The International Journal of Indian Psychology
ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print)
Volume 9, Issue 3, July- September, 2021
DIP: 18.01.056.20210903, DOI: 10.25215/0903.056
http://www.ijip.in

Case Study

Alcohol and Midazolam Dependence Syndrome

Deepika Makkar[1]*, Masood Maqbool[2], Ashish Khandelwal[3]

ABSTRACT

Alcohol dependence syndrome is one of the commonest substances abused around the world and often other substances are abused along with it. Benzodiazepines are readily available and are cost-effective and thus become the choice of drug abuse along with alcohol. There are many studies on commonly abused benzodiazepines along with alcohol but less has been reported on the abuse of short-acting Midazolam along with alcohol dependence syndrome.

Keywords: *Alcohol, Midazolam, Dependence*

Alcohol addiction is one of the most common addictions that are on a continuous rise. Polydrug abuse is also reported among patients with alcohol addiction. Benzodiazepines are one of the most common abused substances along with alcohol abuse. Consumption of benzodiazepines either enhances the pleasurable effect of alcohol and it also helps patients to deal effectively with the withdrawal effects of alcohol abuse (Longo & Johnson, 2000; Sattar & Bhatia, 2003). There is very scarce data on the dependence of midazolam, especially from India. The index case report describes abuse of midazolam along with alcohol.

Case History

Index client RT, 32 years of age, 70 Kgs of body weight, married since 2003, property dealer by profession, belonging to middle socioeconomic status was admitted to De-addiction centre with the complaints of abusing Whisky and Midazolam, palpitations, restlessness, doesn't go to his work. Family history is suggestive of Alcohol dependence syndrome in father and both maternal and paternal uncles. Index patient first consumed alcohol at the age of 7 years and was into regular abuse since 2005. In 2011, he had an anxiety attack and was treated with Injection Midazolam 2ml at the hospital. After around five days had similar anxiety symptoms with increased Blood Pressure and he started injecting midazolam over the counter. Subsequently, his abuse increased day by day and he would inject midazolam and after that would consume Whisky, his appetite would increase and he would feel at rest and ease.

[1]Consultant Psychiatrist, Sukoon Psychiatric Clinic, Faridabad, India
[2]Clinical Psychologist, Sukoon Psychiatric Clinic, Faridabad, India
[3]Consultant Psychiatrist, Sukoon Psychiatric Clinic, Faridabad, India
*Corresponding Author

Received: May 22, 2021; Revision Received: July 24, 2021; Accepted: August 14, 2021

Withdrawal symptoms like restlessness, anxiety, pain in extremities, palpitation, increased sweating, fear of heights, stiffness of muscles, and thrice Grand mal withdrawal seizures were reported. He was prescribed Thiamine 300 mg, pantoprazole 80 mg, carbamazepine 400mg, Zolpidem 10mg, multivitamin and minerals on the first day. By the end of the first day, he was very restless and his BP was high (210/115 mmHg) and was in extreme anxiety. He was given 2 mg of midazolam and was further prescribed Propranolol 40mg twice a day. Soon his blood pressure was normal and he was feeling relatively better. Midazolam was never given as withdrawal symptoms were well manageable with other medications. His condition improved and the same treatment was given for a week. The second-week propranolol was stopped and pantoprazole was reduced to 40mg once a day.

Subsequently, he was considered for Motivational Enhancement Therapy. He was in the contemplation stage of motivation and his goal was to increase his motivational levels. He was also taught relapse prevention strategies. He was also instructed to perform deep breathing exercises along with different mindfulness practices. At the time of discharge, he was in the action stage of motivation and was ready to deal with factors associated with lapse or relapse. He was discharged by the end of the third week of hospitalization after regular Motivational Enhancement Therapy sessions with all blood investigations within normal limits.

DISCUSSION

Benzodiazepines are used as anxiolytics, sedatives or hypnotics, and muscle relaxants (Ashton, 2005). Alcohol abuse is one of the commonest abused substances in most parts of the world either because of its easy availability or because of its acceptance in many societies. Alcohol is many times abused along with opioids, cannabis or benzodiazepines and abusing benzodiazepine is one of the common alternatives for patients with multiple substance abuses. Research reports thirty to fifty per cent of patients with alcohol dependence syndrome also abuse benzodiazepines (Sattar & Bhatia, 2003). Benzodiazepines are abused along with other substances either to enhance the pleasurable effects and elation or to overcome the negative consequences of the other abused substances and thus they easily develop benzodiazepine dependence (Sattar & Bhatia, 2003).

There are many studies depicting abuse of common benzodiazepines like diazepam and lorazepam along with alcohol but literature is scarce regarding the dependence on alcohol particularly with short-acting benzodiazepine, midazolam. Our literature could find only a few articles (Kerr et. al., 2010; Perera & Lim, 1998) and couldn't find any from India.

