child-Pugh Score, there was not a complete 7-day opioid washout period, or if naltrexone was ordered without a psychiatric consult. The primary outcome was the percentage of appropriate naltrexone initiation in inpatients with alcohol and/or opioid use disorder. Study investigators further evaluated rates of readmission and ED visits within thirty days of hospital discharge.

Results

Among the 144 patients reviewed by the study investigator, 85 patients (59 percent) were appropriately initiated on naltrexone. Five patients (3.5 percent) had a Class C Child-Pugh Score at the time of naltrexone initiation, 35 patients (24 percent) had an inadequate or unknown opioid washout period, and naltrexone was ordered in 19 patients (13 percent) without psychiatric consults, resulting in a total of 59 patients (41 percent) started on naltrexone inappropriately. Five patients (3.5 percent) were given concurrent analgesic opioids and naltrexone. Fifteen patients (10 percent) were readmitted within 30 days of discharge with 6 of those being for alcohol use. An additional 25 patients (17 percent) returned for ED visits with 8 of those being for alcohol use.

Conclusion

Forty-one percent of inpatient naltrexone orders were inappropriate based on the medical center's criteria. Of 144 total patients, 103 were discharged on oral naltrexone, 15 were discharged on long-acting injectable naltrexone, and 26 were discharged without naltrexone

therapy. Readmissions involving alcohol use included 9.7 percent of patients discharged on oral naltrexone, 13 percent discharged on long-acting injectable naltrexone, and 11.5 percent discharged with no therapy. ED visits involving alcohol use included 16.5 percent of patients discharged on oral naltrexone, 33 percent discharged on long-acting injectable naltrexone, and 23 percent discharged with no therapy. Since this is a retrospective review trends can be discussed but not effectiveness, which is a study limitation. Noting 41 percent of orders were outside the institution approved process, a formal protocol for naltrexone is recommended followed by immediate re-education. Re-education should target both operational and clinical applications of naltrexone to ensure optimal patient outcomes while avoiding preventable drug related problems. Re-evaluation will be needed after re-education along with further investigation into readmissions and emergency department visits.

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