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Navigating nOH: What to Know About Causes, Symptoms, & Management Approaches

Announcer:

Welcome to ReachMD. This medical industry feature, titled "Navigating nOH: What to Know About Causes, Symptoms, & Management Approaches," is sponsored by Lundbeck. Your host is Dr. Stuart Isaacson, who's the Director of the Parkinson's Disease and Movement Disorders Center in Boca Raton, Florida.

Dr. Isaacson:

Neurogenic orthostatic hypotension, nOH for short, is a challenging comorbidity of several conditions associated with autonomic dysfunction. In patients with Parkinson's disease, for example, it is seen in almost half of all patients. nOH can also lead to clinical symptoms. And because symptomatic nOH can take such a heavy toll on so many of our patients, our discussion today will cover the causes of nOH, symptomatology, and approaches to optimal management involving collaboration between neurology and cardiology specialists.

This is ReachMD and I'm your host, Dr. Stuart Isaacson. Joining me today are Drs. Salima Brillman and Sean Beinart. Dr. Brillman is the Director of the Parkinson's Disease and Movement Disorder Center of Silicon Valley in Palo Alto, California. Dr. Brillman, thanks for joining us.

Dr. Brillman:

Thank you for having me.

Dr. Isaacson:

And Dr. Beinart is the Co-director of the Center for Cardiac and Vascular Research, Adventist HealthCare White Oak Medical Center in Silver Spring, Maryland. Dr. Beinart, it's great to have you with us.

Dr. Beinart:

Thanks for having me, as well.

Dr. Isaacson:

To start us off, Dr. Brillman, what exactly is nOH and how do we recognize it?

Dr. Brillman:

nOH is a particular type of orthostatic hypotension that is associated with dysfunction of the autonomic nervous system. This autonomic failure, which involves inadequate norepinephrine release and impaired sympathetic and parasympathetic function is most often seen in patients with Parkinson's disease, but can also occur in those with multiple system atrophy or other autonomic neuropathies.

Dr. Isaacson:

Thanks Dr. Brillman.

And Dr. Beinart, is there anything else we should know about recognizing nOH?

Dr. Beinart:

Yes. I think it's also important to note that patients with nOH experience a drop in systolic blood pressure of at least 20 mmHg, or diastolic blood pressure of 10 mmHg within three minutes of standing up from a sitting or supine position. With orthostatic hypotension, there should be a compensatory increase in heart rate, greater than 15 beats per minute. An inadequate compensatory increase of less than 15 beats per minute supports the diagnosis of nOH. So, when taking the patient's history, if they tell you that they are dizzy when

standing and the dizziness goes away when they sit back down, you have a good reason to suspect orthostatic hypotension.

If that patient also has known Parkinson's or other autonomic dysfunction and the blood pressure drops upon standing with inadequate increase in heart rate, these clues strongly support the suspicion of nOH.

Dr. Isaacson:

Now, with all that being said, Dr. Beinart, can you explain what leads to the symptoms of nOH?

Dr. Beinart:

Sure. So, when you stand up, the gravitational pooling of blood in the lower extremities must be overcome to maintain adequate blood return to the heart and ensure perfusion of the brain. In the patients with nOH, however, this compensatory action does not take place due to their lack of normal baroreflex function. As a result, blood pressure falls below the lower range of cerebral regulation and you get the symptoms of cerebral hypo-perfusion, along with other detrimental cardiovascular events. In addition, in nOH patients, autonomic failure, including the abnormal baroreflex function, may also increase their risk for supine hypertension.

Dr. Isaacson:

Turning back to you, Dr. Brillman, are there any other factors we should consider?

Dr. Brillman:

Yes, there are actually many other factors that can worsen symptoms in patients with nOH. Their blood pressure can fluctuate throughout the day in response to changes in the environment. High carbohydrate meals, standing, hot showers, and warm environments, among others could also lower blood pressure and worsen nOH symptoms. These patients may also be especially sensitive to the hypotensive effects of anti-hypertensive and anti-psychotic medications, which are often prescribed to patients with Parkinson's and related syndromes. And that's why tracking medical history and monitoring medication history and dosage can be important in these patients.

Dr. Isaacson:

And if we stay with you for just another moment, Dr. Brillman, what are some of the common and uncommon symptoms of nOH?

Dr. Brillman:

Commonly, we can see about anything. Since the brain is not being adequately perfused, pre-syncope, dizziness, light-headedness, falls, visual disturbances, cognitive changes, leg weakness can occur. Patients may also describe symptoms in different ways other than established clinical terms. For example, they may say 'swimmy-headedness' instead of 'dizziness'. Less commonly, we see nausea, fatigue, visual spatial impairment. There may also be sleepiness after a meal and post-prandial hypotension. And if the upper back muscles, heart, and lungs are hypoperfused, coat hanger pain, angina, and dyspnea can occur. Of course, syncope with falls can lead to injury.

Dr. Isaacson:

Well, that's concerning.

And turning back to you, Dr. Beinart, do you ever see dyspnea?

