CASE REPORT

Quetiapine Induced Agitation in A Hospice Veteran: A Case Report

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ABSTRACT
Quetiapine is an atypical antipsychotic that is used in many clinical scenarios; it has been approved and has shown to be effective in the treatment of schizophrenia and bipolar symptoms. Additionally, it has several off-label uses including the treatment of insomnia. In this case report, an elderly veteran was given quetiapine as a sleep aid. After the first dose, he demonstrated severe agitation. To the best of our knowledge, there have been limited reports of this reaction. Although there are limitations to this case report, it serves as a cautionary lesson when prescribing a medication like quetiapine and to consider alternatives when available.

KEYWORDS
Quetiapine, Agitation, Aggression

INTRODUCTION
Quetiapine is a second-generation antipsychotic that is used in a variety of clinical circumstances. It is FDA-approved for the treatment of schizophrenia and is an effective therapy option.¹ It is also approved in the treatment for the depressed phase of bipolar disorder.² Additionally, there are many off-label uses for the drug; it has been used to treat generalized anxiety disorder, dementia, insomnia, and many other medical conditions.³

While it is typically believed that second-generation antipsychotics have favorable side effect profiles when compared to their first-generation counterparts, we present the case of an elderly veteran who experienced severe agitation and confusion following the initial administration of quetiapine. We will further review the literature on the medication’s uses and known adverse reactions.

CASE
An 86-year-old male veteran was transferred to the VA following an episode of agitation and confusion. Prior to the transfer, he was receiving hospice care at home. Past medical history includes stage IIIa squamous cell carcinoma of the right lung status post (s/p) chemotherapy and radiation, prostate cancer, chronic obstructive pulmonary disease (COPD), atrial fibrillation, hypertension (HTN), stage II chronic kidney disease (CKD), hypothyroidism, gout, and chronic low back pain. The patient spent most of his time in bed. He had a chronic indwelling catheter. In the past, the patient has had trouble sleeping, for which he was initially prescribed Ativan. However, even at partial doses, the medication had unwanted adverse effects. It made the patient significantly restless and confused. As a result, it was deemed appropriate to discontinue that medication and replace it with quetiapine. Hours after the initial 25 mg dose, the patient became aggressive. He woke up around 2 AM, removed his clothes, ripped out his Foley catheter, and tried to leave his house. When his wife tried to stop him, he wrestled with her and made attempts to both choke and bite her.

The police were promptly alerted after the patient managed to leave the house. When they located...
the patient, he was naked, shouting, and became combative with the officers. Moreover, he was confused, saw them as demons, and threatened to bite their heads off. Eventually, he was subdued and brought to the local emergency department (ED), where he was given ketamine and then Ativan, resulting in sedation. Afterward, he was transferred to the VA.

Throughout the entire episode, the patient did not express any ability to recognize his wife. During the physical altercation with her, he was heard frequently calling out for her. Additionally, he did not recognize the police, as he was heard shouting for them to be contacted while in their presence.

Up until this point, the patient had no previous psychiatric history. He had never been on any psychiatric medications and had never been exposed to a second-generation antipsychotic. Additionally, the patient did not have a history of substance or alcohol use. He was not on any supplements and was not taking any medications outside of those that the VA and hospice prescribed him. Physical examination of the patient was remarkable, but only for small lacerations around his lips from biting himself. His vitals were within normal limits.

An initial computed tomography (CT) scan of the patient’s head revealed no acute processes; there did not appear to be an intracranial explanation for the episode. This conclusion was supported by a follow-up magnetic resonance imaging (MRI) of the patient’s head, showing age-related cortical changes but no definite etiology for the events. An initial complete blood count (CBC), basic metabolic panel (BMP), and thyroid stimulating hormone (TSH) were unremarkable. However, B12 was found elevated in the patient.

