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Letter to the Editor

Management of a rare case of advanced sleep phase disorder in a patient with persistent depressive disorder

1. Introduction

Advanced sleep phase disorder (ASPD) is a relatively uncommon sleep disorder where patients sleep and wake up earlier than conventional timings with normal duration of sleep. (American Psychiatric Association, 2013) Advancement of the circadian pacemaker within the body with age is hypothesized to cause ASPD. A study from New Zealand reported the prevalence of ASPD to range from 0.25% to 7.13% in general population. (Paine et al., 2014) To the best of our knowledge, there is a single case series of ASPD reported in patients with Parkinsonian syndrome reported from India. (Shukla et al., 2015) With this background, we present a case of ASPD with Persistent Depressive Disorder highlighting the management issues.

2. Case report

A 68-year-old male presented to us in July 2016 with forty years history of persistent low mood, fatigability, anhedonia, decreased sleep. For the initial 20 years, early onset and mid sleep insomnia was noted. He reported that over the next 19 years on medication, though sleep had improved mid sleep insomnia persisted.

For the last one year, patient reported of improvement in total duration of sleep and mood on Escitalopram 20 mg and denied any persistent and pervasive low mood. However, he would now fall asleep at 6–7 pm and wake up by about 1 a.m. From 1 a.m. onwards, he reported that he would fall asleep on and off for a cumulative period of 30–60 min and finally, wake up by 4am feeling tired. He also reported sleeping for 3–4 h during the afternoon. There was no history of substance use or sudden loss of muscle power or hypnogogic hallucinations.

Patient is a known case of Diabetes Mellitus with Hypothyroidism for the last three years, on medication. Patient has significant stressors with wife (aged 56 years) suffering from Schizophrenia for the last twenty five years and daughter (aged 34 years) suffering from depression for last one year. His mother (aged 85 years) was suffering from Dementia and she died one month ago. Premorbid personality revealed anankastic traits. Mental status examination revealed preoccupation with sleep. A diagnosis of Persistent Depressive Disorder with Advanced sleep phase disorder type of Circadian rhythm sleep-wake disorder (CRSD) was made according to Diagnostic and Statistical Manual-5. Morningness- Eveningness questionnaire (MEQ) revealed definite Morningness type. At the time of administration of MEQ, Hamilton Depression Rating Scale (HDRS) score was 5.

He was found to harbor cognitive distortions such as dichotomous thinking (I can only fall asleep if I take medications around 5:30-6 pm, otherwise, I cannot sleep at all). He was found to be on multiple medications for sleep such as clonazepam, zolpidem, melatonin for several years. Considering safety profile of sedatives in the elderly, these were tapered and melatonin 3 mg was continued before bedtime. He was asked to maintain a sleep log which was supervised by his family members. (Fig. 1)

About four weekly sessions of cognitive behavioural therapy for insomnia (I-CBT) lasting for 45 min for one hour with the following elements were undertaken. (StepnowskyJr and Ancoli-Israel, 2008; Morin and Bélanger, 2011; Edinger and Carney, 2014):

Maladaptive sleep behaviours such as day-time naps, attempting to relax in bed by watching television, skipping physical activity were addressed.

Psychoeducation was done addressing information on physiological effect of age on sleep, age related sleep norms, the role of circadian rhythms and discussing concepts of sleep efficiency, sleep latency and total time in bed.

Cognitive restructuring: The cognitive distortions were identified and patient was encouraged to replace the automatic thoughts with rational alternative thoughts (Example: I may be able to sleep even if I do not take medication between 5:30 – 6:00 pm)

Sleep restriction technique: Restricting total time in bed and gradually increasing the total time in bed by 15 min when the sleep efficiency was at least 85% and decreasing by 15 min if sleep efficiency was at less than 85%

Sleep hygiene: Sleep hygiene included maintaining regular timings for sleeping and waking up, avoiding day time naps, using bed only for sleeping, avoiding any stimulants in the evening as well as any form of sensory stimulation when patient would wake up intermittently.

After about one month of CBT, patient started reporting significant improvement in sleep. Melatonin was continued for three months and at six months of follow up currently, patient reports that he is sleeping from 10 pm to 4:30-5 am and feels fresh after waking up.

3. Discussion

Patient was diagnosed to have ASPD type of CRSD with Persistent Depressive Disorder as the patient would fall asleep several hours before the conventional sleeping. ASPD is not attributable to depression in this case as the patient continued to have sleep difficulty despite having attained remission clinically as well as on HDRS. Though medical illnesses such as Diabetes Mellitus, Hypothyroidism are known to cause alterations in sleep, it is unlikely that they contributed in the current case as the symptoms persisted despite the blood glucose and thyroid hormone levels being within normal range.

One point to be noted is the emergence of ASPD with improvement of depressive symptoms. Advancement of circadian rhythms, shift towards early secretion of melatonin have been some of the findings building towards circadian hypothesis of Depression. (Germain and Kupfer, 2008) Further, it is important to note that sleep deprivation by "phase advancing process" was found to have antidepressant action

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	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Time of going to bed	18:30	18:30	18:30	18:45	18:30	18:30	18:30
Time of falling asleep	18:40	19:00	18:45	19:00	18:40	18:45	18:50
Time of waking up	01:00	01:15	01:10	01:00	01:00	01:30	02:00
Time of getting out of bed	03:00	03:10	03:00	03:30	04:00	03:40	03:20
Did you wake up feeling refreshed (R) / tired (T)/ drowsy (D)	T	D	D	T	D	T	T
Number of naps during day time	2	2	2	3	2	2	3
Duration of day time nap	4 hours	3 hours	3 hours	4 hours	2 hours	3 hours	3 hours

Fig. 1. Typical sleep log of 1 week.

resulting in significant improvement in depressive symptoms. (Calıyurt, 2017) Hence, in this context it would be interesting to explore relationship between depression and advanced sleep phase disorder.

Earlier cases from India were described in two male patients with Parkinson's plus syndromes aged 65 and 47 years. (Shukla et al., 2015) The index patient has several risk factors for developing ASPD such as age, poor sleep hygiene. (Sack et al., 2007) The current case also highlights the role of non-pharmacological management in treating sleep disorders in the elderly. There is immense need for avoiding long term benzodiazepines in the geriatric age group considering the risks of substance dependence, cognitive impairment and falls. (Airagnes et al., 2016)

The cognitive distortions of the patient in the background of anankastic traits posed significant challenges in management. Maintaining sleep hygiene and following cognitive behavioural therapy for sleep can obviate the need for sedative hypnotics as noted in this case. Hence, it is important to sensitise the trainees in psychiatry about adopting a comprehensive means of management incorporating non-pharmacological management rather than relying on medication alone.

Declaration of conflict of interest

None

Financial disclosure

We hereby declare no financial and personal relationships with other people or organizations that could inappropriately influence (bias) our work. We hereby declare no potential competing interests including employment, consultancies, stock ownership, honoraria, paid

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