

Mephentermine Dependence: Emerging Trend of Substance Abuse and its Challenges

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Abstract

Dependence on Mephentermine, a widely used sympathomimetic pressor agent, is so far not extensively reported. In current report, we describe a male patient consuming extraordinary high amount of Mephentermine who developed psychosis which was successfully treated but relapsed after 5 months. In this background we also tried to highlight this trend of shift from more traditional drugs to new synthetic ones and look into the magnitude of the problem and challenges that lie ahead of us.

Keywords: Dependence, Mephentermine, Psychosis, Relapse, Trend

1. Introduction

In recent times, new synthetic substances have been added to the list of drugs with abuse potential and more individuals have shifted to these easily available drugs revealing newer trends and patterns of substance abuse. Misuse of drugs especially of stimulants and anabolic steroids by young population to enhance performance has gained much attention in the past years. Mephentermine is methamphetamine, derivative of stimulant drug an amphetamine. It is used as a vasopressor agent with a sympathomimetic action, primarily causing release of noradrenaline and increasing cardiac output. It is available in India as 10 mg oral tablets and also as intramuscular or intravenous injection of 15 mg/ml or 30 mg/ml. The injectable preparation is indicated for the short-term treatment of various hypotensive states, usually in the acute or emergency phase, e.g., shock or hypotension accompanying myocardial infarction or other severe medical illnesses, spinal anaesthesia or surgical procedures. The standard parenteral dose range

is 15-60 mg/day either as injection or intravenous infusion. Like amphetamines, it has also shown to increase athletic performance in strength exercises and endurance in a dose of 14 mg/70 kg body weight.^[1] Our search in literature shows that only seven cases of Mephentermine dependence with or without psychosis from India have been reported till now and further, young people are misusing this substance for the purpose of better physical performance in competitive sports, body building or as alternate drug abuse.^[2-4] In current report, we report a middle aged man with Mephentermine dependence injecting very high doses of substance that developed psychosis, was successfully treated but reported back with relapse.

2. Case Report

A 35 years old married male, matriculate from rural area belonging to middle income group reported to Psychiatry department of Government Medical College, Patiala with history of administration of injection Mephentermine for last four years with marked aggressive and violent

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behaviour. Patient was a kabaddi player since 2005 and represented a town club. In 2012, he shifted to another club, where he was introduced to injection Mephentermine by his coach to enhance his performance and suggested that it was used by most of the players in the team. Initially, it was being procured and administered by his coach in a dose of 15mg daily intramuscularly which reached to a dose of 90mg in about two months. In a span of one year, he started purchasing Mephentermine on his own and self injecting 900mg daily in 6 divided doses. He was advised against using such high amount of Mephentermine by his fellow players and coach but he was unable to cut down the dose as he felt intense craving, restlessness and lassitude. Gradually, there was increased aggressiveness in his behaviour and he had frequent verbal spats with other players and his family members over trivial issues. In 2013, he was dropped from the team on disciplinary grounds. He developed suspiciousness towards his teammates that they were conspiring against him and they would kill him. Once he jumped out of running train sustaining serious injuries on suspicion that he was being followed. When he was brought to our department, he was consuming 1200mg of Mephentermine daily for the preceding 8 months. On general examination, there were multiple injection marks over his both forearms and lateral aspect of both thighs. Cardiovascular examination revealed tachycardia (100-120 beats per minute). His systolic blood pressure was 140-152 mmHg and diastolic pressure 86-100 mmHg at different times and body positions). Haemogram, liver function tests, and renal function tests were normal. Electrocardiogram was suggestive of sinus tachycardia. No abnormality was detected on CNS examination. On mental state examination, he appeared aggressive but apprehensive. He had delusions of reference and persecution. He reported hearing of threatening voices suggestive of auditory hallucinations. He clearly demonstrated ICD-10 substance dependence syndrome by meeting the required criteria: strong desire or sense of compulsion to use the substance, impaired control, withdrawal, tolerance and persistence despite harm.^[5] He was successfully treated with sodium valproate 1000 mg/day, haloperidol 30mg/day and lorazepam 6 to 8 mg/day in divided doses which were gradually reduced as the patient improved. He was also given antibiotics for infection at injection sites on forearms, vitamins and intravenous fluids. He was discharged after one month but patient reported back after 5 months with relapse and

similar symptom profile. His further treatment protocol was planned to keep him under supervision for longer period but patient was not willing for admission again. He was therefore, advised to continue same medications and attend regular psychotherapy sessions but patient did not report for follow up visit as suggested.

3. Discussion

Our aim here is to highlight the relevance of a theme that is certainly more frequent than what is shown by the data currently available and is associated with clinical and social issues and challenges ahead of us. Our research did not found mention of any such case from the state of Punjab. This case is unique in the sense that this is the first case being reported from Punjab with Mephentermine dependence where much of the effort is still focussed on identifying and treating the traditional drugs of abuse. Secondly, this is the second case which is being reported with consumption of such a high dose, other one been from Drug de-addiction and treatment centre, PGI, Chandigarh.^[5] Moreover, current patient was treated successfully but reported back with relapse after 5 months which warrants more constructive and thorough approach.

The misuse of Mephentermine can bring about major clinical implications, which may include secondary hypertension and a myriad of cardiovascular diseases such as arrhythmias and sudden death syndrome.^[6] Mephentermine use on long term basis increases the risk of developing dependence and has more chances of relapse due to craving induced by repeated exposure of drug. Cases such as this may be common among the general public. The extensive use of these substances may warrant testing for these drugs on a more routine basis by drug monitoring programs. The healthcare community should, by all means, conduct surveys to identify new kinds of stimulants that are now increasingly abused. Furthermore, we support the establishment of a public health program whose goal would be to disseminate information about the risks involved to both users and non-users, as well as to provide specific treatment to already dependent patients and appropriate training to human resources so as to better prepare them to deal with these cases. To know course and outcome in such unusual cases, studies with long term follow-up are required.

4. References

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