Cannabinoid hyperemesis: Why cannabis users self-medicate with hot showers

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Patients presenting with recurrent, severe nausea and vomiting often undergo extensive diagnostic workups, particularly when standard antiemetics fail. For a subset of these individuals, particularly those with a history of chronic cannabis use, the underlying cause may be Cannabinoid Hyperemesis Syndrome (CHS), a condition frequently overlooked in initial assessments. Its recognition is essential for patient well-being, as the definitive treatment is abstinence from cannabinoids, a recommendation that can be met with skepticism by patients and clinicians alike.

KEY TAKEAWAYS

- The Pivot: CHS is a distinct clinical entity, but its diagnosis relies heavily on exclusion and a thorough history of cannabis use.
- The Data: No specific numeric data is available for this general topic.
- The Action: Clinicians should consider CHS in patients with cyclic vomiting and chronic cannabis use, especially when symptoms improve with hot showers and resolve with abstinence.

Cannabinoid Hyperemesis Syndrome (CHS) manifests as recurrent episodes of severe nausea, intractable vomiting, and abdominal pain in individuals who are chronic, heavy users of cannabis. The syndrome was first described in 2004, and its prevalence has steadily increased alongside the rising rates of cannabis use, particularly in regions where cannabis has been legalized or decriminalized. Despite its growing recognition, CHS remains a diagnosis of exclusion, often leading to prolonged suffering for patients and significant healthcare resource utilization as other more common causes of cyclic vomiting are ruled out. The clinical picture can be quite dramatic, with patients presenting to emergency departments multiple times before the correct diagnosis is considered.

The pathophysiology of CHS is not fully understood, but current hypotheses center on the complex effects of cannabinoids on the gastrointestinal tract and central nervous system. Cannabis contains various cannabinoids, primarily delta-9-tetrahydrocannabinol (THC), which acts on cannabinoid receptors (CB1 and CB2) throughout the body. While cannabis is well-known for its antiemetic properties, particularly in chemotherapy-induced nausea and vomiting, chronic and high-dose exposure may paradoxically lead to dysregulation of the endocannabinoid system. This dysregulation is thought to alter gut motility, visceral pain perception, and thermoregulation, ultimately contributing to the hyperemetic state. The dose-dependent and duration-dependent nature of this paradoxical effect is a key area of ongoing investigation.

The Clinical Presentation and Diagnostic Criteria

Patients with CHS typically present with a characteristic triad of symptoms: cyclic episodes of severe nausea, diffuse abdominal pain, and incessant vomiting. These episodes can last for hours to days and are often debilitating. A hallmark feature, highly suggestive of CHS, is the compulsive use of hot showers or baths to alleviate symptoms. Patients report that hot water provides temporary relief from the nausea and abdominal pain, often spending extended periods in the shower. This behavior is so distinctive that its presence should immediately raise suspicion for CHS, even in the absence of a clear history of cannabis use. The relief from hot water is thought to be due to the restoration of normal thermoregulation, which is believed to be disrupted by chronic cannabinoid exposure.

The diagnostic process for CHS is challenging because its symptoms overlap significantly with other conditions causing cyclic vomiting, such as cyclic vomiting syndrome (CVS) itself, gastroparesis, and various gastrointestinal disorders. Therefore, a thorough medical history is paramount, focusing on the frequency, duration, and quantity of cannabis use. Patients may be reluctant to disclose their cannabis use, or may not consider it relevant to their symptoms, necessitating careful and non-judgmental questioning. The Oxford Handbook of Clinical Medicine provides a concise overview of diagnostic approaches to chronic nausea and vomiting, emphasizing the importance of a comprehensive history and physical examination.

The Rome IV criteria for functional gastrointestinal disorders do not specifically include CHS, but the clinical features align with a functional disorder. Diagnostic criteria for CHS have been proposed by various groups, generally including: 1) a history of chronic cannabis use (daily or near-daily for months to years); 2) recurrent episodes of severe nausea and vomiting; 3) resolution of symptoms with sustained cannabis abstinence; and 4) characteristic compulsive hot bathing behavior. The absence of other identifiable causes for the vomiting after appropriate investigations is also a critical component of the diagnosis. This reliance on exclusion means that clinicians must be diligent in ruling out other conditions, which can involve extensive testing, including endoscopy, imaging, and laboratory work.

