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Successful Management of Psychotropics Induced Stuttering Priapism with Pseudoephedrine in a Patient with Schizophrenia

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ABSTRACT *~ Stuttering Priapism is a recurrent, persistent penile erection in the absence of sexual desire due to altered genital hemodynamics, affecting the arterial component (high flow, non-ischemic) or the veno-occlusive mechanism (low flow, ischemic). Both typical and atypical antipsychotics increase the risk for priapism with greater implications in typicals than atypicals. Prompt recognition and treatment are important as 40% to 50% of patients with stuttering priapism may develop an erectile dysfunction if left untreated. There are several case reports in the literature about the association between psychotropic agents and priapism. However, there are no reports of successfully treating stuttering priapism using pseudoephedrine (sudafed) in the adult population. Here we present successful management of psychotropics induced stuttering priapism with pseudoephedrine in a male patient with schizophrenia.* Psychopharmacology Bulletin. *2018;48(2):29–33.*

Introduction

Priapism is a rare condition characterized by a prolonged and painful erection. The erect penis does not return to the flaccid state within four to six hours, despite an absence of physical or psychological stimulation.[1] Stuttering or recurrent priapism is a less well understood medical condition, characterized by recurrent, persistent penile erection in the absence of sexual desire due to altered genital hemodynamics, affecting the arterial component (high flow, non-ischemic) or the veno-occlusive mechanism (low flow, ischemic).[2] Both typical and atypical antipsychotics increase the risk for priapism and based on the spontaneous adverse event reporting data from the Food and Drug Administration, Andershon

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et al. calculated the odds ratio to be 9.9 (95% CI, 7.9–12.4) for typicals and 3.6 (95% CI, 2.4–5.2) for atypicals.[3] A review by Thompson et al. revealed that medications are associated with 15% to 41% of cases of priapism and typical antipsychotics were implicated in 15% to 26%. Prompt recognition and treatment are important as 40% to 50% of patients with stuttering priapism may develop an erectile dysfunction if left untreated.[4] We recognize that there are several case reports in the literature about priapism induced by psychotropic agents. Evidence for most of the medical and surgical treatment options used in stuttering priapism is anecdotal.[2] However, there are no case reports of successfully treating stuttering priapism using pseudoephedrine (sudafed) in the adult population. Interestingly, reports show children with a history of sickle cell anemia with priapism responded to pseudoephedrine.[5] Here we present successful management of psychotropics induced stuttering priapism with pseudoephedrine in a 36 year old Afro-American male patient with schizophrenia.

Case Presentation

36 year old African American male, with a history of DSM-V diagnosis of Schizophrenia, presented to the emergency department with exacerbation of psychotic symptoms. He had multiple prior psychiatric hospitalizations with a history of cannabis and K2 (synthetic cannabinoid) use disorder and alcohol use disorder. He had struggled with several episodes of antipsychotic-induced priapism, and the most recent one was a week before he presented to the emergency department with hypersexual behavior. He was found naked on the street, disorganized, with bizarre delusions, auditory hallucinations, and agitation in the context of regular use of cannabis and synthetic cannabinoids (K2) along with medication noncompliance. In the emergency department, he was aggressive and found to be spitting at staff and required restraints on multiple occasions to ensure the safety of patient and others. In the past, he had developed priapism on several antipsychotics, but olanzapine 5 mg at night was considered due to its lower risk of priapism potential by possibly decreased alpha blockade.[6] He reluctantly took olanzapine as he was worried about excessive drowsiness which he had experienced in the past. Since he had not developed priapism in the past to olanzapine, he was re-started on it at 5 mg/day. As the patient was found to be anemic with hemoglobin of 7 gms/dl, he was admitted to medical unit to manage anemia, which was secondary to duodenal ulcers bleed, diagnosed by EGD. He received a blood transfusion. After a week of medical stabilization, he was transferred to psychiatry to address the poorly controlled psychotic symptoms in the form of persisting

auditory hallucinations and bizarre delusions. The dose of olanzapine was up-titrated to 10 mg at bedtime, but he developed mild sedation as a side effect. On day two of his transfer to the psychiatric unit, he had an episode of priapism that lasted four hours which required surgical aspiration of corpora cavernosa. During the surgical drainage, he had a vicarious experience of enjoying draining procedure with inappropriate affect. His physical examination was unremarkable except for priapism. Except for anemia, labs were reported normal including a negative screen for STDs and Sickle cell disease. His intra-corporeal blood gas analysis showed findings consistent with low-flow priapism.

