Opportunities for pharmacists in the criminal justice system

In 2010, 22.1 million individuals (8.9% of the population) in the United States were classified with substance abuse or dependence based on criteria in the Diagnostic and Statistical Manual, Fourth Edition. Medication-assisted treatment (MAT) is available to aid those dependent on opioids and alcohol in combination with cognitive and behavioral therapy in order to achieve a drug- and alcohol-free life. The Criminal Justice Drug Abuse Treatment Studies II (CJ-DATS II) cooperative is conducting implementation research to improve linkages of alcohol- and drug-dependent offenders to evidence-based treatment, with the downstream intent of reducing recidivism and improving public health.

CJ-DATS II is a five-year multisite research cooperative funded by the National Institutes of Health and the National Institute on Drug Abuse. This study involves 10 university-based research centers nationwide, each with multiple criminal justice agency partners. One grantee, Arizona State University, partnered with Pima County Adult Probation and formed an interagency pharmacotherapy exchange council (PEC) to encourage greater use of MAT in the criminal justice system. This was to be accomplished by increasing referrals for MAT and improving linkages between treatment providers and the criminal justice system. Initially, this PEC comprised only individuals from Pima County Adult Probation, Compass Behavioral Health Care, and the research team. A pharmacist gave a presentation about MAT to adult probation officers, which was well attended and well received. After this, it was noted that there was not a pharmacist on the PEC. Two students in the doctor of pharmacy program at the University of Arizona were then recruited to attend meetings and act as pharmacy consultants under the supervision of a licensed pharmacist.

The involvement of the students has been beneficial for everyone involved in the Pima County PEC. The students learned that PEC members have very limited knowledge and understanding about the role of pharmacists. Through their participation, the students have learned more about the proceedings of drug court and adult probation in general. The other PEC members and the study research team have taught the students about the effectiveness of MAT and how it can benefit the criminal justice system. The benefits include increasing public safety, public health, and the effectiveness of adult probation and parole, as well as decreasing the rate of opiate overdose, decreasing recidivism, and decreasing costs to the public and the criminal justice system. The inclusion of pharmacy personnel has allowed for further education of the PEC members and their staff about the medications used to treat substance abuse. The students created multiple resources for PEC members, including fact sheets and potential drug interaction sheets for each MAT medication, information about patient assistance programs, and the availability of the controlled substances prescription monitoring program in Arizona. The students also conducted additional training sessions for non-PEC adult probation officers and substance abuse treatment staff regarding the benefits and efficacy of MAT. Through these sessions, the students helped the staff begin to view addiction pharmacotherapies as medications rather than drugs. Staff members now recognize that MAT is not merely substituting one addiction for another but instead is analogous to other forms of health care that involve the use of medications as a part of treatment.

Through pharmacy student involvement with the PEC and CJ-DATS II, we...
have concluded that pharmacists are necessary to the increased utilization of MAT for alcohol and drug abuse. Pharmacists’ unique knowledge about medications is essential to educate those who are most likely to make referrals for MAT. Pharmacists and pharmacy students can help by offering consultation to agencies applying for MAT grants, specifically serving as experts on addiction pharmacotherapies; approaching their local criminal justice agencies and offering consultation services on MAT; and offering complimentary training that includes education about brain changes, the specifics of addiction pharmacotherapies, and dispelling myths that may prevent the use of MAT.

More information can be found on websites of the Addiction Technology Transfer Center Network (www.attcnetwork.org/explore/priorityareas/wfd/mat/index.asp), the Substance Abuse and Mental Health Services Administration (http://buprenorphine.samhsa.gov/bwns_locator/), and the CJ-DATS (www.cjdatss.org/Phase2/).


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Rocuronium and malignant hyperthermia

Beggs et al.1 presented two interesting case reports postulating an association between rocuronium and malignant hyperthermia (MH). Although the observed fever in these patients declined after discontinuation of rocuronium, several points need further discussion.

First, the definition of MH includes hypercapnia, lactic acidosis, and skeletal muscle hypermetabolism due to excessive sarcoplasmic calcium release via mutated ryanodine receptors after exposure to triggering agents.2 As both patients had complex medical conditions (e.g., acute respiratory distress syndrome, history of cardiopulmonary resuscitation, sepsis), disorders such as metabolic acidosis might have occurred for various reasons. Although MH certainly could have been one reason, this seems rather unlikely since the acidosis was not even temporally related to the use of rocuronium.

Second, the body temperature in the reported cases remained elevated for several days, which is not typical of MH crisis. Even though there have been several reports of MH with hyperthermia as the only symptom,3,9 other findings, such as the modest creatine kinase elevation (351 units/L in patient 1), are inconsistent with a diagnosis of MH. Furthermore, unexplained fever among patients in the intensive care unit is very common and associated with a large variety of differential diagnoses.4

Third, neither patient had been examined for susceptibility to MH either by genetic testing or by caffeine–halothane contracture testing. Evaluation of the cases with the clinical grading scale of Larach et al.5 yielded only a slight likelihood of MH in both patients. Thus, without a definitive diagnosis, it remains speculative to assume MH as causative for the temperature increases.

Fourth, there is no evidence in the medical literature supporting the hypothesis of rocuronium or other nondepolarizing muscle relaxants as a trigger for MH. Beggs et al. cited reports of metabolic reactions occurring after the administration of nondepolarizing muscle relaxants,6,7 but those events occurred in the presence of known MH triggers (e.g., volatile anesthetics) or could be explained by other medications (e.g., antipsychotics) causing malignant neuroleptic syndrome, the symptoms of which are similar to MH.8

We agree that the reported cases are interesting descriptions of possibly drug-induced fever and that the temperature reductions after discontinuation of rocuronium suggest an association with