Dr. Beinart:

In very severe cases, yes. But nOH patients can present with non-specific symptoms. They basically feel like they're falling through a black hole. Uh, the sense of falling may produce an anxiety component, which could also manifest as hyperventilation or dyspnea. If any symptoms are related to standing, then one has to consider nOH as a probable etiology.

Dr. Isaacson:

For those just tuning in, you're listening to ReachMD. I'm Dr. Stuart Isaacson and here with me today to talk about neurogenic orthostatic hypotension, or nOH for short, are Drs. Salima Brillman and Sean Beinart.

Dr. Isaacson:

So, Dr. Brillman, now that we have a better understanding of the symptoms of nOH, can you tell us how they impact the lives of patients and their families?

Dr. Brillman:

Yes, unfortunately, nOH can be extremely disabling for patients and their caregivers. Their daily activities, especially morning activities can become quite limited. Out of fear of their symptoms and fear of falling or fainting, their social lives get smaller and smaller. They won't travel, they won't go to the grocery store, they won't go out to eat, and eating is often one of the triggers for their symptoms. They may suffer from anxiety and mood disorders related to diminished quality of life. This can be very distressing and disruptive for

caregivers and family to see their loved ones going through this and their own lives are also affected.

Dr. Isaacson:

And Dr. Beinart, what are your thoughts on this?

Dr. Beinart:

I agree completely with Dr. Brillman. And would like to add that often patients are afraid of even going to see their doctor, which hampers proper treatment. I've seen patients become fixated on tracking their fluctuating blood pressures and reporting that to their physicians. But chasing fluctuations in blood pressure is not the best way to treat this disorder. It's much better to work on avoiding OH, physiologic stressors of OH, and treating to symptom benefit.

Dr. Isaacson:

Agreed. And sometimes we may also have to limit certain medications for Parkinson's motor symptoms because of fear of worsening nOH. And this probably increases resource utilization due to worse mobility, more falls, and ER visits. It becomes a kind of revolving door to the ER. So, with all this in mind, Dr. Brillman, how do you approach the optimal management of patients with nOH?

Dr. Brillman:

Basically, it's a three-step process. First, educating patients and family members about nOH and situations and medications that may exacerbate their nOH symptoms. Second, advise lifestyle changes and non-pharmacologic measures, such as increasing fluids, especially in the morning. Salt intake, eating smaller meals, wearing compression garments, getting up out of a bed and out of a chair slowly and carefully, counter-maneuvers, and lastly, sleeping with the head of the bed raised at 30 degrees. Third, if they are still symptomatic after doing all of this, moving quickly to appropriate pharmacologic treatment.

Dr. Isaacson:

And how about you, Dr. Beinart? What's your approach?

Dr. Beinart:

Well, right from the start, it's important to explain to them and their caregivers what's goin' on; that they have a physiologic abnormality that is not going away on its own, but there are measures that they can take to improve aspects of their daily lives that have been impacted by nOH. And then depending on age and degree of disability, highlight the non-pharmacologic measures that they will most likely be able to comply with. Elevating the head of the bed 10 to 20 degrees and hydration is a must, just like Dr. Brillman mentioned. They should leave that first office visit with at least three specific things that they know they can do right away even if they can't do them all.

Now, it's important that the prospect of pharmacologic therapy should be mentioned right at the beginning so that there won't be any surprise or delay if that is the direction that we have to take. And there should be a low threshold to initiation if non-pharmacologic measures fail.

Dr. Isaacson:

Thanks for sharing that, Dr. Beinart.

Now, we're almost out of time today, so before we close, I'd like to hear from each of you on what your recommendations are for best practices moving forward. Dr. Beinart, let's start with you.

Dr. Beinart:

So, I think it's critical to note that successful management of nOH patients can't be achieved without the help of neurologists and their expertise in the neurogenic components of the disease. At the same time, we as cardiologists, can adjust anti-hypertensive medication and reassure our neurology colleagues who may not be comfortable assessing the potential risk exposure of pressors and supine hypertension on the cardiovascular system. This kind of collaboration is admittedly an extra step, usually non-reimbursable, but necessary. Patients appreciate the consideration and care it shows for them and ultimately saves resources for the healthcare system because it benefits the patient and improves healthcare outcomes.

Dr. Isaacson:

Thanks, Dr. Beinart.

And Dr. Brillman, I'll give you the final word.

Dr. Brillman:

The bottom line here is that if one isn't comfortable with a particular component of an nOH patient's care, then put it in the hands of a specialist who is, and that means providing specific referral and contact information whenever possible to make sure that it happens.

Dr. Isaacson:

I couldn't agree with you. more, Dr. Brillman. And in some cases, the nOH symptoms may actually precede the diagnosis of Parkinson's disease. The cardiologist who is attentive to this non-motor component of the disease can identify that early on and then bring in the neurologist or movement disorder specialists to confirm the diagnosis. And together, they can work out a strategy to best manage the patient.

That does bring us to the end of our discussion today. So, I'd like to thank Movement Disorder Specialist, Dr. Salima Brillman and Cardiologist, Dr. Sean Beinart for joining me, today. It was great speaking with you both.

Dr. Brillman:

Thank you Dr. Isaacson.

Dr. Beinart:

Thank you.

Announcer:

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