Sleep is a precious commodity. While sleep disturbances in cancer patients include both insomnia as well as other sleep disorders (like sleep apnea), I will focus primarily on insomnia and the lack of sleep in this post, as that is by far the most common problem. Sleep disorders are more prevalent in patients with cancer than the general population—33-40% versus 15-20%. This is due to multiple reasons, related to both the disease and treatments. Cancer patients tend to sleep more total hours on average, but have poorer sleep quality — i.e., the sleep is interrupted or there is not enough restorative sleep (deeper stages). A recent review of the literature on sleep disorders in cancer found lung cancer patients to have the highest incidence of sleep disturbances; this may be due to symptoms related to breathing at night, like coexisting lung conditions (emphysema) or troublesome coughing.

Insomnia is defined by the American Academy of Sleep Medicine as having difficulty initiating sleep (sleep onset takes longer than 30min), maintaining sleep, waking too early, or sleep that is poor in quality. This is in the context of efforts and opportunities to sleep adequately (versus people who are sleep deprived by their own volition). Along with difficulty with sleep, insomnia includes daytime symptoms as well, at least one of the following: fatigue or malaise, attention/concentration/memory problems, impaired function socially or vocationally, tendency towards errors at work, moodiness/irritability, daytime sleepiness, decreased energy, stress-related symptoms (GI, headache) due to lack of sleep, and worries about sleep.

Why is it so hard for patients with cancer to get good sleep? There are a multitude of reasons, but often it is a combination of factors. The cancer itself can cause a myriad of symptoms that keep patients awake or interrupt sleep, including but not limited to physical symptoms like pain, cough, trouble breathing as well as depression, anxiety, and stress. Pain can be exacerbated by sleep deprivation and vice versa, so you can imagine how this can become a vicious cycle. There is a significant interplay between the symptoms of cancer-related fatigue, insomnia, and depression, making it challenging at times to determine which may be the culprit. I would also add that the cancer itself can have systemic effects on the body’s circadian rhythms due to cancer-related cytokines (markers of inflammation, hormone-like substances), and research in shift workers has found that they have an increased risk of developing cancer, suggesting a relationship between sleep disturbances and cancer. This relationship has not been elucidated, but underscores the importance of healthy sleep. Cancer treatments can also cause sleep disturbances—consider the use of steroids which for some cancers is primary therapy. Steroids are notorious for causing insomnia—up to 50-70% of patients taking prednisone complain of this. Anti-nausea medications such as compazine or zofran can also cause insomnia as a side effect.

Treatment
There have not been studies on the treatment of sleep disorders in cancer patients specifically, but in general the treatment of insomnia is to primarily treat the underlying cause of insomnia, if possible (depression, anxiety, breathing problems, pain, etc). For treatment of the insomnia symptoms, the approach includes both behavioral therapy and medication.
Prior to initiating medication for sleep, it is helpful to see if more simple sleep hygiene modification can help. Good sleep hygiene consists of what may appear to be some good old common sense, but has been demonstrated to improve sleep. This includes avoiding alcohol and smoking right before going to bed, avoiding caffeine after lunch, keeping a regular sleep schedule, and maintaining a sleeping environment with decreased stimuli. Addressing sources of stress through counseling can also help. More specialized cognitive behavioral therapy for sleep has also been demonstrated to improve sleep as well, should sleep hygiene alone not be adequate. Other non-medication-based techniques include relaxation, stimulus control, and sleep restriction (limiting time in bed to sleep only to improve sleep efficiency).

Medication therapy for insomnia consists of several major types: benzodiazepine-type medications, non-benzodiazepine sedatives, and melatonin agents. I will focus here on those that have some evidence supporting their effectiveness in treating insomnia.

Benzodiazepines include halcion (triazolam), pro-som (estazolam), ativan (lorazepam), restoril (temazepam), dalmane (flurazepam), and doral (quazepam). Choosing an agent depends on the insomnia pattern — if the problem is falling asleep (and maintaining sleep is normal), then a short-acting medication will help. If the problem is maintenance of sleep, then a longer-acting medication will be more effective. Halcion is the most short-acting of this class; dalmane and doral are the longest-acting.

Non-benzodiazepine medications include sonata (zaleplon), ambien (zolpidem), and lunesta (eczopiclone)—this is a newer class of drug for insomnia. These medications act on the same receptors as the benzodiazepines, but are more specific. Sonata is the shortest-acting of this group and lunesta is the longest-acting.

Rozerem (ramelteon) is a new medication that acts on the melatonin receptor instead of the benzodiazepine receptor, so it has fewer side effects associated with benzodiazepines. It is very short-acting and so is appropriate primarily for sleep onset problems.

Anti-depressants are also used for the treatment of insomnia related to depression, but are not recommended in patients who are not depressed, as they have multiple side effects and often do not have long-lasting sedating effects.

For more information, check out these web pages:

http://www.sleepeducation.com/

For now, though, it’s late…time to get to bed.

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