Abuse of second-generation antipsychotics: What prescribers need to know

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Mr. Z, age 27, seeks treatment for substance abuse at a mental health clinic. He has a 7-year substance use history and his last urine drug screen 1 month ago was positive for marijuana, opiates, and benzodiazepines. Mr. Z reveals that he purchases prescription drugs on the street, including hydrocodone, diazepam, and quetiapine. He states that when he takes a 100-mg dose of quetiapine, he feels happy, relaxed, and “drunk without the mind-numbing effects that you get with alcohol.” Mr. Z often takes quetiapine while smoking marijuana. He sleeps well with this and does not experience a hangover effect.

Although clinicians always are vigilant about patients’ misuse of psychoactive substances, recent case reports have described abuse of antipsychotics, particularly second-generation antipsychotics (SGAs). A PubMed and PsycINFO literature search revealed several case reports of quetiapine abuse (Table, page 78)1-6 and 2 case reports of olanzapine misuse.

Quetiapine

Methods of quetiapine misuse include ingesting pills, inhaling crushed tablets, and injecting a solution of dissolved tablets.1-7 In case studies, patients report abusing quetiapine for its sedative, anxiolytic, and calming effects.1,2,4-7 One patient reported snorting crushed quetiapine tablets combined with cocaine for “hallucinogenic” effects.3 Street names for quetiapine include “quell,” “Susie-Q,” and “baby heroin,” and “Q-ball” refers to a combination of cocaine and quetiapine.8 Quetiapine tablets have a street value of $3 to $8 for doses ranging from 25 mg to 100 mg.9 Although outpatient misuse of quetiapine is common, abuse in correctional settings also is becoming more frequent.10 Residents of jails and prisons misuse quetiapine for reasons similar to those cited by outpatients: sedation, relief of anxiety, and hallucinogenic effects or “getting high.”1,2,10 Clinicians must differentiate inmates who have legitimate psychiatric symptoms that require antipsychotic treatment from those who are malingering to obtain the drug. Efforts to treat inmates for substance use disorders may be thwarted by the easy availability of drugs in correctional settings.10

Practice Points

• Antipsychotics have been abused and misused by inpatients and outpatients.
• Most published case reports of antipsychotic abuse involve quetiapine, although some describe misuse of other agents, including olanzapine.
• Serotonin, histamine, and α-adrenergic neurotransmitter systems may play a role in second-generation antipsychotics’ abuse potential.
• Although individuals have misused quetiapine and olanzapine, evidence indicates that these drugs may be effective for treating substance use disorders.
Other SGAs

The incidence of misuse of olanzapine and other SGAs is more difficult to ascertain. Only 2 case reports describe olanzapine abuse, both in outpatient settings. One describes a patient treated for depression with psychosis who was using increasingly higher doses of olanzapine to obtain euphoric effects. Switching to aripiprazole effectively treated her illness and addressed her olanzapine misuse.

In the other case, a patient with bipolar disorder was able to obtain olanzapine, 40 mg/d, by complaining of worsened manic symptoms. He described the experience of misusing olanzapine as getting a “buzz,” feeling “very relaxed,” and blunting the negative jitteriness he felt when he used cocaine. This patient stated that he had observed others abusing olanzapine, both orally and intravenously.

Although the literature lacks reports on the risks of antipsychotic abuse, numerous Web sites purport to sell these drugs without a prescription and some describe the experience of illicit use of drugs such as haloperidol, risperidone, quetiapine, and olanzapine and ways to “enhance” the experience by combining drugs. Reported experiences with risperidone tend to be negative, citing extrapyramidal side effects and feeling “numb,” whereas olanzapine and quetiapine users describe feeling “drunk without the bad effects of alcohol” and “really happy, calm.” These sites also describe hallucinogenic effects of these agents.

Mechanism of action

The neuropharmacologic reasons for antipsychotics’ abuse potential are difficult to quantify. Quetiapine and olanzapine have been used to treat cocaine and alcohol abuse, and work perhaps by decreasing the dopamine reward system response to substance use. Quetiapine’s rapid dissociation from the dopamine receptor has been theorized to contribute to the drug’s abuse potential, possibly through relatively lower potency and decreased residence time.
at the dopamine receptor. This mechanism also contributes to quetiapine’s lower risk of extrapyramidal side effects, which make the drug easier to tolerate.

Although dopamine is a factor in substance abuse and treatment of psychotic disorders, other neuropharmacologic mechanisms must be considered. SGAs are theorized to cause dopamine release in the frontal cortex through effects as 5-HT1A agonists and 5-HT2A antagonists. Antagonism of α-adrenergic and histaminic receptors may account for these agents’ anxiolytic and sedative properties.

Misuse of anticholinergic agents has been reported for >50 years. Psychiatric patients have been reported to increase use of anticholinergics for their movement side effects as well as hallucinogenic effects.

Treatment
Regardless of the substance that patients abuse, the treatment goals are the same: to reduce use and achieve recovery. If a patient with psychosis is abusing an SGA, consider switching to an antipsychotic with less abuse potential. Another option is to limit the supply of the abused drug by prescribing smaller quantities or increase the frequency of follow-up visits to ensure compliant use.

References

11. Lai CH. Olanzapine abuse was relieved after switching to aripiprazole in a patient with psychotic depression. Prog Neuropsychopharmacol Biol Psychiatry. 2010;34:1363-1364.

Related Resources
- Substance Abuse and Mental Health Services Administration. www.samhsa.gov.

Drug Brand Names
- Aripiprazole - Abilify
- Diazepam - Valium
- Haloperidol - Haldol
- Hydrocodone/acetaminophen - Vicodin
- Olanzapine - Zyprexa
- Quetiapine - Seroquel
- Risperidone - Risperdal
- Valium

Disclosure
The authors report no financial relationships with any company whose products are mentioned in this article or with manufacturers of competing products.

Clinical Point
If a patient is abusing an SGA, consider switching to an antipsychotic with less abuse potential or limiting supply of the drug.