Midazolam is mostly used during pre or post-operative procedures to achieve sedation (Hanaoka et. al., 2002). It was found to be efficacious than other benzodiazepines in dealing with status epileptics (Silbergleit et. al., 2012). It is also used safely in dental surgeries (Masuda et. al., 2017) even in paediatric population (Ghajari et. al., 2016). Despite its benefits, animal studies have reported having addictive properties (Falk & Tang, 1985) and may develop physical dependency among humans after continuous use (Kerr et. al., 2010). The abuse of midazolam has reportedly been increased at places with easy availability and less cost (Kerr et. al., 2010).

The index case is presenting with diathesis for substance abuse, a possible reason for his early use and abuse of alcohol and midazolam. Midazolam seemed to have helped him in dealing with a supposed withdrawal state of alcohol dependence and he started taking midazolam without the doctor's advice. Index patient responded well to the detoxification

phase. He had a high level of anxiety (score= 25) as measured by Hamilton Anxiety Rating Scale. His score on Clinical Institute Withdrawal Assessment Scale-Benzodiazepines (CIWA-B) was 37 suggesting Moderate withdrawal. On Clinical Institute Withdrawal Assessment of Alcohol Scale-Revised (CIWA-Ar) were 25 suggesting significant alcohol withdrawal symptoms needing medical attention. Though It is difficult to comment on to what extend both substances had contributed to his withdrawal state as both can emit more or less similar withdrawal states.

With the known history of withdrawal seizures, though this time he didn't have any withdrawal seizures, he was put on carbamazepine as it is also found to help people in withdrawal phase (Barrons & Roberts, 2010) and though studies show mixed findings on its use in the prevention of withdrawal seizures. He had high blood pressure and on the second day of his admission, his blood pressure was normal while Studies reported low blood pressure on the administration of midazolam (Hanaoka et. al., 2002). His high blood pressure can be explained by the severe withdrawal state. There is a need to understand the risk of prescribing short-acting benzodiazepines like midazolam among patients with substance abuse and other alternatives under close supervision should be rather considered.

REFERENCES

Ashton, H. (2005). The diagnosis and management of benzodiazepine dependence. *Current opinion in Psychiatry*, *18*(3), 249-255.

Barrons, R., & Roberts, N. (2010). The role of carbamazepine and oxcarbazepine in alcohol withdrawal syndrome. *Journal of clinical pharmacy and therapeutics*, *35*(2), 153-167.

Falk, J. L., & Tang, M. (1985). Midazolam oral self-administration. *Drug and alcohol dependence*, *15*(1-2), 151-163.

Ghajari, M. F., Ansari, G., Hasanbeygi, L., & Shayeghi, S. (2016). Conscious sedation efficacy of 0.3 and 0.5 mg/kg oral midazolam for three- to six-year-old uncooperative children undergoing dental treatment: A Clinical trial. *Journal of Dentistry (Tehran, Iran)*, *13*(2), 101.

Hanaoka, K., Namiki, A., Dohi, S., Koga, Y., Yuge, O., Kayanuma, Y., ... & Kusunoki, T. (2002). A dose-ranging study of midazolam for postoperative sedation of patients: a randomized, double-blind, placebo-controlled trial. *Critical care medicine*, *30*(6), 1256-1260.

Kerr, T., Kiatying-Angsulee, N., Fairbairn, N., Hayashi, K., Suwannawong, P., Kaplan, K., ... & Wood, E. (2010). High rates of midazolam injection among drug users in Bangkok, Thailand. *Harm Reduction Journal*, *7*(1), 1-6.

Longo, L. P., & Johnson, B. (2000). Addiction: Part I. Benzodiazepines-side effects, abuse risk and alternatives. *American family physician*, *61*(7), 2121.

Masuda, R., Nonaka, M., Nishimura, A., Gotoh, K., Oka, S., & Iijima, T. (2017). Optimal and safe standard doses of midazolam and propofol to achieve patient and doctor satisfaction with dental treatment: A prospective cohort study. *PloS one*, *12*(2), e0171627.

Perera, I., & Lim, L. (1998). Amineptine and midazolam dependence. *Singapore medical journal*, *39*(3), 129-131.

Sattar, S. P., & Bhatia, S. (2003). Benzodiazepines for substance abusers. *Current Psychiatry*, *2*(5), 25-34.

Silbergleit, R., Durkalski, V., Lowenstein, D., Conwit, R., Pancioli, A., Palesch, Y., & Barsan, W. (2012). Intramuscular versus intravenous therapy for prehospital status epilepticus. *New England journal of medicine*, *366*(7), 591-600.

Acknowledgement
The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest
The author(s) declared no conflict of interest.

How to cite this article: Makkar D, Maqbool M & Khandelwal A (2021). Alcohol and Midazolam Dependence Syndrome. *International Journal of Indian Psychology*, *9*(3), 573-576. DIP:18.01.056.20210903, DOI:10.25215/0903.056