Managing Acute Episodes and Long-Term Strategies

Acute management of CHS episodes focuses on symptomatic relief and rehydration. Standard antiemetics, such as ondansetron, often prove ineffective, which can further complicate the diagnostic picture. Benzodiazepines (e.g., lorazepam) and antipsychotics (e.g., haloperidol) have shown more promise in alleviating acute symptoms, likely due to their effects on central dopamine receptors and their anxiolytic properties. Intravenous fluids are essential to correct dehydration and electrolyte imbalances resulting from prolonged vomiting. Topical capsaicin cream, applied to the abdomen, has also been reported to provide relief, possibly by desensitizing pain receptors and influencing thermoregulation, mirroring the effect of hot showers.

The definitive treatment for CHS is complete and sustained abstinence from all cannabinoid products. This includes not only recreational cannabis but also CBD products, which can contain trace amounts of THC or interact with the endocannabinoid system in ways that may perpetuate symptoms. Patients often find this recommendation difficult to accept, particularly if they have been using cannabis for perceived therapeutic benefits or if they do not associate their symptoms with their cannabis use. Education and empathetic counseling are vital for patient recovery to help patients understand the link between their cannabis use and their symptoms. Without abstinence, symptoms are highly likely to recur, leading to a cycle of emergency department visits and hospitalizations.

The long-term prognosis for CHS is excellent with complete cessation of cannabis use. Symptoms typically resolve within days to weeks of abstinence. But relapse rates are high, underscoring the addictive potential of cannabis and

the need for ongoing support. Patients may benefit from addiction counseling, cognitive behavioral therapy, or support groups to maintain abstinence. The challenge lies in convincing patients that the very substance they use for relaxation or pain relief is the cause of their debilitating vomiting. This often requires a strong therapeutic alliance and a clear explanation of the syndrome's unique characteristics.

Distinguishing CHS from Other Cyclic Vomiting Syndromes

Differentiating CHS from other causes of cyclic vomiting, particularly cyclic vomiting syndrome (CVS), is a key clinical challenge. While both conditions involve recurrent episodes of severe nausea and vomiting, there are important distinctions. CVS typically begins in childhood, though it can persist into adulthood, and is often associated with migraines and a family history of migraines. The triggers for CVS can be diverse, including stress, infections, and certain foods. In contrast, CHS is exclusively linked to chronic cannabis use and typically emerges in adulthood. The compulsive hot bathing behavior is far more characteristic of CHS than CVS. The resolution of symptoms with cannabis abstinence is the ultimate diagnostic test for CHS, a factor not present in CVS.

The increasing potency of cannabis products available today, particularly those with high THC concentrations, may contribute to the rising incidence and severity of CHS. Concentrates, edibles, and vaping products deliver higher doses of cannabinoids, potentially accelerating the dysregulation of the endocannabinoid system. This trend highlights the importance of asking about the specific types of cannabis products used, not just whether a patient uses cannabis. As the medical community gains more experience with CHS, understanding these nuances will become even more critical for accurate diagnosis and effective management. The lack of specific biomarkers for CHS means that clinical judgment and a detailed history remain the cornerstones of diagnosis.

> **CLINICAL IMPLICATIONS**
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> The persistent challenge of diagnosing Cannabinoid Hyperemesis Syndrome lies in its insidious onset and the patient's often-reluctant disclosure of cannabis use. Clinicians must maintain a high index of suspicion for CHS in any patient presenting with cyclic vomiting, especially when conventional antiemetics fail. Asking direct, non-judgmental questions about cannabis use, including frequency, quantity, and method of consumption, is paramount.
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> The characteristic hot bathing behavior should serve as a powerful red flag, prompting a focused inquiry into cannabinoid exposure. Recognizing this unique symptom can significantly shorten the diagnostic odyssey for patients, sparing them from unnecessary invasive procedures and prolonged suffering. It also allows for the timely initiation of the only truly effective treatment: abstinence.
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> For patients, accepting that cannabis, a substance they may perceive as harmless or even therapeutic, is the cause of their severe symptoms can be a difficult pill to swallow. Education and support are crucial to help them understand the paradoxical effects of chronic cannabinoid exposure. Without a clear understanding and commitment to abstinence, the cycle of vomiting and emergency visits will inevitably continue, placing a significant burden on both the individual and healthcare systems.

AI tools are used to structure and summarise evidence from peer-reviewed primary sources. Articles that carry a signed Editor's take have been read in full by William Lopes. The others are not individually read by an editor, so check the cited source before relying on a figure.

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