Daytime Sleepiness

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KEYWORDS

• Sleepiness • Fatigue • Hypersomnia • Circadian rhythm disorder • Narcolepsy
• Restless leg syndrome • Obstructive sleep apnea

KEY POINTS

- Excessive daytime sleepiness is one of the most common indications for referral to the sleep clinic.
- The differential diagnosis for any patient with excessive daytime sleepiness is broad and includes primary sleep disorders, medical conditions, and mood disorders.
- Patient safety is paramount in the evaluation of any patient with excessive daytime sleepiness, and the risk of drowsy driving should always be assessed.
- Diagnosis is made primarily based on clinical history.
- Adjunctive testing such as serology, actigraphy, polysomnography, the multiple sleep latency test, and the maintenance of wakefulness test may be useful in select cases.

INTRODUCTION

Sleepiness is an extremely common symptom in our society, affecting an estimated 10% to 25% of the general population.[1] Sleepiness as a symptom is sometimes difficult for patients to describe, and 2 individuals with identical sleep patterns may report very different symptoms. The American Academy of Sleep Medicine defines excessive daytime sleepiness (EDS) as the inability to maintain wakefulness and alertness during the major waking episodes of the day, with sleep occurring unintentionally or at inappropriate times almost daily for at least 3 months.[2] EDS is a major source of vehicular accidents and loss of productivity in the workplace, and it is one of the most common indications for referral to the sleep clinic.

PATIENT HISTORY

A comprehensive sleep history is the most important aspect in the evaluation of any patient with EDS. Whenever possible, this information should be given in the company of the patient's bed partner, who may be able to provide additional history of which the patient is unaware. The Epworth Sleepiness Scale is the most commonly used validated subjective assessment of a patient's sleepiness over the last several months.[3] A score of 10 or greater typically indicates EDS.

Patients may use varying terms to describe their symptoms, which may or may not include the word *sleepiness*. Almost all of the primary sleep disorders can cause EDS (**Box 1**), however the first challenge for the clinician is to distinguish symptoms of sleepiness from those of fatigue. In many

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Box 1
Sleep disorders associated with excessive daytime sleepiness

Insufficient sleep time

Insomnia

Obstructive sleep apnea

Circadian rhythm disorders

- Delayed sleep phase syndrome
- Advanced sleep phase syndrome
- Irregular sleep phase syndrome
- Non–24-hour sleep phase syndrome
- Shift work disorder
- Jet lag disorder

Restless legs syndrome

Periodic limb movement disorder

Hypersomnias of central origin

- Narcolepsy
- Kleine-Levin syndrome
- Menstruation-related hypersomnia
- Idiopathic hypersomnia

cases, fatigue is described as body tiredness, lack of energy, or a general sense of exhaustion, whereas sleepiness is the inability to avoid falling asleep.[4]

A sleepy patient's symptoms are usually exacerbated by rest, whereas a fatigued patient's symptoms are typically exacerbated by activity. When given the opportunity to sleep, a fatigued patient may have difficulty doing so, whereas a sleepy patient will usually have no problem and often falls asleep inadvertently, as in office waiting rooms. The exception to this is the patient with insomnia, who, despite experiencing EDS or fatigue, has great difficulty falling asleep, often due to a sensation of generalized hyperarousal.

Fatigue can result from several medical and psychiatric diagnoses, and it is important to rule out primary mood disorder and general medical conditions such as anemia, hypothyroidism, renal insufficiency, and other metabolic disorders (**Box 2**). The patient's medication list should be reviewed, as there are many common medications that can contribute to EDS (**Box 3**). Activating medications should be taken in the morning when possible, and sedating medications avoided until the evening hours.

Several neurologic conditions can contribute to EDS, either as part of the primary disease process or owing to the medications used to treat the disease (**Box 4**). Although narcolepsy and restless legs syndrome (RLS) are neurologic sleep disorders, they are commonly classified as primary sleep disorders and as such are included in **Box 1**.

Box 2
Typical medical and psychiatric conditions associated with excessive daytime sleepiness and fatigue

Anemia

Hypothyroidism

End-stage renal disease

Hepatic encephalopathy

Obesity

Adrenal insufficiency

Depression

Anxiety

Substance abuse

Some patients who describe what most clinicians would interpret as fatigue do in fact have EDS, which is evidenced by the fact that when their underlying sleep disorder is treated, their symptoms of fatigue can improve.[5]

In severe cases, EDS may lead to "sleep attacks," in which patients can suddenly and inadvertently fall asleep in active situations such as eating, talking, or driving. Patient safety is thus paramount when evaluating a patient with EDS, and the risk of drowsy driving should always be addressed during the initial visit.

In addition to the desire for sleep, patients with EDS may complain of difficulties with memory and concentration, a sensation of "brain fog," or feelings of derealization. They may also experience mood changes, such as depression, irritability, or

Box 3
Medications associated with excessive daytime sleepiness

Benzodiazepines

Barbiturates

Opioid analgesics

Benzodiazepine receptor agonists

Antihistamines

Antidepressants

Antipsychotics

β-blockers

Dopaminergic medications