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Vomiting Syndromes: A Closer Look at CVS and CHS in Adult Patients

Dr. Buch:
This is *GI Insights* on ReachMD. I'm Dr. Peter Buch, and today I'm joined by Dr. David Levinthal to discuss how we can care for patients with vomiting syndromes. Dr. Levinthal is the Director of the UPMC Neurogastroenterology and Motility Center and an Associate Professor of Medicine at the University of Pittsburgh School of Medicine.

Dr. Levinthal, welcome to the program.

Dr. Levinthal:
Oh, thank you very much for having me. It's a pleasure to be here.

Dr. Buch:
Let's get right into it. So, Dr. Levinthal, I'd first like to ask you about cyclic vomiting syndrome in adults. What key diagnostic features should we be looking for?

Dr. Levinthal:
Essentially, cyclic vomiting syndrome, or CVS, is a syndromic diagnosis. So it's basically a collection of symptoms, and the prototypical feature that really should bring CVS to mind diagnostically is the episodic nature. So essentially, patients with CVS don't have an attack of nausea and vomiting every day. They go for long periods of time—hopefully, for most patients, weeks or even months between attacks—and then suddenly have some prodrome or symptom complex that heralds an attack of nausea and vomiting.

The Rome IV criteria is used to basically define and diagnose CVS. And the diagnostic criteria really include that stereotypic episodic nature of the bouts of vomiting that have to be spaced about a week apart. So if someone has something every day, that doesn't sound like CVS. And people have to have at least about three of these in a year to qualify as having cyclic vomiting. So that gives some chronicity and at least minimal frequency. But there are many patients that have more frequent attacks, and in between, patients should have some relative lack of symptoms of nausea and vomiting—certainly a lack of vomiting. A lot of patients with cyclic vomiting do have some mild dyspepsia or nausea in between.

I think the workup to make a very definitive diagnosis of CVS is first, clinical suspicion, but also meeting these criteria in the absence of other confounding variables, like gastric obstruction. So doing some form of imaging or an upper endoscopy is reasonable in patients that present with these types of symptoms. Some basic bloodwork might be reasonable to rule out some metabolic issues. One could even look at some hormonal rule-outs. For example, Addison's disease could mimic cyclic vomiting syndrome, so some workup but non-exhaustive workup. And I think one can efficiently get to the diagnosis based on clinical suspicion and meeting the symptom criteria.

Dr. Buch:
Thank you. And a couple of follow-up questions. How often can we expect this in the general population?

Dr. Levinthal:
So we're still scientifically trying to nail down the prevalence of cyclic vomiting syndrome in the adult population, and there are a couple of ways to answer that question. I'm going to conjecture and throw out a number, but I want to be cautious to say this is not nailed down scientifically. It's probably somewhere on the order of about 0.5 percent. This is not a rare disorder, so that would be the point prevalence of CVS in the adult population.

I arrive at that number because when you look at prevalence studies that rely on coding—for example, the ICD-10 code for CVS does exist—you can look at the point prevalence of that code. But I think cyclic vomiting is underdiagnosed, so that sets a lower bound. And

you get somewhere around 0.1 percent when you do diagnostic codes. And if you ask random large groups of patients, "Do you have symptoms that meet the symptom criteria for CVS?" you get something closer to one percent, but that, perhaps, could be confounded by other disorders that might mimic CVS. It's probably somewhere in between, so 0.5 percent is a pretty conservative estimate, I think.

Dr. Buch:
Thank you for that. And the other question that comes to mind is, how often is it associated with other functional disorders?

Dr. Levinthal:
There are a lot of comorbid conditions that are seen in the adult CVS population. Other comorbid conditions, such as irritable bowel syndrome, are seen probably at slightly increased prevalence compared to the general population, but not that much above.

Really, the comorbidities actually are outside of other chronic GI disorders. There's a well-recognized comorbid tracking of this disorder with migraine. So it's interesting that the episodic nature of cyclic vomiting syndrome seems to be such a prototypical feature that it's associated with other episodic syndromes, and if you think of migraine, that's another episodic syndrome. So the prevalence of migraine in the CVS population is probably on the order of about 25 percent. It's a pretty common comorbidity that's well above the prevalence in the general population.

Even epilepsy is more commonly seen in patients with cyclic vomiting syndrome. That's another episodic disorder if you think of it in that term, so temporally. And then the other major comorbidity is mood disorder, and mood disorders are very common in patients who have disorders of brain-gut interaction in general, but specifically anxiety, is very common. Probably about a third to maybe up to half of adults struggle with chronic anxiety. So there's a lot of comorbid conditions that seem to track with patients that have CVS.

Dr. Buch:
Thank you for that information. And can you walk us through the algorithm you use to treat these patients?

Dr. Levinthal:
So essentially, mild forms of CVS need to be distinguished from moderate to severe forms. Mild forms would be a patient who has perhaps three attacks in a year; they last maybe one or maybe two days at the most; they tend not to require an ER visit for rehydration or to abort an attack; and they kind of bounce back relatively quickly. Moderate to severe forms would be patients who have longer attacks—three, four, five, maybe even seven days of an attack that almost always have to go to the emergency room when they have an attack and that have an increased frequency of attacks—more than four in a year.

