CASE REPORT

Zolpidem Dependence : A case report

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ABSTRACT

Zolpidem, a nonbenzodiazepine hypnotic, binds to the benzodiazepine binding site on the gamma-aminobutyric acid type A (GABA-A) receptors. Many studies have reported efficacy and safety of zolpidem in treatment of insomnia, low abuse, and dependence capability. We present a case of zolpidem dependence in a 33-year-old male to emphasize that clinicians should pay close attention to the potential of zolpidem tolerance, abuse and dependence.

Key Word : Zolpidem, Dependence

INRODUCTION

The use of benzodiazepines (BDZs) in the treatment of insomnia has been declining in recent years as a result of studies documenting a series of deleterious effects (addiction, rebound insomnia, etc.). At the same time, the prescription of non-BDZ hypnotics, such as zolpidem has been increasing substantially. Similar to BDZs, zolpidem reinforces the activity of the inhibitory neurotransmitter g-aminobutyric acid (GABA) by binding to BDZ receptors, which are modulatory sites of the GABA A receptor complex. However, in contrast to BDZs, zolpidem shows selectivity for the σ1 receptor subtype, which corresponds to GABA A receptors containing the a1 subunit1. Zolpidem is able to produce sedation without interfering with the BDZ properties linked to other receptor subtypes[2]. So zolpidem was considered a safer hypnotic than benzodiazepines because of a lesser liability for abuse and dependence[3]. However, in recent years, new evidence has revealed that the behavioural effects of zolpidem at higher than recommended doses are generally similar to those of BDZs[4,5]. Over the last few years, numerous cases of zolpidem abuse or dependence have been reported[5-8]. The World Health Organization (WHO) considered that the frequency of zolpidem abuse and dependence was similar to that of benzodiazepine. On 15 July 2002, zolpidem was transferredto Schedule IV of the 1971 Convention (for drugs inducing dependence such as benzodiazepines). The aim of this convention was to control both traffic and abuse of psychotropics[9]. We present a case of zolpidem dependence in a 33-year-old male to highlight the need for caution when prescribing this drug.

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CASE HISTORY

Mrs. A., 33-year-old Hindu married male presented to psychiatry outpatient department (OPD) with complaints of inability to stop zolpidem use from last 4 months. On evaluation of history it was revealed

that the patient has history of insomnia 4 months back for which he was prescribed tablet zolpidem 10 mg at bed time by a physician. After 1 week he again complained of decreased sleep. The patient without consulting the physician increased the dose of zolpidem to 20 mg at bed time. After 5 days he again complained of decreased sleep and increased the dose of zolpidem to 30 mg at bedtime. Over the next three months he gradually increased the dose of zolpidem by 10 mg at an interval of 5-7 days . Now he is taking 300mg of zolpidem at bed time every day. He had made several attempts during these 4 months to stop zolpidem, but he failed due to insomnia, restlessness, irritability, myalgia. The patient was admitted. On mental status examination he admitted that he increased the dosage initially to ward off his insomnia; however he started enjoying the high produced by zolpidem and had to increase his dosage gradually in order to experience the same pleasure. Baseline investigations including hemogram, liver and kidney functions were normal. Electrocardiogram was normal. No psychiatric or physical disorder causing insomnia could be found. There was no history of any other substance abuse. He was diagnosed as having zolpidem dependence [Mental and behavioural disorders due to the use of sedatives or hypnotics (zolpidem) (F13.24)] as per International Classification of Diseases - 10th Edition. He was started on chlordiazepoxide 100 mg/ day which was gradually tapered-off and stopped in next 15 days. Simultaneously, her zolpidem was also tapered-off and completely stopped in 15 days. After his detoxification from zolpidem he was educated about sleep hygiene measures and the need to abstain from benzodiazepines and other hypnotics. He is in our follow up for last 3 months. He is having normal sleep without any sedative.

DISCUSSION

Despite primary reports of zolpidem safety and minor abuse and dependency capability[11-14], recent case reports[5-8] including our case showed that zolpidem can exert abuse and dependency. It has been reported that zolpidem pharmacodynamics and pharmacokinetics may have a crucial role in cases of zolpidem abuse, dependence, and withdrawal syndrome. It is suggested that zolpidem might lose its selectivity on GABA-A receptor and exert the same pharmacological effects as classical benzodiazepines. It has been proposed that possible GABA-A receptor mutations may be a predisposing factor in zolpidem dependency[5]. Several case reports[8,15] mentioned that zolpidem dependence is more common in individuals with prior history of substance abuse or comorbid substance abuse. But in our case there is no past history or history of comorbid substance abuse. So zolpidem dependence can occur in patients without any history of other substance abuse. We emphasize that prescribers should be aware of zolpidem's dependence potential and its usage should be monitored as in case of benzodiazepines.

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