The patient had an elevated white blood cells (WBC) count and leukocyte esterase on his urinalysis. Moreover, with the history of his chronic indwelling catheter, a urinary tract infection (UTI) was suspected. While a urinary tract infection could lead to a similar patient presentation, it is highly unlikely that these symptoms would have resolved after sedation. The improvement in the patient coincided with stopping the quetiapine prior to any interventional measures toward the suspected UTI.

The patient was admitted with a plan for observation at the VA. However, during his hospitalization, he was no longer aggressive or confused. He was alert and cooperative with the staff. After his status had improved, he was discharged home with plans for home-based primary care (HBPC) and continued hospice management.

DISCUSSION

This case illustrates a lesser-known adverse reaction to the atypical antipsychotic quetiapine. The medication made our patient agitated, combative, and confused after a single dose. The adverse reaction was significant enough to involve police intervention, and the patient was hospitalized for observation. The patient likely had quetiapine-induced agitation or delirium.

Quetiapine’s precise mechanism of action has yet to be fully understood; however, literature suggests its versatility. It has been shown to have an affinity towards many receptor types, including serotonin, dopamine, histamine, and adrenergic receptors. Furthermore, research suggests that quetiapine can impact proteins in the brain, such as neurotensin and glutamate receptors. With quetiapine impacting many processes in the body, it is understandable that it could be utilized in several clinical settings.

As previously mentioned, the Food and Drug Administration (FDA) has approved quetiapine for the treatment of schizophrenia and the treatment of the depressed phase of bipolar disorder. It is also approved for the treatment of acute manic episodes, and research has shown that it can be an effective option for this indication. Essentially, this drug has FDA clearance to be used as therapy for schizophrenia and bipolar symptoms.

While the drug has limited approved uses, quetiapine is employed off-label by providers for various medical conditions. As alluded to earlier, the literature has favorably examined quetiapine in the treatment of generalized anxiety disorder, dementia, and insomnia. Research has also suggested...
that it is beneficial in the therapeutic regimen for personality disorders and potentially even substance use disorders. Some studies even suggest that it has a role in the treatment of post-traumatic stress disorder (PTSD) and obsessive-compulsive disorder, particularly in cases resistant to the standard therapy.

The most common adverse effects of quetiapine are somnolence, orthostatic hypotension, and dizziness. The blockage of histamine and α1-adrenergic receptors is believed to cause sleepiness and dizziness while orthostatic hypotension is attributed to the blockage of α1 receptors alone. Compared to other atypical antipsychotics, it is the least likely to cause extrapyramidal symptoms; however, it is associated with an increased risk of suicidal thoughts and has been correlated with strokes, myocarditis, and coronary heart disease.

Quetiapine also has less common side effects that have been reported. There are rare cases of delirium induced by quetiapine alone, by quetiapine and valproate together, or as a symptom of drug overdose. However, with limited research, it is difficult to ascertain the mechanism of this adverse reaction. Additionally, it is difficult to link the symptoms of delirium with the medication directly. Reports of quetiapine-induced agitation are practically nonexistent in the literature.

There are several limitations to this case report. It is possible that the patient’s agitation was secondary to delirium. Delirium does not require agitation but can be a sign of it. Furthermore, our patient was in hospice care. As such, he had underlying comorbidities and was currently taking several other medications. It is possible that the episode of aggression was caused by drug-drug interactions or due to one of his underlying comorbidities. However, these seem less likely because this was the veteran’s first episode; it coincided with the first dose of quetiapine, and it resolved with cessation of the drug.

CONCLUSION

We have illustrated a case of agitation following an initial dose of quetiapine. To the best of our knowledge, this is a lesser-known side effect that has not been discussed in previous literature. Although our patient recovered without any complications, this adverse reaction is severe and potentially harmful, as increased agitation can often lead patients to harm either themselves or those around them inadvertently. Providers should use caution when prescribing the medication, especially in elderly patients. When other medications are available, they should be considered.

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REFERENCES


