

A Case Report on Zolpidem Abuse: Dependence and Withdrawal Syndrome

Swathi Dudyala, Ramesh Kumar Reddy P, Siddarama R

Department of Pharmacy Practice, CES College of Pharmacy, Kurnool, Andhra Pradesh, India

ABSTRACT

This case report describes a case of zolpidem abuse, dependency and withdrawal syndrome in 25 years old male patient who is having history of insomnia and depression. He was abused zolpidem higher doses 150 mg/day for 8 months and withdrawn suddenly. After 24 hours of withdrawal of high dose zolpidem it induced seizures. Seizures were treated with phenytoin and detoxification with diazepam. To avoid these complications by using zolpidem counselling is necessary regarding drug, dose, adverse effects and withdrawal syndrome. It is the responsibility of the clinical pharmacist to counsel patient.

Key words: Zolpidem; abuse; dependence; withdrawal syndrome; seizures

Correspondence:

Swathi Dudyala, PharmD Intern,
Department of Pharmacy Practice, CES
College of Pharmacy, Kurnool, Andhra
Pradesh, India.
E-mail: swathidudyala5@gmail.com

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INTRODUCTION

Zolpidem (N,N,6-trimethyl-2[4-methyl-phenyl] imidazo[1,2-a]pyridine-3-acetamide hemitartrate) hypnotic agent that belongs to the imidazopyridine class.^[1,2] Insomnia is commonly treated by zolpidem.^[3,4] In 1986 zolpidem was introduced in Europe for treating insomnia, latter it was introduced in France in 1987 and in USA in 1993.^[5] In 1970's the benzodiazepines were developed and are used for the treatment of insomnia and sleep disorders. Because of side effects (somnolence, dizziness, mental confusion, fatigue, rebound insomnia) dependence and abuse of benzodiazepines their use was declined. This stimulates the research on the non-benzodiazepine agents including the cyclopyrrolone agents zopiclone and eszopiclone, the imidazopyridine derivative zolpidem, and the pyrazolopyrimidine compound zaleplon, all of which are now currently indicated for the treatment of insomnia.^[1]

Zolpidem show inhibitory action on the GABA_A receptors and it induce sleep. Zolpidem preserves stage 3 and stage 4 and increasing slow-wave sleep duration when compared with other benzodiazepine agents.^[6] Normally 5-10 mg of zolpidem used for treating insomnia and its half-life is 1.4-4.5 hours.^[7] and it is converted into inactive metabolites and excreted through urine.^[8] According to literature common side effects of zolpidem are dizziness, malaise, agitation, headache, hallucination, nightmares, and nausea.^[3] Suicidal thoughts are also one of the side effects of zolpidem reported by Hejiri *et al.* After using zolpidem 20 mg in 24 years old male patient.^[4] There are many reports on the zolpidem abuse and dependency but seizure complications because of zolpidem withdrawal are less.^[6] Zolpidem withdrawal symptoms are similar as that of benzodiazepines they include insomnia, anxiety, tremor, palpitations and convulsions.^[7] Other withdrawal symptoms are fatigue, nausea, flushing, light headedness, emesis, stomach cramps, panic attack, nervousness, and abdominal discomfort.^[1] So we report a case of zolpidem (150 mg) abuse, dependency and seizure with withdrawal complication.

CASE REPORT

A male patient (25 years old) with known psychiatric illness came to the Vishwa Bharathi Superspeciality hospital with chief complaints of seizures. Previously, he was having multiple personality disorder in 2008 and he was treated by psychiatrist up to 2 years and he was recovered after that he was developed with depression and insomnia because of loneliness. He was treating with zolpidem 10 mg for insomnia along with that Trazodone and divalproex for depression. But the patient abused zolpidem up to 150 mg/day he was addicted with zolpidem since 8 months. During usage of zolpidem 150 mg

patient was experience with hallucinations and suicidal thoughts. After that their parents noticed zolpidem abused by their patient they forced to stop zolpidem over dose. After 24 hours of stopping of zolpidem he got generalised clonic-tonic seizures and drooling of saliva through the mouth during seizure episode. Patient was unconscious for 30 minutes and postictal confusion was present. Other withdrawal symptoms are insomnia, anxiety, restlessness and heaviness of headache. After seizure episode patient was admitted in our hospital. The seizures are treated with phenytoin and Detoxification of high dose of Zolpidem was treated by diazepam.

DISCUSSION

Zolpidem (non benzodiazepine) was synthesized by Synthelabo Recherche in early 1980's used for the treatment of insomnia.^[1] It binds to the A1 ω receptor sub unit of benzodiazepines in CNS which is responsible for hypnotic effects. Because of high doses of zolpidem (>10 mg) it loose its receptor sensitivity and it shows effects on other benzodiazepines receptor subtypes and produce benzodiazepine like action.^[9]

Dependence of the zolpidem is common because it is a commonly prescribing drug for insomnia and abusing of drug also more.^[3,10] In this case study patient took zolpidem over dose that is 150 mg/day. He abused and dependent on zolpidem 150 mg/day since 8 months. During usage of zolpidem, patient had hallucinations and suicidal thoughts and attempted for suicide.

Singh *et al.* reported a case of hallucination in 20 years old female patient who is taking zolpidem 10 mg for insomnia.^[11] Hejri *et al.* have reported a young male case that had used 20 mg of zolpidem and as a result of a change in thoughts; he was committed to suicide by using 60 mg of zolpidem.^[4] Susan *et al.* have reported two case reports on zolpidem induced death. The death is because of suicide.^[2]

Withdrawal of zolpidem can induce withdrawal symptoms such as insomnia, anxiety, tremor palpitations and seizures, these effects are

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similar to benzodiazepines.^[7] In this case report patient experienced insomnia, anxiety and seizures (Generalised clonic-tonic seizures). A 40 years old married female patient was experienced with generalised clonic-tonic seizures after withdrawal of zolpidem which is used for insomnia reported by Chang *et al.*^[10]

CONCLUSION

Abuse, dependency, adverse effects and withdrawal of this zolpidem showing more effect on the patient quality of life. Abuse and dependence of the zolpidem is more in insomnia patients. So proper counselling is required to the patient regarding the drug dose, frequency, adverse effects and sudden withdrawal symptoms. In this counselling section the clinical pharmacist play a major role.

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