Patient has had trials of several antipsychotics in the previous one year including risperidone, fluphenazine, aripiprazole, haloperidol, and quetiapine, with poor psychiatric response and had developed priapism to each of these antipsychotics. Most of the episodes of priapism needed surgical aspiration of the corpora cavernosa.

During the current admission, following surgical fixation of priapism, he was offered clozapine, but he refused to comply as he did not want regular blood draws. However, he accepted a trial of lurasidone for nearly a week without any episodes of priapism, but the psychotic symptoms worsened along with manic symptoms manifesting as increased energy, irritability, racing thoughts, hyperactivity, grandiosity and poor sleep. Due to its poor response, lurasidone was stopped and replaced with lithium, but he developed priapism day four after its initiation which again needed surgical aspiration. Divalproex sodium was considered but not prescribed as he had a history of severe hyperammonemia possibly due to divalproex[7] in the past. He was then started on chlorpromazine which he surprisingly tolerated well at doses of 100–200 mg/d with improvement in psychotic symptoms. The dose of chlorpromazine was slowly titrated to 400 mg/day. At this dose, the patient again developed priapism which required surgical drainage. However, the psychotic symptoms remained under control on this dose. Hence it was decided to continue chlorpromazine at a reduced dose of 200 mg/d despite the persisting priapism. A follow-up urology consult recommended pseudoephedrine ER (sudafed) 120 mg HS as priapism was mostly occurring in the night or early in the morning. He responded well to sudafed at 120 mg/d with no further episodes of priapism three weeks after initiation. The dose of chlorpromazine was subsequently increased to 450 mg/d, and he tolerated this dose well with no further episodes of priapism.

Discussion

Priapism has an incidence of 1.5 per 100,000 with a bimodal peak and can occur in all age groups.[8] Most typical and atypical antipsychotics

can induce priapism due to its alpha-adrenergic blockade property in the corpora cavernosa. Atypical antipsychotics, such as clozapine, olanzapine, risperidone, ziprasidone, and quetiapine, are all known to block the alpha one adrenergic receptor and have been associated with an increased risk of priapism.[9] Other common side effects of alpha one adrenergic receptor blockade are dizziness, lightheadedness, and orthostatic hypotension.

In our patient, a thorough physical examination and lab tests ruled out other clinical conditions such as malignancy and sickle cell disease, in which priapism may occur. Hence psychotropic medications such as antipsychotics and lithium most likely predisposed the development of priapism in our patient. The first line treatment of priapism is stopping the offending agent which in our patient was the antipsychotic followed by surgical aspiration with a non-heparinized syringe into the base of the corpora cavernosa.[10] A decision had to be made with regards to risk vs. benefits and chlorpromazine was continued due to its significant beneficial effect on psychosis. Nevertheless, it is important to note that phenothiazines are the most common class of antipsychotics that could predispose to the development of priapism.[9]

We were able to successfully prevent the priapism episodes even while continuing the chlorpromazine by using an alpha agonist drug namely, pseudoephedrine hydrochloride ER.[5] In the absence of further episodes of priapism, we were able to gradually increase the dose of chlorpromazine to 400 mg/day without any recurrence and eventually patient was successfully discharged to the community. It's difficult to speculate if early use of the pseudoephedrine could have allowed the continuation of other psychotropics such as olanzapine or lurasidone, or lithium and prevented the development of stuttering priapism in this patient.

Conclusion

Priapism is a rare but serious side effect that could be induced by both first and second-generation antipsychotic medications. Stuttering priapism is a poorly understood phenomenon. With increasing prescriptions of typical and atypical antipsychotics in various psychiatric disorders, clinicians must become aware of this medical emergency. It is imperative that clinicians recognize priapism early and refer patients to urology to utilize available remedies to prevent further medical and psychiatric sequelae. Even though the therapeutic options are limited, clinicians could consider pseudoephedrine as a prophylactic pharmacological agent in the treatment of stuttering priapism. ✤

Conflicts of Interest and Source of funding

None

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