Acting out dreams can signal a serious disorder

March 1 2024, by Chris Casey

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Dreams are excursions of our central nervous system, unfolding when

the body is at rest, but our brains are in thrall to rapid eye movement (REM) sleep. For people with a rare condition, their whole body acts out the dream, sometimes to the point where they leave their bed or even their room.

REM sleep behavior disorder (RBD) is distinct from sleepwalking and, if the movements are aggressive enough, can be dangerous to the sufferer as well as a sleeping partner.

RBD is a condition that should be taken seriously, according to Jeanne Feuerstein, MD, an assistant professor of neurology at the University of Colorado School of Medicine, because it could also be a precursor of other neurological conditions, such as dementia with Lewy bodies, multiple system atrophy (MSA) or Parkinson's disease.

In the following Q&A, Feuerstein explains this mysterious condition, treatment options, its connection to other neurological conditions, and the focuses of her research, including a look into RBD's ties to post-traumatic stress disorder (PTSD). The interview has been condensed for clarity.

What is REM sleep behavior disorder?

When you are sleeping and get into REM sleep, which is your super-deep phase of sleep, there are controls in your brainstem that make your body go flaccid. But in people who have REM sleep behavior disorder, their body isn't flaccid, so they're moving around, and that's called REM sleep without atonia, or REM sleep without loss of tone. And so, you can have pretty exaggerated dream enactment behavior. It's diagnosed through a sleep study, which captures people moving around when they're not supposed to.

Could you talk a little more about how you diagnose this disorder? What happens in the sleep study?

It's generally diagnosed through an in-house sleep study. The diagnosis requires both REM sleep without atonia and dream enactment behavior, and you can't really capture the dream enactment behavior with a home sleep study. We videotape people in the sleep lab, which can capture the dream enactment behavior. People with RBD typically have some amount of REM sleep without atonia each night. Now, the degree of it, the severity, will be variable.

How do people become aware that they have this condition? How does it develop?

The natural history has not been thoroughly studied, though some suspect that people with have REM sleep without atonia, may subsequently develop RBD. Typically, it's a bed partner who knows about it. The people who have RBD are rarely bothered by it, unless they throw themselves out of bed or get injured. In general, the bed partner is the one who recognizes it.

I heard a story about a person dreaming he was the target of an in-coming missile and to escape getting hit, the man jumped from the second-story window of a hotel. He landed on the grass but had a shard of glass in his leg just millimeters from severing his femoral artery. Have you heard of RBD manifesting in such an extreme way?

Some people will get injured from falling out of bed or injure their

spouses or bed partners. They can knock over or fall onto lamps, or other furniture, which can obviously be dangerous. I've heard all sorts of crazy stories about how people physically enact their dreams. In one case, a guy was giving a political speech and in another, somebody was smoking. The dream enactments are pretty variable.

When people have RBD, you have to make sure that weapons are locked up, sharp objects are not available. Some people put their mattresses on the floor or cushions on their bed posts, just to keep everybody safe. A lot of times people will end up sleeping by themselves; their significant other won't share the bed with them anymore.

How is RBD different from sleepwalking?

Sleepwalking occurs in a different stage of sleep—stage two—which is a lighter sleep stage than REM.

How many people suffer from REM sleep behavior disorder?

The data are still somewhat unclear because the condition is underreported, but prevalence is estimated around .5%. What's interesting about it, from my perspective, is that if someone has RBD, there is a high-percentage chance—around 70% to 90%—that they will develop a synucleinopathy, like Parkinson's disease.

The data are varied, but about 30% to 50% of people with Parkinson's have REM sleep behavior disorder. The incidence rate of RBD is higher in cases of MSA and dementia with Lewy bodies.

This is why it's important for people who have dream enactment behavior disorder to go through a sleep study. We need to distinguish

what they are experiencing from other sleep parasomnias that happen in other stages of sleep, because REM sleep behavior disorder can portend diagnosis of a more serious condition.

Are the neural motor pathways activated in sleep enactment disorder different from, say, the motor pathways involved when we're awake?

No, the motor functions are fairly similar. When you're in REM sleep, there are multiple nuclei in your brainstem that can interact with cells in the spinal cord which then inhibit your ability to move. There are many areas involved, but several areas in the brainstem contribute to blocking the motor pathways in your spinal cord that allow you to move.

When those connections are inhibited, that allows those pathways to be activated, and people then move around as they dream.

I am doing research on people with PTSD at the VA. People with PTSD can have very similar dream enactment behavior—the REM sleep without atonia. It's an area that hasn't really been studied. A question is: Does this PTSD-related sleep disorder also portend a future diagnosis of synucleinopathy, or does it just look similar? And so, trying to distinguish the two—RBD and PTSD—is the line of my research.

Can RBD be detected through a biomarker, such as a synuclein protein?

We can detect synuclein aggregates through a seeding using cerebral spinal fluid. But that would only be in people who are going to develop Parkinson's or something like Parkinson's. But a synuclein is not

necessarily a marker for RBD itself. For instance, if a person is narcoleptic, they have REM sleep without atonia, but they do not go on to develop Parkinson's. So, there are different ways you can develop RBD. That's why I am interested in trying to distinguish which groups go on to develop the synucleinopathies.

What are some of the treatments available for RBD? The man who jumped from the window said he was prescribed clonazepam.

Clonazepam is one of the main treatments, but typically, it's not our preferred treatment because it's a mind-altering substance that can be somewhat addictive. So, we typically prescribe melatonin. It was used in clinical trials and has shown some effectiveness. Some people will prefer an extended-release dosage, but it's our preferred treatment because it's not addictive. There is the rare occasion where somebody says it makes them sleepy, but they're few and far between.

If that's ineffective, then we may go with a benzo like clonazepam. Clonazepam works really well for the motor symptoms. If people are having really aggressive movements, it will typically settle them down, but it can also affect the quality of sleep, so that's the tradeoff.

It sounds like RBD is still not a very well understood condition.

I think that's true. Sleep disorders, in general, are not terribly well understood. When I went to look for this research question, I was just looking for clinical knowledge. But I discovered there is a lack of data on this, and that was really surprising to me.

I think the main thing for people to know is that, even though it might

seem like a funny or weird thing that your partner sometimes acts out their dreams in their sleep, it's important to get checked out. And the other thing that's important is to find out if their RBD has any connection to a synucleinopathy, which could portend a more serious condition.

There are a lot of studies taking place for people with RBD but who don't have Parkinson's, where they can enroll and get information about what's going on. And by doing this, they can inform possible treatments for Parkinson's progression, which is really amazing.

Provided by CU Anschutz Medical Campus

Citation: Acting out dreams can signal a serious disorder (2024, March 1) retrieved 27 April 2024 from https://medicalxpress.com/news/2024-03-disorder.html