Depot Naltrexone as relapse prevention for parolees with Opioid Use Disorder

C.P. O'Brien,[1] P.D. Friedmann[2], E. Nunes [3], J. D. Lee [4], T. W. Kinlock, [5] K. Lynch,[1]J. Cornish[1]
[1]Dept. Psychiatry, Center for Studies of Addiction, Univ. of Pennsylvania Perelman Sch. Med., [2]Rhode Island Hospital (Brown Univ.), [3]New York (Columbia Univ), [4]New York (NYU), and [5]Baltimore (Friends Research).

Background

Opioid Use Disorder (heroin, prescription opioids) is a chronic, relapsing illness often associated with crime and incarceration. Transition to an opioid free state can be accomplished by medical detoxification, but rapid relapse to opioid use is very common as soon as the patient is released into an environment where opioids are available. Relapse is very common even after prolonged incarceration in an environment such as a prison where drugs are usually excluded. The cycle of incarceration, relapse, return to crime to support a drug habit and then re-incarceration is an expensive waste of resources and harmful to society. The death rate from opioid overdose is high in this population.

Two kinds of medication have been used to reduce the rate of relapse to opioid use among parolees being released from prison. Opioid agonists such as methadone or buprenorphine are justified as an aid to the prevention of relapse, even in parolees who are initially drug free. The rationale is that the medication will reduce drug craving and subsequent return to opioid use with all of its risks and complications.

Another class of medication that has been reported to be successful in preventing relapse is the opioid receptor antagonist category. Oral naltrexone has been reported to reduce relapse when high rates of compliance with the medication can be assured. In most studies, oral naltrexone was ineffective due to lack of compliance. In 2006 an extended release depot formulation of naltrexone was approved by FDA. The purpose of this study was to determine whether monthly doses of the depot formulation reduced relapse to opioid use when compared to similar parolees without this medication.

Ethics Issues: When treatment research is proposed for a vulnerable population in prison or on parole, the issue of potential coercion must be addressed. In this study, all participants were volunteers who were in some contact with a legal authority after release from prison. We excluded participants referred by an official of the government such as a parole officer in order to avoid the perception of any coercion. The perception of coercion was assessed using a standard coercion scale and the voluntary consent process was verified by a consent form quiz. Each patient was required to score 100% on the quiz before being accepted into the study and randomized. The coercion scales are currently being analyzed.

Methods:

308 individuals with a history of opioid addiction were randomized to either 6 monthly injections of extended release naltrexone or standard treatment. The standard treatment was left open and could be drug free or agonist (methadone or Suboxone). All participants met the criterion of recent (within 6 months) involvement with the parole system (state or federal) and documented history of opioid addiction prior to incarceration.

Interim Results (May 2014):
274 patients were eligible for a 12-month follow up
33% Caucasian
84% male

Completion rates thru week 25 ranged from 50% through about 69% across sites, and were about 61% for the depot group and about 64% for the Treatment as Usual group, with neither group nor site effects reaching significant differences for completion.

Overall 57% (range 45-72) of the Naltrexone group received all 6 injections. Injection site reactions were minimal in most patients. One patient discontinued the injections due to pain and another developed an allergic reaction after the 5th injection.

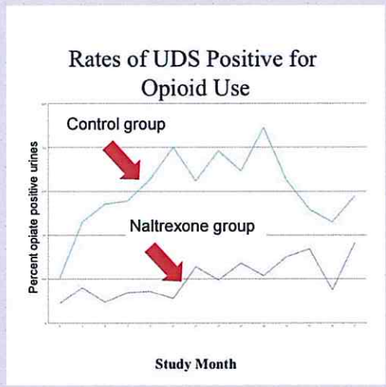
Opioid overdoses:
In the treatment as usual group, there were 7 opioid overdoses; 3 resulted in death and 4 required hospitalizations. There were no opioid overdoses in the Naltrexone group.

Urine Tests:
An opioid positive urine test was regarded as evidence of a relapse in this study. For the group randomized to naltrexone, a single use of opioids while on naltrexone might be motivated by a desire to test the blockade rather than a true relapse. The group randomized to naltrexone showed a consistently lower rate of opioid positive tests over the 6 months of treatment.(Fig. 1) A GEE model, including Site as a factor, showed a significant main effect of Depot Naltrexone (Chi-square(1)=17.45, $p<0.0001$). For a given week, the odds of abstinence from opiates for depot were 3.41 times the corresponding odds for control (95% CI = (1.94, 6.00). Other drugs were used at the same rate in both groups.

