CASE REPORT

ANDROLOGY

Priapism associated with novel psychoactive substance abuse

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Citation: Jones P, Rai BP, Doig S, Ahammed N. Priapism associated with novel psychoactive substance abuse. Cent European J Urol. 2015; 68: 447-449.

Article history
Submitted: June 23, 2015
Accepted: Oct. 6, 2015
Published on-line: Nov. 4, 2015

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Priapism is a time-dependent emergency, which can lead to marked adverse effects on erectile function. We present the case of a patient with bipolar disorder who consumed a novel psychoactive substance, as well as an illegal substitute for sildenafil citrate. History revealed erectile dysfunction most likely secondary to hyperprolactinaema. This case, therefore, raises the question of whether this patient demographic should be routinely screened for this complaint.

Key Words: priapism ‹› substance-related disorders ‹› erectile dysfunction

INTRODUCTION

The term priapism refers to a state of persistent penile erection, which is not typically associated with sexual stimulation. It is unpredictable and rare, with an estimated incidence of 0.5–0.9 cases per 100 000 [1]. Lack of immediate intervention can result in marked chronic sequelae as a result of irreversible, fibrotic changes to the cavernosal tissues [2]. Accordingly, it is an unequivocal, time-dependent urological emergency. The aetiology of this pathological condition is often idiopathic. Potential precipitants, however, include certain medications such as oral anti-hypertensive agents, as well as haematopoetic disorders and neoplastic syndromes [3]. Priapism is typically categorised into two forms: ischaemic (low-flow or veno-occlusive) and arterial (high-flow or non-ischaemic). The former accounts for the majority of cases (>95%) and is secondary to veno-occlusion. It presents with a rigid and painful erection, which warrants emergency treatment. Blood gas analysis reveals acidosis and hypoxia [4]. Arterial priapism is usually due to trauma with resultant fistula formation and is characterised by a semi-rigid erection, which is painless and mostly self-limiting [5].

We present the case of a patient who developed ischaemic priapism after consuming 'Kamagra', a preparation with allegedly similar vasoactive properties to sildenafil citrate, but illegal in the United Kingdom (UK). The individual had also taken a substance known as 'Psyclone', a potent, synthetic cannabinoid with amphetamine-like effects. At present, it is sold in the UK and carries the status of a 'legal high', also termed a novel psychoactive substance (NPS). Although there have been previous published reports of the association between priapism and the ingestion of both psychoactive substances (e.g. cocaine) and psychotropic medication [4], to our knowledge this is the first case to highlight the potential synergistic effect of these two novel drugs.

CASE REPORT

At the time of presentation, the patient was a 30-year-old gentleman, an inpatient in a secure mental health unit. He had a long-standing diagnosis

doi: 10.5173/ceju.2015.676

of bipolar disorder and was being treated with depot antipsychotic medication, zuclupenthixol decanoate. He had previously been admitted to a medical unit with profound tachycardia after ingestion of the same NPS, but without a previous history of priapism.

On this occasion, he presented in distress, approximately 16 hours after consumption of the above-mentioned agents (testing positive for both on urine toxicology). He stated the erection had developed shortly after substance intake, but that it had not resolved and was causing him severe pain at the site. Clinical examination revealed a rigid erection and the patient was transferred to a surgical unit, where a diagnosis of ischaemic priapism was confirmed by serum testing, cavernous blood gas sampling and color duplex ultrasonography. Decompression by aspiration and subsequent intracavernous injection of sympathomimetics (phenylephrine 200 micrograms) delivered only partial detumescence. Distal shunting (Winter) was unsuccessful and the patient had to be transferred to a specialist urology centre, where he then underwent proximal shunting (Grayhack) with satisfactory results. During the early recovery period, the patient consumed the same NPS and had to be readmitted to the surgical unit with ischaemic priapism. The empirical treatment of therapeutic aspiration, sympathomimetics and surgical shunting was repeated. Though this improved the acute clinical condition, further examination revealed oedema, ecchymosis and early fibrotic changes. These stigmata are known to mimic unresolved priapism on inspection [6]. No further follow-up information is available on his recovery at this point, but it is expected he will need to undergo implantation of a prosthesis in the future.

DISCUSSION

A review of the literature reveals a limited number of documented examples linking priapism with psychotropic medication, such as in cases of overdose [7, 8]. As the patient has been on this medication for a long time, it is unlikely to be the direct precipitant in this case, but may have been a contributing factor. Laboratory testing showed elevated prolactin levels (>600 mU/L), which were most likely secondary to his antipsychotic medication. The effects of hyperprolactinaema include erectile dysfunction (ED), infertility and gynaecomastia. A detailed patient history later revealed the patient suffered from ED, but had never communicated it to a health professional. Of note, this patient experienced recurrence of symptoms requiring intervention, despite undergoing aggressive shunt surgery. Nixon et al. have previously highlighted that reoperation in the form of repeat distal shunting may be required if the surgical communication created by the shunt fails to remain established [9]. In this case, it appeared likely that a strong contributing factor was the patient's poor compliance with postoperative instructions and, most notably, the repeated consumption of the aforementioned NPS.

This case, therefore, presents the clinician with a number of points worthy of consideration. Firstly, whether patients, on long-term psychotropic medication, should be formally screened using a validated tool such as a tailored version of the International Index of Erectile Function (IIEF) questionnaire [10]. Suitable candidates could then be offered the appropriate, licensed pharmacotherapy. Secondly, novel psychoactive substances are an emerging problem for mental health services as they are easily accessible in the public domain and their use appears to often lead to a recurrence of psychiatric symptoms. Finally, given the already increased risk of suicide associated with his mental health, such an adverse event in a patient may exacerbate this risk further, as he starts to acknowledge the lasting nature of his erectile dysfunction. Even more so in a young male, whose social history reveals the particular importance of sexual virility. The patient may therefore require careful counselling and sensitive management. Formal screening of ED for those on antipsychotic medication does not take place routinely in UK psychiatric institutes. Cases such as this one draw attention to the possibility of formal implementation of such practice for this patient demographic.

CONCLUSIONS

This article points to the possible synergistic effect of an illegal substitute for sildenafil citrate with a NPS leading to ischaemic priapism. The patient was suffering from previously undisclosed ED, associated with psychotropic-induced hyperprolactinaemia. Consideration should be given to possible routine formal screening of ED for those on antipsychotic medication.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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