

## Zolpidem Misuse in Two Women With No Psychiatric History: A Crucial Role of Pleasant Visual Hallucinations

*To the Editor:* Although zolpidem is thought to be a safer drug than benzodiazepines, its abuse potential is not as low as previously reported. Zolpidem is abused for its sedative-hypnotic properties<sup>1</sup> or for psychomotor activation and euphoria.<sup>2</sup> We describe two women who used zolpidem for months because of pleasant visual hallucinations experienced after low doses of the drug.

### Case Report

Two unrelated women ("Mrs. A," age 21, and "Mrs. B," age 28) had self-referred to a psychiatrist because of zolpidem misuse (10 mg–15 mg per dose, 1–2 times per week) associated with pleasant visual hallucinations. Both Mrs. A and Mrs. B had no personal or family history of psychiatric disorders and did not take any other medications. The subjects were nonsmokers, and occasionally used alcohol and cannabis, but not other drugs of abuse. Neither Mrs. A nor Mrs. B reported any visual abnormalities requiring ophthalmological treatment.

Both women started zolpidem use for sleep-onset insomnia after receiving the drug from a family member. Approximately 30 minutes

after the first and successive zolpidem administrations, the subjects experienced florid visual hallucinations lasting 20–30 minutes, and associated with relaxation but not drowsiness. They saw, for example, dwarfs sitting by a fireplace, dancing mascots, a tongue-shaped robot, and ghosts flying around a TV set. Mrs. B often potentiated her sensations by playing video games. Diplopia was experienced by both subjects, and mild agitation with logorrhea was occasionally experienced by the older woman. The subjects were aware that the things they saw were unreal. Neither Mrs. A nor Mrs. B developed zolpidem dependence.

### Comment

To the best of our knowledge, this is the first report of zolpidem misuse associated with pleasant visual (pseudo)hallucinations induced by low doses of the drug in otherwise healthy subjects. Zolpidem-induced hallucinations described in previous reports were experienced by subjects with psychiatric disorders,<sup>1,2</sup> taking psychotropic medications,<sup>3</sup> suffering from severe visual impairment,<sup>4</sup> taking large doses of zolpidem,<sup>1,2</sup> or passively exposed to zolpidem in a clinical trial.<sup>5</sup>

It remains to be established whether pleasant hallucinations may lead to zolpidem addiction. It should also be clarified whether zolpidem-induced hallucinations are primarily associated with disturbances in psychosis-related limbic brain areas

and/or with alterations in GABA signaling in the visual cortex.<sup>4</sup>

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LUKASZ KUMMER, M.D.

MALGORZATA RZEWUSKA, M.D., PH.D.

HALINA SIENKIEWICZ-JAROSZ, M.D., PH.D.

PAWEŁ MIERZEJEWSKI, M.D., PH.D.

PRZEMYSŁAW BIENKOWSKI, M.D., PH.D.

Institute of Psychiatry and Neurology, Warsaw

JERZY SAMOCHOWIEC, M.D., PH.D.

Department of Psychiatry,  
Pomeranian Medical University,  
Szczecin, Poland

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