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POST-INJECTION DELIRIUM/SEDATION SYNDROME FOLLOWING LONG-ACTING INJECTION OF OLANZAPINE

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ABSTRACT Long-acting injection of Olanzapine is one of the most common depot antipsychotic preparation used in psychiatric patients with chronic psychosis in the Indian scenario as it is an affordable and efficacious alternative to oral antipsychotic medication. Although uncommon (0.07%), post-injection delirium/sedation syndrome is a serious adverse effect of long-acting injection of olanzapine. The following case report presents a 44-year old male who is a known case of bipolar affective disorder with history of irregular medication intake and had presented in manic episode. Upon receiving long-acting injection of Olanzapine, the patient developed restlessness, drowsiness and eventually sedation with tachycardia and hypertension. The patient was provided supportive treatment and his vital parameters closely monitored. He regained full consciousness within 24hours and was followed up on 3rd day.
Therefore, it is of utmost importance to have a high index of suspicion and adequate knowledge and clinical skills to promptly identify and effectively manage the condition.

KEYWORDS : Long-acting injection, Olanzapine, Post Injection Delirium/Sedation Syndrome

INTRODUCTION:

One of the biggest challenges of treating psychosis, which usually requires long-term treatment, is ensuring the compliance and adherence to medication. Poor compliance is associated with recurrent relapse and poor outcome. One of the solutions to this challenge is long-acting injection (LAI) of antipsychotic. The advantages of LAI include a steady state plasma concentration and lesser active on part of the patient with respect to dosing. Studies show the fewer chances of hospitalizations in patients who are on LAI compared to those who are on oral medication.[1]

LAI olanzapine pamoate is one of the most affordable LAI available in Indian market and its efficacy and side-effect profile is similar to oral olanzapine except for the occurrence of post-injection delirium/ sedation syndrome (PDSS) with LAI olanzapine.[2]

PDSS also known as Post Injection Syndrome is a rare and severe adverse effect following LAI Olanzapine and occurs following 0.07% of injections.[3]

Following is a case report of a patient who developed PDSS following LAI olanzapine pamoate administration.

CASE REPORT:

A 44-year old man presented in the OPD with symptoms of decreased sleep, increase in goal-directed activities, talkativeness, assertiveness, aggression on slightest provocation, grandiose claims and increased consumption of betelnuts since 7 days. The symptoms began suddenly following the demise of his elder sister around 8 days back. The patient had been previously diagnosed with bipolar affective disorder since past 10 years and has had multiple episodes, mostly manic in the past. The last episode occurred 1 year ago and had lasted for a period of 3 months.

He had been on oral psychotropic medications all these years, however, the compliance to medication was very poor as per the accompanying member of the family. On all episodes, he had taken the medication only until a short period following remission of the episodes and discontinued the medication abruptly without medical supervision. Currently, he had been off psychotropics since 8 months. He was a known hypertensive on regular antihypertensive.

Citing the compliance issue, he was decided to be put on a long-acting injection (LAI) of antipsychotic. He was administered LAI Olanzapine pamoate 405 mg intramuscularly by a trained nurse in the in-patient setting after observing all antiseptic and aseptic measures. Within 10 minutes of administration of LAI, the patient developed restlessness, agitation and drowsiness, followed by sedation. Upon examination, he had tachycardia (heart rate 120-140 bpm), raised blood pressure (190/110 mm Hg) with rest of the general examination findings within normal limit. He had a decreased response to painful stimuli and mostly responded with incoherent mutterings.

The patient was given supportive treatment in the form of intravenous fluids and his vitals and urinary output were closely monitored which revealed fluctuations in blood pressure. His capillary oxygen saturation was consistently maintained over 95% in room air. His routine blood investigations revealed no abnormality except a slight decrease in serum sodium level (132 mEq/L). His echocardiogram finding was within normal limit.

The patient regained full consciousness within 24 hours. Upon assessment after 24 hours, he was conscious and fully oriented to time, place and person, had relevant speech with slightly irritable mood.

In view of the absence of any other medical comorbidity apart from hypertension, and any other drug or infection and considering the temporal association with the LAI, the patient was suspected to have developed post-injection delirium/ sedation syndrome (PDSS) with LAI Olanzapine. The patient was discharged after 48 hours. On assessment on 3rd day of discharge, the patient was found to maintain improvement on discharge.

DISCUSSION:

Olanzapine pamoate is an insoluble salt-based depot formulation that is designed to release olanzapine slowly at the site of the intramuscular gluteal injection over the course of several weeks.[4] Existing literature shows that the time of onset of symptoms is anywhere between 0 to 300 minutes and complete resolution taking place between 1.5 to 72 hours with only supportive management.[2] While sedation and delirium are the most common symptoms, others like ataxia, dysarthria, irritability, confusion and non-specific symptoms like malaise, anxiety and agitation are also seen in the patients of PDSS.[2] Previous studies have shown raised serum olanzapine in all the patients of PDSS and this along with the similarities of signs and symptoms among those with olanzapine overdose, suggests that the most likely mechanism of PDSS is the accidental entry of large amounts of drug into the blood stream.[4] Although there is no specific risk factor, few studies have mentioned low body mass index and advancing age as risk factors.[5]

Some reports mention the use of benzodiazepines and anti-hypertensives for symptomatic management, however, there is no definite plan of management.[3]

SUMMARY: Thus, the present case report highlights the importance to having the knowledge and clinical skills to promptly identify and effectively manage the condition.

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CONSENT STATEMENT: Written informed consent was obtained from patient and his guardian prior to making the report.

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