Naltrexone may diminish impulse control disorders in Parkinson's disease patients

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Up to 20 percent of Parkinson's disease (PD) patients and their families may confront a common but largely unrecognized challenge: the occurrence of impulse control disorders (ICDs) such as compulsive gambling, sexual behavior, eating, or spending. Yet the presence of PD in these patients can severely limit or complicate treatment options. A team of investigators from the Perelman School of Medicine at the University of Pennsylvania and the Parkinson's Disease Research, Education and Clinical Center (PADRECC) at the Philadelphia Veterans Affairs Medical Center conducted a pilot study and found that the opioid antagonist naltrexone may be an effective treatment for diminishing ICD symptoms in PD patients. The results were published in the journal *Neurology*.

Researchers believe that these issues may arise as a result of medications used to treat the disease, but also could be a result of the disease itself, or a combination of both. ICDs can create financial, personal, employment, and social problems that add to the burden on patients and caregivers whose lives are already devastated by PD.

A sample of 50 PD patients, all of whom began displaying their ICD symptoms after both the onset of PD and the initiation of dopamine agonist treatment (which was continued normally during the course of the study) were placed on a placebo-controlled flexible dose of naltrexone, 50-100 mg/day.

Naltrexone was FDA approved for the treatment of alcohol dependence

in 1994. Since then, a number of studies have confirmed its efficacy in reducing frequency and severity of relapse to drinking. It is less commonly used in the treatment of opioid addiction and rapid detoxification.

Patients were assessed by several evaluation measures, chiefly the Clinical Global Impression-Change (CGI-C), which was completed by a clinician, and the Questionnaire for Impulsive-Compulsive Disorders in Parkinson's Disease-Rating Scale (QUIP-RS), developed by the research team and completed by the patient. Several other assessment tools were used to evaluate PD symptoms and other psychological responses.

The outcome of the eight-week study was not definitive, reports lead author Daniel Weintraub, MD, an assistant professor of Psychiatry and a Fellow in Penn's Institute on Aging. "On the primary outcome measure (the CGI-C), we did not see a benefit in terms of the medication," he says. However, on the secondary measure (the QUIP-RS), "we did see a benefit of treatment, suggesting at least on a self-rated measure of ICD severity that naltrexone did help diminish the severity of ICD symptoms in PD patients."

Weintraub explains, "The interesting thing is that ICDs may not be specific to PD at all, but only to the medication which happens to be used primarily in PD patients. It may not be a disease effect as opposed to just excessive dopamine stimulation of a particular type. These PD medications are very potent medications for the D2 subset of dopamine receptors in the brain, and it seems that if you stimulate or overstimulate those, people may develop these problems whether or not they have PD."

Weintraub and his colleagues believe that the small size of the study and the inherent differences in interpreting an outcome measure based on a global rating such as the CGI-C compared to a continuous measure of symptom severity such as the QUIP-RS may limit their results.

Weintraub says this pilot study is a promising first step in identifying ICD treatments for PD patients, and potentially, improving their quality of life. "It shows that it is possible to do a randomized controlled trial for this problem in PD, which is an important point," he notes. "It shows that you have to think carefully about the primary outcome measures. And I think it supports further study of medications like naltrexone and other opioid antagonists with a larger, more definitive clinical trial."

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