Grant Support / Financial Disclosure

Grant Support: NIDA provided collaborative RO-1 funding to each of the 5 sites. Also, a NIDA P60 center DA 005186 provided coordination and the Dana Foundation provided funding for a pilot study.
Disclosures: Alkermes Inc provided medication at no cost, but had no role in planning or execution of the study

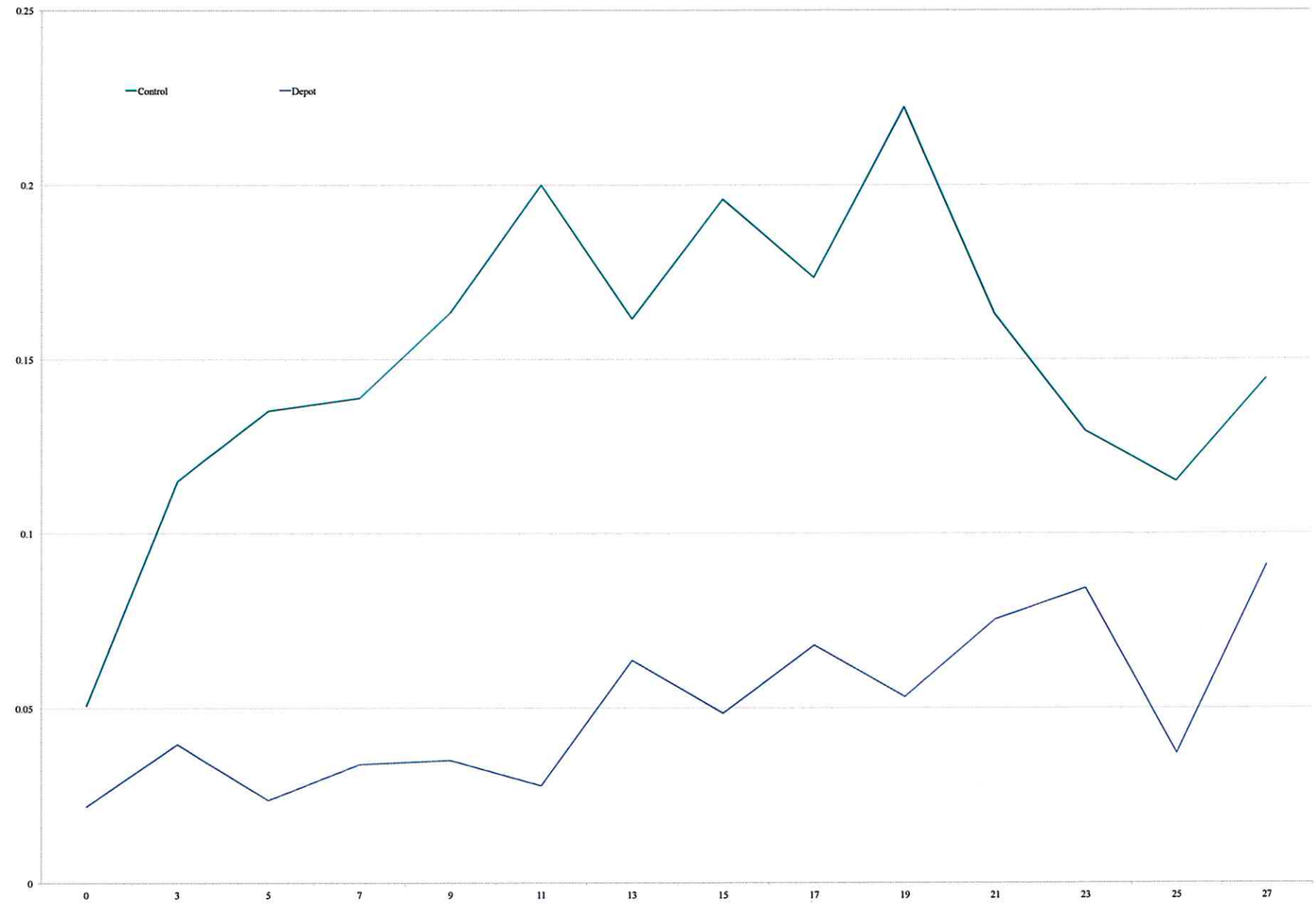
Results



Conclusion:

- Parolees/probationers with a history of opioid addiction who were randomly assigned to six months of extended release naltrexone used opioids fewer times during the six months of treatment and in the six months following the end of treatment. The naltrexone treatment group had no opioid overdoses while the control group had 7 opioid overdoses. Three of these overdoses were fatal and four required hospitalization.
- Two of the 137 patients randomized to extended release naltrexone experienced nausea from a test dose of oral naltrexone and refused the injections. Another developed an allergic reaction to the 5th injection. Another reported severe pain at the injection site. The rest of the injection group reported only mild injection site discomfort.
- An analysis of arrest records is in progress as well as a cost-benefit analysis to determine whether the reduction in opioid use resulted in fewer crimes and less costs.

Rates of UDS Positive for Opioid Use



Study Week