The use of Eszopiclone in the treatment of insomnia: A Review

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I love discussing various topics like how we can improve our communication skills or which kdrama has the best storyline. My dream is to be an anesthesiologist. During my free time, I write articles, literature reviews and create medical-related memes. All I have to say to MEDILENS is to not just study so you can pass your exam; study to save lives. One of my favourite quotes that keep me motivated:

"Success is not final, failure is not fatal: it is the courage to continue that counts."
— Winston S. Churchill

Introduction

Insomnia is the inability to maintain sleep and have difficulty in falling asleep. It is the most common type of sleep disorder in which nine to fifteen percent of the adult population suffers from it and; women are forty to sixty percent more likely to suffer from insomnia compared to men. (2)

Eszopiclone is a nonbenzodiazepine hypnotic agent of the cyclopyrrolone class. It has a low potential for abuse and dependence. (1) Eszopiclone binds to the receptors of the omega-1 subtype of the alpha subunit of the GABA and activates it. Further, this opens the chloride ion channels which are in the neurons of the CNS and that leads to hyperpolarization which will cause inhibition in neuronal firing and can further intensify the effect of GABA. Furthermore, it creates a hypotonic effect which can slow brains activity. Eszopiclone has a 6-hour half-life which can give an advantage for maintaining sleep. (5)

In this review, we will check the effectiveness of eszopiclone on insomnia patients as well as the side effects of eszopiclone on insomnia patients by doing a double-blind

placebo-controlled case study and a comparative study with zolpidem (Ambien).

Procedure, results, and comparison.

There was a 6-month open-label extension phase in which adults between the age of 21 to 64 who suffer from primary insomnia were reported to have sleep duration <6.5 hours and sleep latency was <30 minutes per night. The patient-reported outcome contained sleep and daytime function. The final double-blind month was used to analyze the efficiency of the open-label phase.

Patients who were randomized in double-placebo and then were placed in open-label eszopiclone were reported to have 1) A decreased level of sleep latency and the total number of awakenings were also decreased. 2) ability to function during the daytime had improved and levels of alertness significantly increased. 3) the sleep quality and the total amount of sleep time were more compared to the baseline. The only drawback was that there was an unpleasant aftertaste which was in less than 5 percent of patients. (3)

Comparison of eszopiclone and zolpidem (Ambien)

Zolpidem is a popular nonbenzodiazepine hypnotic agent. The following is a comparative study conducted to check the efficiency and safety of eszopiclone and zolpidem (Ambien). In this case study, we can compare the efficiency of zolpidem and eszopiclone.

This was a double-blind study performed in patients with primary insomnia. There were 5 experimental groups and there were 5 intervals of two continuous nights: Placebo group in which placebo tablets were ingested orally at bedtime for 2 nights in one of five cross-over intervals in each of ten treatment sequence patterns which were specified in advance and similarly three other groups which were given 1mg, 2mg and 3mg of eszopiclone. The last group was given Zolpidem Tartrate 10 mg tablet, it was ingested orally at bedtime for two nights in one of five cross-over intervals in each of ten treatment sequence patterns that were prespecified. There was a total of 192 patients who had participated in this experiment. The number of awakenings in placebo and 1mg eszopiclone groups was 4, compared to 2mg eszopiclone and Zolpidem Tartrate 10 mg which was 3.5. The least number of awakenings was 3mg eszopiclone, it had a 2.8 median number of awakenings. The sleep

efficiency was best reported in 3mg eszopiclone (94.6 percent) second to it was 2mg of eszopiclone (94.3). The 1mg of eszopiclone was at 91.3 and Zolpidem Tartrate 10 mg was at 93.5 percent compared to the placebo group which was 86.3 percent. A feeling of abnormal was reported in Eszopiclone 1 mg (4.29%). Also, dizziness was recorded in Eszopiclone 3 mg (2.94%) compared to Zolpidem Tartrate 10 mg (4.29%). There was Dysgeusia observed in patients who had Eszopiclone 3 mg (16.18%) compare to 2mg of eszopiclone (8.70%), 1mg eszopiclone (5.7 %), Zolpidem Tartrate 10 mg (1.43%) and placebo (1.41 %). In this case study, 3mg of eszopiclone had the best performance but had one drawback of Dysgeusia which is the sense of unpleasant taste. (4)

Conclusion

The results of 6 months double-blind, placebo-controlled studies (and 1 open-label, 6-month extension) showed that eszopiclone was safe and effective in the treatment of primary insomnia in adult patients. The experiment displayed improvement in sleep patterns and quality of sleep. Further studies comparing 1 mg, 2mg, and 3mg of eszopiclone with Zolpidem. In which the overall best performance was 3mg of eszopiclone but with the drawback of dysgeusia. Overall, the usage of eszopiclone was safe in both case studies and effective.

Reference

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