The Management of Insomnia in the Older Adult

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An 88 year-old man contacts the on-call physician on a Saturday afternoon with a chief complaint of being unable to fall asleep for three nights; he requests a new prescription to help him sleep. He has been on trazodone 75 mg for several years and takes it nightly, but it has not been effective for sometime. He has a medical history of hypertension and hyperlipidemia, for which he takes metoprolol, aspirin, atorvastatin, and a daily multivitamin. He is active, walks 2-miles daily, drives and is independent in ADL and IADL. He does not smoke or drink alcohol. What should the on-call physician do—-increase the trazodone? Start a new sleep medication? Ask the patient to wait until Monday when he can talk to his physician?

Insomnia is exceedingly common in the older adult population; up to 33% use over the counter or prescription sleep aids, and close to 40% describe difficulty falling asleep. Important contributing factors include changes in sleep architecture and circadian rhythm, increased incidence of sleep disorders, and life stressors unique to the older adult. As with so many other decisions in geriatrics care, the treatment must consider patients’ multiple co-morbid diagnoses and long medication lists.

The first step in evaluating a patient with insomnia is to take a detailed sleep history—duration of symptoms, nap history, life situation at start of symptoms, wake up times, bedtime, caffeine/alcohol/fluid intake, activities done in bed before and after trouble sleeping, sleep room characteristics, medication use, and detailed review of systems and family history. Also useful is a review of the sleep hygiene “do’s and don’ts”. Important medical diagnoses to rule out by history and/or workup include sleep disorders (sleep apnea, restless leg syndrome, REM sleep behavior disorder) that are more common with aging. This evaluation may point toward focused interventions to improve sleep hygiene, or the need for diagnostic workup to treat a sleep disorder. If neither of these results obtains, the next step is to decide whether to treat. If treatment is indicated, the choice is non-pharmacological versus pharmacological.

Studies showing that non-pharmacological treatment is effective and long lasting abound. Interventions that have been proven effective include stimulus control, bright light therapy, regular exercise, bathing before bed, cognitive therapy, sleep hygiene improvement, warm milk, back rub, and relaxation techniques. One particularly interesting study evaluated patients with Alzheimer’s dementia and insomnia. In this randomized trial, one group of patients and caregivers received extensive training and support on sleep hygiene interventions, while the other group received one information session only, at the start of the study. After six months, the intervention group showed a significant trend toward increased satisfaction, with 50% reporting substantial benefit. The benefit continued throughout the follow up period. The benefit was not only in satisfaction and self-reported benefit, but also in caregiver reports of time awake and number of nighttime awakenings.

When non-pharmacologic therapy fails, or when urgent intervention is required to temporarily alleviate sleeplessness while non-pharmacologic therapy is being instituted, medications are often prescribed. There are several drug classes from which to choose; adverse reactions, efficacy, safety and interactions vary significantly. These sedative hypnotic medications are for short-term use. Most studies follow patients for only a few months—long-term use by any group has not been evaluated in detail. One meta-analysis demonstrated that effectiveness of the benzodiazepines waned after two weeks. Older, but still often used, these drugs are plagued by adverse reactions in the older adult population; for example, next-day somnolence, dependence, dizziness, drug interactions, and increased risk of falls. This group is one of the drug classes listed among the Beer’s criteria of drugs to avoid using in the elderly due to unacceptably high adverse effects. For patients who have been on them for years, it is recommended to wean them gradually.

Another popular choice among sedative hypnotics for sleep has been trazodone. Its use has exceeded that of zolpidem (Ambien), which is estimated at over 27 million prescriptions. It is reputed to be safe, effective, non-habit forming and more cost-effective. Of note, the use of trazodone (and mirtazepine, mentioned later) is off-label. A systematic review published in 2005 found 18 studies in the literature for the period of 1980-2003 and included all 18, regardless of inclusion or exclusion criteria, because of the small number. Of the studies included, only one was a randomized placebo control trial on the use of trazodone in patients with primary insomnia. The majority of the remaining studies evaluated its use in depression, and revealed improvement of insomnia as a secondary outcome.

