The clinician's role in assessing for drug-induced movement disorders: Practices at a forensic psychiatric hospital

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Here is one practitioner's perspective on movement disorder assessment. Read about his experience with assessing movement disorders, particularly tardive dyskinesia.

HOW OFTEN DO YOU ASSESS A PATIENT FOR A DRUG-INDUCED MOVEMENT DISORDER?

I work at a forensic psychiatric hospital where many of our patients are on multiple medications that can increase their risk of having drug-induced movement disorders. The rating scale that we use at Fulton to assess for these movement disorders is the Abnormal Involuntary Movement Scale (AIMS), which will be the primary rating scale discussed throughout this interview. All of our patients receive a baseline assessment with the AIMS when admitted and then annually thereafter.

HOW WERE YOU TRAINED TO PERFORM SUCH ASSESSMENTS?

As a resident, I was trained based on available literature which described movement disorder assessments, training videos (older videos often available only as VHS), and observing preceptor assessments. In my psychiatric residency, the AIMS used was actually a hybrid of the Dyskinesia Identification System: Condensed User Scale (DISCUS) and AIMS which illustrated the different types of tardive dyskinesia (TD). This was not only beneficial in assessing the types of TD, but would also aid in deciding potential treatment strategies.

DO YOU FEEL YOUR TRAINING IS ADEQUATE? HOW SO?

I believe I was trained adequately in my ASHP post-graduate year two (PGY2) psychiatric pharmacy residency by watching my preceptors assess their patients and then being able to replicate this assessment with my own patients promoting enhanced consistency of rating.

DO YOU THINK YOUR TRAINING WOULD BE IMPROVED WITH UPDATED VIDEOS THAT ALSO TRAIN TO ASSESS FOR AKATHISIA AND PARKINSONISM?

Yes, the videos and training that I received typically demonstrated assessing only the signs and symptoms of akathisia and Parkinsonism. I believe future videos should incorporate training on various rating scales such as the Barnes Akathisia Rating Scale (BARS) to screen for akathisia, Simpson Angus Scale (SAS) to screen for parkinsonism and the Extrapyramidal Symptom Rating Scale (ESRS) to screen for EPS, which includes akathisia, parkinsonism, dystonia, and TD. This would enable clinicians to have better tools to aid in the detection and treatment of these side effects.

What do you believe is the most important part of the movement disorder assessment?

It is highly important to detect movement disorders that are currently unrecognized, undiagnosed, and untreated. Movement disorders can be very uncomfortable for patients. A structured assessment helps identify disorders that often go unrecognized. Patients can be both dyskinetic and Parkinsonian with disabilities related to each.

When assessing patients using the AIMS, a controversial part of that exam deals with the first question in the global judgment section. This is where the rater assesses the severity of movements, which should consist of the highest single score given on any one of the seven body areas. Although, there is another way that some health care providers score this section, however, it is not part of the AIMS. It consists of adding up the total score on all seven body areas known as a severity index. This will often give a double-digit number and can go as high as twenty-eight, which can misrepresent the status of the patients. For example, a patient scoring a four on one body area would have a severity index of only a four, however, the patient would be rated the same as another person rated a two in two body areas. Obviously, these

two patients would not have equal severity with regard to their movement disorders.

HOW DID YOU BECOME INTERESTED IN DRUG-INDUCED MOVEMENT DISORDERS?

I have always been interested in the world of psychopharmacology, but after completing my PGY2 residency I developed more of an interest in recognizing and treating these potentially debilitating side effects. When researching the pathophysiology of TD, I found all the different pharmacotherapy treatments very intriguing. There are no approved treatments for TD, but there has been some very unique and thought provoking studies published including antioxidative agents as listed below to name just a few.

- **Vitamin B6 (Pyridoxine):** In two double-blind, randomized, crossover, placebo controlled studies, the efficacy of vitamin B6 was evaluated in two different doses—400 mg/d and 1,200 mg/d—as treatment of TD. Both studies demonstrated efficacy and safety of vitamin B6. It was found that 1,200 mg/d acts for a longer period (~8 weeks after cessation) compared to the lower dose (400 mg/d), which was also found to be effective, but not for more than 1 week after cessation of treatment.[1,2]
- **Melatonin:** To date, only a few clinical trials have been conducted, without conclusive results. Shamir and colleagues attempted to assess the effectiveness of melatonin in treating TD.[3,4] The first study conducted, compared the efficacy of melatonin, 2 mg/d, with placebo and concluded that supraphysiologic doses of melatonin do not positively affect TD.[5] One year later, the same authors published another study attempting to investigate the effects of melatonin on TD.[4] Interestingly enough, they found that 10 mg/d is safe and effective. In addition, the Natural Medicines Comprehensive Database states that 10 mg/d of oral melatonin seems to decrease TD symptoms by 24% to 30% in some patients after 6 weeks of treatment.[5]
- **Ginkgo Biloba:** Ginkgo Biloba is an extremely old living tree species that has leaves that contain two types of chemicals (flavonoids and terpenoids) which are believed to have potent antioxidant properties.[6] EGb-761 is a standardized extract of ginkgo Biloba leaves that has antioxidant properties as a free radical scavenger.[7] Zhang and coworkers examined EGb-761 as add-on treatment to haloperidol in patients with schizophrenia and found that not only did psychotic symptoms were improve, but EPS was reduced.[8] The same authors did another study to investigate EGb-761's influence on TD symptoms.[8] In this study, 157 patients were enrolled and randomly assigned to 12 weeks of treatment with EGb-761, 240 mg/d, or placebo in a double blind mode. Severity was assessed using the Abnormal Involuntary Movement Scale. EGb-761 treatment was shown to significantly decreased the total Abnormal Involuntary Movement Scale score in patients with TD compared to placebo ($P<0.0001$). In the treatment group, 52% of patients showed significant improvement, compared to 5.3% in the placebo group. It was concluded that EGb-761 appeared to be an effective treatment for reducing symptoms of TD in schizophrenic patients through antioxidant activity.[8]

HOW DO YOU TRAIN OTHER HEALTH CARE PROFESSIONALS TO ASSESS FOR MOVEMENT DISORDERS?

When teaching health care professionals about this topic, I like to incorporate reading materials, videos, and a hands-on approach to help aid in the training process. Since there are many different learning styles, I tend to get better results when incorporating as many learning styles as I can in the training process.

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