Sleep problems in advanced disease

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Sleep problems are relatively common in patients with advanced disease, and are associated with significant morbidity in these groups of patients. The focus of this article is sleep problems in patients with advanced cancer, and specifically insomnia, ‘vivid’ dreams and nightmares. However, other sleep problems are also relatively common in this group of patients, including sleep-related breathing disorders and circadian rhythm sleep-wake disorders. Healthcare professionals should screen all patients with advanced diseases for sleep problems and, equally, initiate appropriate (evidence-based) interventions when they are discovered.

Introduction

Sleep is a complex phenomenon, which serves various functions, and which is essential for existence. Sleep problems are common in patients with advanced cancer and in patients with other life limiting conditions. This article focuses on the literature in patients with advanced cancer, but much of the content equally applies to patients with other life limiting conditions. Sleep is a cyclical process (~90 min per cycle), which consists of two types of sleep (rapid eye movement (REM) sleep and non-REM sleep) and five stages of sleep (stages 1–4 = non-REM sleep, stage 5 = REM sleep). The different types/stages of sleep are characterised by distinctive electroencephalogram (EEG) features, and distinctive physical features. For example, REM/stage 5 sleep is characterised by marked EEG activity, muscle hypotonia (on electromyography), fast horizontal eye movements (on electro-oculography) and variability in vital signs.

The American Academy of Sleep Medicine / International Classification of Sleep Disorders categorise sleep disorders into six clinical divisions: insomnia, sleep-related breathing disorders, central disorders of hypersomnolence, circadian rhythm sleep-wake disorders, parasomnias and sleep-related movement disorders.

This article focusses on the common symptoms reported by patients with advanced cancer. However, other sleep problems also appear to be common in this group of patients. For example, opioid analgesics (which are often prescribed in patients with advanced cancer) are associated with sleep-related breathing disorders, including central sleep apnoea, obstructive sleep apnoea and atoxic or irregular breathing patterns. Moreover, these sleep-related breathing disorders are linked not only to increased morbidity (e.g. daytime sleepiness, cognitive impairment) but also to increased mortality.

Insomnia

Insomnia has been defined as ‘a persistent difficulty with sleep initiation, duration, consolidation, or quality that occurs despite adequate opportunity and circumstances for sleep, and results in some form of daytime impairment’. Patients with advanced cancer often report ‘insomnia’, and many meet the diagnostic criteria for short-term insomnia disorder (Box 1), or even chronic insomnia disorder (i.e. the sleep disturbance and associated daytime symptoms have been present for at least 3 months, and the sleep disturbance and associated daytime symptoms occur at least three times per week). However, the prevalence of these sleep disorders is unknown in this group of patients. Nevertheless, researchers have reported that 62–70% patients with advanced cancer had poor sleep quality as assessed by the Pittsburgh Sleep Quality Index. Davies et al reported that in their study of 174 patients with advanced cancer, 30% patients had trouble sleeping because they couldn’t get to sleep within 30 minutes three or more times a week during the previous month, and that 60% patients had trouble sleeping because they woke in the middle of the night or early morning three or more times a week in the previous month.

Key points

- Sleep problems are common in patients with advanced disease.
- Sleep problems are associated with significant morbidity in patients with advanced diseases.
- Insomnia is often secondary to related physical symptoms (and psychological problems).
- Management of insomnia primarily involves treatment of perpetuating factors, sleep hygiene measures, and non-pharmacological interventions (cognitive behavioural therapy).

KEYWORDS: Palliative care, insomnia, vivid dreams, nightmares, sleep disturbance
Box 1. Diagnostic criteria for short-term insomnia disorder.

The patient reports, or the patient’s caregiver observes, one or more of the following:
> difficulty initiating sleep
> difficulty maintaining sleep
> waking up earlier than desired
> resistance to going to bed on appropriate schedule
> difficulty sleeping without caregiver intervention.

The patient reports, or the patient’s caregiver observes, one or more of the following related to the night time sleep difficulty:
> fatigue/malaise
> attention, concentration or memory impairment
> impaired social, family, occupational or academic performance
> mood disturbance / irritability
> daytime sleepiness
> behavioural problems (eg hyperactivity, impulsivity, aggression)
> reduced motivation/energy/initiative
> proneness to errors/accidents
> concerns about or dissatisfaction with sleep.

The reported sleep/wake complaints cannot be explained purely by inadequate opportunity (ie enough time is allotted for sleep) or inadequate circumstances (ie the environment is safe, dark, quiet and comfortable) for sleep.

The sleep disturbance and associated daytime symptoms have been present for <3 months.

The sleep/wake difficulty is not explained by another sleep disorder.

All above criteria must be met to qualify as short-term insomnia disorder.


Box 2. Sleep hygiene measures.

Ensure sleep expectations are realistic
Normal sleep duration is 6–10 hours per night; normal sleep pattern includes 1–2 awakenings per night.

Wake up at the same time each day (irrespective of sleep duration)
Establish a ‘clear your head time’ in early evening
Set aside 30–45 minutes to consider concerns/problems.
Establish a ‘buffer zone’ before going to bed
Set aside 90 minutes to engage in sedentary/relaxing activities; lights should be dimmed, stimulants should be avoided.

Use your bedroom only for sleep (and sexual intercourse)
Bed-bound patients require as much cognitive/physical stimulation as possible during daytime.

Go to bed only when sleepy
Get up if still awake after 20–30 minutes (and go back to bed only when sleepy)
Repeat the establishment of a ‘buffer zone’.

Restrict napping
Avoid multiple naps, and naps in the evening.

Additional strategies
Minimise ambient light and noise; consider using eye masks and earplugs.

Adapted from Howell D, Oliver TK, Keller-Olaman S et al. A pan-Canadian practice guideline: Prevention, screening, assessment and treatment of sleep disturbances in adults with cancer. Toronto: Canadian Partnership Against Cancer (Cancer Journey Advisory Group) and the Canadian Association of Psychosocial Oncology, 2012.
Box 3. Recommendations on use of pharmacological interventions for sleep disturbance.

Management of sleep disturbance should focus on treatment of perpetuating factors, sleep hygiene and non-pharmacological interventions. Medication should be restricted to patients with distressing sleep disturbance. The choice of medication depends on a variety of factors, including patient-related factors (eg age, co-morbidities), clinical features (eg sleep pattern, associated symptoms) and drug-related factors (eg duration of action, side effect profile).

Medication should be prescribed for short periods (generally 1 week, maximum 3 weeks). Medication should be prescribed for intermittent usage (not continuous usage). Patients with difficulty initiating sleep (and in whom daytime sedation is undesirable) should be prescribed drugs with a short duration of action eg temazepam, zopiclone. Patients with difficulty maintaining sleep (and in whom daytime sedation is acceptable) should be prescribed drugs with a long duration of action eg flurazepam, nitrazepam. Benzodiazepines and the Z-drugs should be avoided in the elderly due to potential side effects (eg confusion, falls). Benzodiazepines and other hypnotics should be used with caution in patients receiving opioid analgesics due to potential side effects (eg sedation, respiratory depression). Benzodiazepines (and the Z-drugs) cause physical/psychological dependence, and are associated with clinically significant withdrawal reactions (which can occur up to 3 weeks later).

References


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