The primary insomnia study examined 306 patients ages to 65 who were randomized to zolpidem 10 mg, trazodone 50 mg, or placebo. The effect of the drug was measured using a subjective sleep questionnaire; follow up was for two weeks. At week one, there was improvement in both the zolpidem and trazodone group, compared with placebo. By week two, zolpidem was better than placebo, but trazodone improvement was not statistically significant compared with placebo. In this study, follow up was short; and no patients over age 65 were included. The remaining studies evaluated in this systematic review had small sample sizes, used much higher doses of trazodone (>150 mg) and were in depressed patients. These results may not apply when trazodone is prescribed for primary insomnia, especially in view of the much lower doses used. Safety analysis revealed several important side effects in significant proportions of subjects: drowsiness in 29%, dizziness in 21% and next day fatigue in >10%. Less common but still disturbing adverse reactions included orthostatic hypotension, priapism and QT interval prolongation. The question of tolerance, and whether increasing the dose would restore the initial effect, was not addressed by this or...
any study reviewed. Therefore, the evidence does not support the benign profile that providers and the public have accepted.

Another commonly used medication is mirtazapine, an antidepressant found to have significant sedation effect when used in depressed patients. It is similar to trazodone, and is used for insomnia to capitalize on its side effect profile. It has also become a popular choice among those who care for dementia patients who suffer from both insomnia and anorexia – increased appetite was another side effect noted when the drug was used in depressed patients. Of note, the side effects of increased appetite and sedation are typically seen with the lowest doses (7.5 mg or 15 mg). Case reports have demonstrated clinical improvement in both insomnia and anorexia when the medication is used in Alzheimer's patients. However, more rigorous studies of mirtazapine’s tolerance and safety profile in elderly patients are limited. A small study, examining its efficacy, noted that 11% of patients discontinued use due to adverse events, 18% of which were falls. Caution should be used when prescribing this agent for insomnia in older adults.

The newer drugs that capture the most media attention, and that patients request by name, are the “Z drugs,” which include zaleplon (Sonata), zolpidem, and eszopiclone (Lunesta). One randomized trial compared zaleplon at 5 mg and 10 mg doses to zolpidem 10mg and to placebo in 549 patients, all over the age of 65. The results demonstrate better sleep quality in both groups as compared to placebo. Adverse events were similar in the four groups, with no increased adverse effects as compared to placebo. However, the follow up time was only two weeks. Another group of authors reviewed the literature to compare the effectiveness of the Z drugs to placebo, and included 24 trials. Their final conclusions reflected disappointment; most studies had small sample size, poor methodologic quality, and in most, pharmaceutical funding. They recommended further studies in the elderly, with more rigorous methodologic adherence before drawing clinical conclusions.

Finally, ramelteon (Rozerem) warrants discussion. In the limited but promising existing studies, this melatonin receptor agonist was found to produce improvements in all sleep components (latency, efficiency, and duration). The agent has been found to be effective and safe, with no concerns of dependence or other somnolence. It is best used for patients who have difficulty initiating sleep. However, as a newer agent, more time and study in post-marketing surveillance must be awaited before recommendations can be made in vulnerable very old persons. Yet, among the options, this one seems preferable for use in the older adult population, and some studies have demonstrated that elderly patients can use it safely without increased risk of falls or drowsiness the following day. Only time and clinical use will tell how truly safe and effective it is. This agent has recently been added to the formulary at the Lifespan hospitals.

In summary, the evidence supports the use of non-pharmacologic treatments as first line due to their proven efficacy, and for the long-term effects. Pharmacologic therapy has an important role, but only for the short-term, and carries with it significant risk of adverse reactions. The newer agent ramelteon is promising, but will require further study and use in practice. Trazodone did not prove to be as safe and harmless as initially thought, and its efficacy is also in question. The newer Z drugs also proved efficacious, but had limited data in the older adult population, are expensive, and are scheduled drugs, making use in long-term care settings more troublesome.

For the patient presented at the beginning of this article, the first assessment the clinician must make is whether the situation is a sleep emergency or not. If the patient can wait, it would be better for him to discuss the problem and options with his primary physician, who knows him and his history best. This patient has had three days of symptoms, but is retired and able to nap during the day; he should continue his current regimen until Monday, when he can call his primary care doctor. Options at that point include a more detailed review of sleep hygiene and recommendations to discontinue drinking coffee after breakfast, to decrease caffeine intake and substitute a glass of warm milk or herbal tea after dinner. He should avoid napping during the day and evaluate the quality of his bedroom for sleep promotion. The trazodone dose can remain the same, since there is no evidence base for increasing the dose to regain initial effect, and strong consideration should be given to discontinuing it altogether due to the poor evidence base for its use in primary insomnia.

References
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