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<https://reachmd.com/programs/cme/idiopathic-hypersomnia-and-cardiovascular-health-too-much-of-a-good-thing/17910/>

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Idiopathic Hypersomnia and Cardiovascular Health: Too Much of a Good Thing?

Announcer:

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Dr. Schneider:

Welcome, and thank you for joining. I'm Dr. Logan Schneider. I'm a Sleep and Cognitive Neurologist, and wanted to share with you some insights into the association between idiopathic hypersomnia and cardiovascular health, highlighting the fact that you can get too much of a good thing.

And so, why is it important to recognize cardiovascular disease in our patients? Well, if you take a look at individuals with idiopathic hypersomnia and compare them to individuals in the general population matched on various factors from demographics to insurance coverage, or region that they're living in, you see that individuals with idiopathic hypersomnia have higher rates of various cardiovascular and cardiometabolic disease and cardiovascular endpoints that we want to avoid, things like stroke and heart attack. And so, it's not entirely clear exactly why this is happening, but after trying to account for all of the contributory factors, it seems that there's a higher burden of cardiovascular disease in these populations. And while that's yet to be determined as to exactly what the cause is, we can look at the general population and see similar patterns and kind of understand how idiopathic hypersomnia in its actual manifestations of excessive need for sleep, as well as excessive sleepiness might be associated with cardiovascular disease.

And starting off, you can just look at the population and say those individuals who sleep an optimal amount, and notice how optimal is defined here, 6 to 7 hours, which seemed to comport with most epidemiologic studies. Those folks who comparatively sleep much less or don't get enough sleep, which is where we've been typically advocating, are at a similar risk of cardiovascular mortality as those folks who sleep too much, right, so it's highlighting that we shouldn't be counseling patients on a unidirectional improvement in their sleep but highlighting that the amount of sleep that they get should be optimal and considered generally normal. And that will vary from person to person, obviously, what is normal, so we do know that there are people who are short sleepers and long sleepers that are healthy in those states.

Now, even after assessing for the amount of sleep that they're getting, another indication of whether or not the sleep is doing its job is the excessive daytime sleepiness, right? If you're not getting refreshing sleep, well then you might end up with excessive daytime sleepiness as an indication of that. But it also might be an indication of an increased cardiovascular risk. So even again, after accounting for how much sleep people are getting, the sleepier they are during the day, associates in a dose response relationship with the risk of developing cardiovascular disease. And so, you can see that of those folks who were clinically defined as excessively sleepy, they had a 2.5 times higher risk of developing cardiovascular disease over follow-up. So ultimately, we need to be asking not only are you getting enough, and what enough means is an adequate amount of sleep but the right amount of sleep, as well as are you sleepy or is sleep doing its job to allow you to be unsleepy during the day.

As I mentioned, epidemiologic studies highlighted these factors specifically in relation to sleep duration, with a similar J-shaped distribution, as you see here, where if you get too little sleep, certainly we understand the undesirable effects there but as well as getting

too much sleep. And so, trying to hone in on what the underlying common pathophysiology is or connection between sleep duration and these risks like cardiovascular risks.

One of the things that we can look at as a biomarker of inflammation, so we have C-reactive protein sticking out there as a good indication of underlying inflammation. And it seems to follow the exact same pattern as the association between sleep duration and cardiovascular disease. And so, maybe this is one of the underlying processes. But we all know that it can't be that simple. And association is certainly not causation. We don't know what direction that arrow goes; is it that you have underlying medical issues like disorders that cause increased inflammation? Increased adiposity with increased release of cytokines, adipokines, and other inflammatory markers that induce a higher risk of cardiovascular disease or precipitate cardiovascular events? Part of that could also be related to dysbiosis of the microbiome inside the gut; that obviously has a relationship to cardiovascular disease and inflammation. We also just know the underlying genetic risk of having a long sleep need, as well as the implications and epigenetic changes that can occur in the setting of developing inflammation, as well as having changes in your sleep patterns. We see that there are epigenetic changes in people with idiopathic hypersomnia. And so, it seems that it's obviously not yet sorted out exactly what the cause is, particularly since this seems to be an acquired issue. People don't tend to be born with idiopathic hypersomnia, as far as we can tell, and so we're still having to sort out those pathophysiologic mechanisms. But I think we're making good strides in identifying too much sleep is not ideal. And maybe actually one of the things that we should be counseling our patients on how to get healthy sleep in the long run.

So, thank you for your time and I hope that this spurred some questions and helps us figure out where we're headed in the future to solve these problems for our patients.

Announcer:

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