Case Report: Acute Extrapyramidal Side Effects from Smoked Haloperidol

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Abstract

Haloperidol is a dopamine receptor antagonist used to treat patients with psychotic disorders. At high doses, haloperidol carries a higher risk of extrapyramidal symptoms (EPS) compared to second-generation antipsychotics. Few cases of haloperidol misuse are found in the medical literature. Here, we describe a patient with schizophrenia who smoked marijuana mixed with crushed haloperidol tablets. After smoking cannabis and haloperidol, the patient presented to the emergency department (ED) with suicidal ideation, psychosis, and acute dystonia. With the administration of intramuscular diphenhydramine at the ED, the dystonia resolved in less than an hour. To our knowledge, this is the first report on haloperidol misuse by smoking.

Introduction

High-potency first-generation antipsychotics (FGAs) such as haloperidol, especially when used at high doses and without coadministration of anticholinergics, carry a significant risk of developing extrapyramidal symptoms (EPS) including dystonia, Parkinsonism, akathisia, and tardive dyskinesia [1].

Widespread recreational use of haloperidol or other FGAs has not previously been reported. In contrast, second-generation antipsychotics (SGAs) have been widely misused or abused. This can be explained by the broader pharmacodynamic properties of SGAs, with their sedative and anxiolytic effects that may augment the desired effects of abused substances and limit the associated dysphoria [2].

Few anecdotal reports have been published on the deliberate misuse of haloperidol tablets. One article described an individual who developed catatonia after using haloperidol tablets purchased from the streets to "get high" [3]. Another paper depicted a patient who used haloperidol tablets concurrently with street-made "designer drugs" to counteract their undesirable psychotropic actions and to potentially enhance euphoria; this patient later presented to an emergency department (ED) with torticollis [4].

Case Presentation

A 35-year-old African-American male with schizophrenia and a history of several prior inpatient psychiatric admissions presented to the ED for auditory hallucinations, suicidal ideation, and "locked-up muscle" (sic) after smoking cannabis mixed with 30 mg of crushed haloperidol tablets the day prior to presenting to the ED. He denied any synthetic cannabinoid or other substance use. The patient was provided a wheelchair in the ED due to difficulty with ambulation. His vital signs were stable.

He refused any lab work on presentation and did not provide urine for a toxicology screening test. Nevertheless, according to numerous medical records between 2013 and 2020, the patient had consistently reported using marijuana but no other substances. At least eight prior urine toxicology results were consistently positive only for cannabinoids.

On physical exam, his arms were maintained in a flexed position and were noted to have increased tone bilaterally. Given his stable vital signs, the presentation was more suggestive of acute dystonia than neuroleptic malignant syndrome.

The dystonia resolved within 60 minutes after he was given diphenhydramine 25mg intramuscularly. On reassessment approximately two hours later, he was able to ambulate without difficulty, and upper extremity muscle tone was normal bilaterally.

Further investigation revealed that the present ED visit was taking place two days after the patient had been discharged from a month-long inpatient hospitalization for his psychotic symptoms. During that inpatient stay, he had reported muscle stiffness from another FGA, fluphenazine (he was receiving 5mg daily by mouth), for which he had been started on benztropine 1mg twice daily.

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Discussion

Dystonia is a type of EPS associated with involuntary movements from either intermittent or sustained muscle action. Intramuscular (IM) benztropine or diphenhydramine administration typically resolves EPS completely within 20-30 minutes [5]. If complete resolution does not occur after the first dose, another one can be given after 30 minutes.

Non-oral routes of drug use allow a higher dose of the drug to quickly reach the brain, bypassing hepatic metabolism and resulting in a more rapid effect, thereby leading to greater reinforcement.

Recreational misuse of SGAs has been widely reported, with quetiapine being the most common, followed by risperidone and olanzapine [2]. Quetiapine is well known to be misused together with other psychoactive substances, such as cocaine , marijuana, or opioids, as it intensifies the overall sedative/anxiolytic effect and can also mitigate the dysphoria associated with co-administered stimulant intoxication or withdrawal [6].

Due to lack of previous research, it is challenging to specify the role of haloperidol when used recreationally in combination with cannabis. Olanzapine, considered an ideal "trip terminator," has been misused along with other novel psychoactive substances to dampen the severity of undesired psychotic symptoms [7]. One can speculate that people may use haloperidol along with cannabis to lessen the unpleasant effects resulting from cannabis.

Conclusion

This case highlights how patients may recreationally use antipsychotics through novel routes, either to potentiate euphoria or to manage the undesirable effects of concurrently used substances. Therefore, prescribing clinicians should be cognizant of the potential for such misuse, particularly in patients who have a known history of substance use.

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