

Performance and Image Enhancing Drug-induced Mania: A Case Report

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ABSTRACT

Performance and Image Enhancing Drugs (PIEDs) encompass substances commonly used to achieve a higher Fat-Free Mass Index (FFMI) and increase muscle bulk. Several case reports and small studies suggest that anabolic steroids may amplify irritability and aggression.

A young, male, bodybuilder was presented to the emergency department with 8 days history of talkativeness, reduced need for sleep, irritability, elevated mood, aggression, increased self-esteem, goal-directed activities, and grandiose delusions.

Our case report shows the necessity to prescribe Electro-Convulsive Therapy (ECT) to bring the patient into remission after the inadequacy of conventional treatment approach.

Keywords: Electro-Convulsive Therapy; Fat-Free Mass Index; Anabolic steroids; Delusions

INTRODUCTION

Performance and Image Enhancing Drugs (PIEDs) encompass a plethora of substances commonly used to achieve a higher Fat-Free Mass Index (FFMI) and increase muscle bulk. Their usage is frequently found amongst non-athlete bodybuilders and weightlifters where monitoring of its use as a performance enhancer goes generally unregulated. PIEDs include Androgenic-Anabolic Steroids (AAS) that promote skeletal muscle growth and development of male sexual characteristics, non-steroidal anabolics as well as ergo/thermogenics like xanthines, sympathomimetics, and thyroid hormones [1].

Several case reports and small studies suggest that anabolic steroids may amplify irritability and aggression, but its causal link remains unproven and may be confounded by overrepresentation of pre-morbid personality traits of antisocial, borderline, or histrionic types [2]. There is an association between mania, hypomania [3], and major depression [3,4] with moderate to high intake of anabolic steroids.

CASE PRESENTATION

A 24-year-old, single, male, bodybuilder was presented to the emergency department with 8 days history of increased talkativeness, reduced need for sleep, irritability interspersed with elevated mood, aggression with minimal provocation, increased self-esteem, increased goal-directed activities, and grandiose delusions. The patient described himself as having been able to convert Mahatma Gandhi to Islam and that he was on a secret mission to convert the world population. There was no family history of mental illness and no previous history of any major mood symptoms. The family members described the patient as a hardworking, ambitious young man who is respectful of his elders prior to the current presentation. During the episode of irritability and aggression, his behaviour was out of character from his usual, pre-morbid self of which he was described to be an assertive young man with a calm demeanour as well as temperament (Figure 1).

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Figure 1: Drug induced mania.

Personal history revealed smoking of cannabis amounting to two joints per week and almost daily use of PIEDs. He had continued to take PIED throughout the 8-day presentation of mood symptoms and the last intake of PIED was on the day of admission. The patient used the stack method by both injecting as well as oral forms of PIEDs for the past 6 years. The combination of PIEDs used included oral stanozolol/methandienone 100 mg daily, 1 ml each of intramuscular testosterone propionate as well as nandrolone decanoate weekly.

His last intake of cannabis was a fortnight prior to presentation and urine drug toxicology was negative for opioids, Tetrahydrocannabinoids (THC), ketamine, benzodiazepines, amphetamines as well as methamphetamines.

Physical examination found the client to have body acne and gynaecomastia but no male balding pattern or reduction in testicular size. Investigations revealed a normal contrast-enhanced CT brain and blood investigations showed normal cortisol, triiodothyroxine, thyroid-stimulating hormone as well as testosterone levels. An attempt was made to send the PIED to the laboratory for an analysis of its content, but the sample amount was insufficient for a thorough analysis.

A diagnosis of anabolic steroid-induced bipolar and related disorder, as well as PIED and cannabis use disorder was made. Pharmacotherapy was commenced with tablet olanzapine up to 20 mg a day, tablet sodium valproate up to 1 g a day and tablet diazepam 10 mg four times a day. Response was inadequate and acute Electro Convulsive Therapy (ECT) was prescribed.

The client achieved remission of symptoms with 6 cycles of ECT and was discharged well with the regime of tablet olanzapine 10 mg twice a day and tablet sodium valproate 400 mg twice a day.

RESULTS AND DISCUSSION

The commonest psychiatric presentation of anabolic steroid abuse is major depression. Other presentations are mania or hypomania and psychosis [5]. Psychiatric or medical attention is frequently sought for depression. Most users do not perceive themselves as needing help for a substance-related disorder despite the need for increased use of PIEDs, presence of withdrawal effects together with medical and psychological adverse effects. They project themselves as health-conscious

individuals with more than 50% of users choosing not to report to their doctors about it [6].

In animal models, androgenic anabolic steroids have been shown to increase serotonin levels in regions of the brain controlling mood [7] and dopamine levels in reward-related areas [7,8].

The standard treatment regime for acute cases of mania induced by anabolic steroids appears to be sufficient to achieve remission. However, our case report shows the necessity to prescribe Electro-Convulsive Therapy (ECT) to bring the patient into remission after the inadequacy of conventional treatment approach. Moreover, maintenance of wellness is contingent upon abstinence from the offending substance. This case highlights the importance of Motivational Interviewing as well as harm reduction techniques in the holistic management of PIED use disorder. Psychotherapies may be necessary to address any underlying body dysmorphic disorders, specifically muscle dysmorphia. There is a role for a multidisciplinary management for endocrine therapies to restore function in those affected by hypogonadism and to alleviate depressive symptoms [1].

Due to the lack of awareness about PIEDs use having deleterious psychiatric as well as medical impact amongst its users in the local population, there is a pressing need to propagate and disseminate more information about it. The true extent of local PIEDs use and its effects should be explored, and interventions commenced accordingly.

CONCLUSION

Moderate to high amounts of PIEDs use is associated with the development of manic symptoms. In the current case, the absence of both family and personal history of mood disorders is suggestive of PIEDs as the likely cause. On the other hand, the role of cannabis in predisposing or even precipitating psychological disturbances should also be taken into consideration. However, continuous follow-up is necessary to determine if the mood disorder is related to PIEDs exclusively or is a factor unmasking a hitherto undiagnosed functional mood disorder.

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