For patients with mild CVS, we can offer abortive therapies that they can turn to when they feel that this is about to come on—they can turn it off when they're at home. And we can talk about what those therapies are, but conceptually, abortive therapy alone for mild patients, whereas patients with moderate to severe forms really qualify for having prophylactic or preventative therapies that they may take every day, even if they're feeling well, to try to decrease the frequency and the length of an individual attack.

So most of the data that supports specific prophylactic treatments come from retrospective trials. So the evidence basis is not as firm as in other fields, but clearly, there's clinical evidence, and my clinical experience and others would really support several different agents being used. These are mentioned in the CVS guideline.

So the first category of medication is tricyclic antidepressant class medications, such as amitriptyline or nortriptyline, and these are given at doses that are particularly higher than what most gastroenterologists are familiar with giving—maybe even most primary care physicians. This is not like 10 or 20 milligrams of nortriptyline. It's really doses closer to 75, 100, or maybe even 150 milligrams of daily dose. Now, you have to titrate up to that level and go up in slow increments, but patients tolerate it more than I think people recognize. Those doses can be quite effective for preventing cyclic vomiting attacks, or at least reducing the frequency, and there's evidence to support that.

The other classes of medications that are helpful are actually used in epilepsy, so antiepileptic medications such as topiramate, which probably has the best evidence base in that class as a prevention agent, but also agents like levetiracetam or zonisamide. Those medications can also be helpful.

And lastly, there's a third class, which are the NK-1 receptor antagonists, which actually can be quite effective but are a little hard to implement because of insurance issues. So it's an off-label use. And even if it's gone generic, it tends to be a little bit more expensive, so in my practice, it's a little hard to implement that. But those are the three main concept categories of prevention agents.

Dr. Buch:
Thank you so much. And now our patients are going to be asking us about cannabinoids. What can you tell us about cannabinoids in this situation?

Dr. Levinthal:
So I think there's two issues to disentangle here. First of all, there's an increased recognition that in some patients that use marijuana and cannabinoids in general quite heavily, that there can be another disorder—cannabinoid hyperemesis syndrome—that essentially mimics cyclic vomiting syndrome and is very hard to disentangle clinically because it's essentially the same CVS criteria, just in a different context where someone has very heavy cannabis use.

And I think the problem with making that distinction as a different disorder is the boundaries of how much cannabis is enough to invoke CHS versus CVS, because it is true that patients with CVS sometimes turn to cannabis to actually even abort an attack and use it quite effectively. They may not smoke use cannabis every day, but they find that it really just helps abort. So I think there's a role for actually using cannabis in CVS. I tend not to advocate strongly for it, but if someone has found that it works for them, I think that's kind of a useful thing to know.

I think we also have to acknowledge that in 2025, cannabis that's available widely is so much more potent than it was 30 years ago, and I think the THC concentration probably is important to think about for CHS. Some people use forms of cannabis that are not just vaping or smoking but an actual concentrate, and that can get into a 60 or 70 percent level of THC. I think it's important to counsel patients to not use those if it's suspected that they have CHS.

About half of patients with CVS probably have used cannabis in some form, but that amount and frequency of use is much lower than those that are heavy daily users. So the Rome IV criteria for CHS really is predicated on heavy, frequent use, but it doesn't really give a number to how frequent. So the new update to Rome criteria will come out probably next year, and there will be some nuance put into the definition—at least, I believe that it'll be codified—that it's really daily, at least four days a week use of cannabis for at least a year prior to developing a CVS-like illness to define CHS. And ultimately, you really don't know if it's cannabinoid hyperemesis syndrome unless you remove the cannabis.

Dr. Buch:
Thank you so much.

For those just tuning in, you're listening to *GI Insights* on ReachMD. I'm Dr. Peter Buch, and I'm speaking with Dr. David Levinthal about diagnosing and managing patients with vomiting syndromes.

In the last few moments of our conversation, Dr. Levinthal, do you have any additional thoughts you'd like to share with our audience?

Dr. Levinthal:
First of all, I really welcome the opportunity to speak about cyclic vomiting syndrome and cannabinoid hyperemesis syndrome because I think these disorders historically have been viewed as, perhaps, rare, and I think also CHS is probably viewed as too common. These exist, both of them, but CVS is probably much more prevalent, and we can really help patients, so I encourage everyone to put this front of mind when you have anyone who presents with nausea and vomiting to ask about the temporal pattern.

I think we tend to, as physicians, hear nausea and vomiting, and we assume it's kind of all the time, and we didn't really parse out the episodic nature of things. CVS is treatable for most patients to get at least somewhat better, and I think it really behooves us to recognize this disorder because a lot of patients go many years without having their syndrome even recognized. I think patients are so appreciative that they finally have a diagnosis and a treatment, and most patients can get better, so a lot of people are suffering for years without getting the help.

Dr. Buch:
Thank you. As those insights bring us to the end of the program, I want to thank my guest, Dr. David Levinthal, for joining me to discuss vomiting syndromes.

Dr. Levinthal, thanks for this incredibly informative discussion.

Dr. Levinthal:
Oh, thank you for having me. Again, a pleasure to share what I can about this disorder and help our patients. Thank you.

Dr. Buch:
For ReachMD, I'm Dr. Peter Buch. To access this and other episodes in this series, visit *GI Insights* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening, and looking forward to learning with you again very soon.