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Case report

A rare case of corticosteroid induced psychosis

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Abstract

Corticosteroids are widely used and highly effective in a number of medical conditions. Though the occurrence of psychiatric symptoms following therapeutic use of steroids has been documented many times in the past, occurrence of psychosis following steroid abuse is rare. Here we report the case of a 38 year old male who presented with psychotic symptoms induced by dexamethasone abuse.

Key words: Corticosteroid abuse, Induced psychosis

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Following isolation of cortisone from the adrenal cortex by Edward Kendall in 1930's and its first use by Philip Hench to treat rheumatoid arthritis in 1948, corticosteroids have come a long way and are now the mainstay of treatment for many neurological, respiratory, gastrointestinal, renal, endocrinal, hematological, rheumatological, dermatological, ophthalmic, neoplastic and allergic conditions with over 10 million new prescriptions annually[1,2].

Corticosteroid use is associated with serious adverse effects both physiologic and psychological. While the physiologic adverse effects have been extensively researched and described, neuropsychiatric adverse effects have received less attention. The psychiatric conditions associated with corticosteroid treatment include mood disorders, anxiety and panic disorder, delirium, suicidal ideas and attempts, aggressive behaviour, insomnia and agitation with clear consciousness, depersonalization; and, isolated cognitive impairments. In addition, the existence of a reversible, corticosteroid-induced dementia has also been confirmed[2]. These adverse effects are complex, unpredictable and often severe.

The psychiatric symptoms associated with corticosteroids are more often associated with the therapeutic use. Very rarely have corticosteroids have been abused for their euphoria-producing effects, producing drug dependency[3-6]. Here we report the case of a 38-year-old male who abused dexamethasone for purposes of weight gain and presented with steroid induced psychosis.

Case report

A 38-year-old male working in a call centre and pursuing MBA, a native of Delhi had shifted to Chennai one year ago for his job and was staying along with his colleagues. He was brought by his friends with complaints of sleep disturbance, reduced appetite, irritability, abusiveness, suspiciousness towards co-workers, and hearing of voices for past 3 days.

On detailed evaluation it was found that the patient was taking dexamethasone tablets (0.5mg) around 10-12 tabs (5-6 mg/ day) every day since last 6

months without any physician's prescriptions. The tablets were suggested by one of his friends as he was very thin, and these tablets would help him gain a better and muscular physical appearance. Initially the patient used to consume around 1-2 tablets a day (1mg/day) and he used to experience mild elation due to it and felt he was functioning better. Gradually he increased the use to around 6 mg/day and was unable to function without the tablets. He tried to quit his habit of consuming these tablets but was not successful. He would have disturbed sleep, reduced appetite, fatigability and headache. He would get these symptoms a day after stopping tablets and would be relieved only on restarting those tablets. He even tried to take tablets every alternate day but still was experiencing difficulties and so would take them daily. The last use was 5 days before presenting to the psychiatric OP.

There was no significant illness of the similar nature in the past and there was no family history of a psychiatric illness as well.

On Mental Status Examination, patient was found to be distractible with an increased psychomotor activity. He had delusions of persecution against his colleagues and second person auditory hallucinations of the commanding type. His mood was dysphoric, and affect was irritable. Insight was absent.

Complete blood count, liver function, kidney function and blood sugars were found to be normal. Neurology opinion was obtained, and no intervention was advised. Patient was diagnosed having steroid induced psychotic disorder.

The patient was managed on an outpatient basis. He was advised to completely abstain from all the drugs he was taking. He was started on olanzapine 10 mg in divided doses for his psychotic symptoms, trihexyphenidyl 2mg to avoid any extrapyramidal side effects which may result due to olanzapine and diazepam 5mg for his sleep disturbance. In addition to Pharmacotherapy which was continued for 6 months, 6 sessions of motivational enhancement therapy were given weekly for 6weeks. Patient followed up with us regularly every 2 weeks. At 6 months, patient had improved and was maintaining well and had completely abstained from the drugs.

Discussion

Psychiatric manifestations following corticosteroid use usually occurs in the first 3 weeks and late onset psychosis is uncommon[6]. Severe psychiatric symptoms occur and are mostly dose dependent. The clinical picture is often an admixture of affective, behavioural and cognitive features with symptoms changing from one moment to another[7]. Severe psychiatric symptoms occur in approximately 5-10% of steroid treated cases. Boston collaborative study gives a figure of 3% for the incidence of steroid induced psychosis[8].

The pathophysiology is poorly understood, and the effects of corticosteroids may be due to the wide expression of Glucocorticoid Receptors in the brain and their long term modulation which can lead to functional alterations which may be responsible for the psychiatric effects[9].

Anabolic-androgenic steroids are muscle building steroids with masculinizing properties, which are abused by athletes and body builders with the intention of gaining a muscular appearance[10]. However corticosteroids have no muscle building properties and low abuse potential. Our patient started abusing dexamethasone with the misconception that it would provide him with a better appearance and physique. The patient in this case probably took the drug not as a need for abuse but rather to satisfy his desire to gain weight. The abuse potential of Dexamethasone is negligible and hence the chance of abuse and getting a high is low. Yet there is a chance that the patients may take more than the required dosage of these drugs to benefit from the positive effects. This is an area that clinicians must be aware of.

Once a diagnosis is made and treatment instituted, the literature suggests that a complete recovery is likely to occur in 90% of patients. Most patient recover with discontinuation of steroids and on starting treatment with antipsychotic medication[8,11,12]. In recurrent and persistent cases, ECT may be required.[8]Prognosis is reported to be good. Our case responded well to the combination of pharmacological and psychological interventions.

Although corticosteroid induced psychosis is not uncommon, almost all of them involve corticosteroid use for medical purposes. According to our literature search we found only two cases wherein the psychotic symptoms resulted after abuse of dexamethasone for purposes of gaining weight and obtaining a muscular physique[5,6]. Only one amongst those cases presented with psychotic symptoms[6].

Conclusion

Corticosteroids generally have low abuse potential, but there are chances of individuals abusing it for their euphoria producing effects and subsequently developing psychiatric disturbances. The literature

on this topic is entirely composed of case reports. Controlled studies are needed for further understanding of corticosteroid abuse, their induced psychiatric adverse effects and their management.

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Conflict of interest: None

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