AGA Clinical Practice Update on Diagnosis and Management of Cannabinoid Hyperemesis Syndrome

By: Andres Rodriguez, DO, MBA

Background

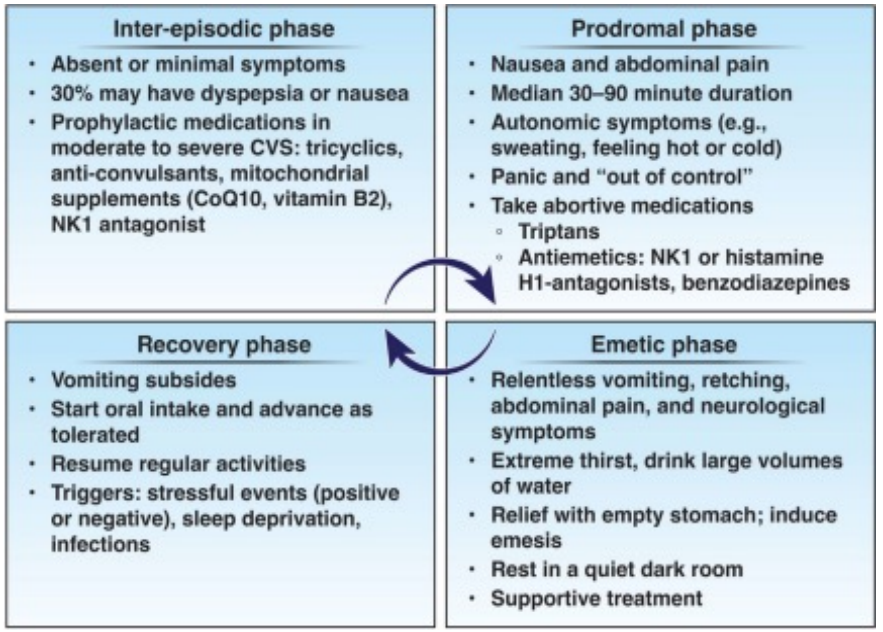
- Cannabinoid Hyperemesis Syndrome (CHS) is a subtype of cyclical vomiting syndrome (CVS)
- Cannabis plant has 400+ chemicals -- most importantly tetrahydrocannabinol (THC) and cannabidiol (CBD)
  - THC → psychoactive ingredient (not CBD).
- Marijuana is widely used-- 48.2 million people used in 2019
  - Medical marijuana legalized in 37 states, recreational in 27 states
  - Higher THC concentration in cannabis products being sold in dispensaries
- Unique adverse effects → nausea, vomiting, abdominal pain
  - Cases of up to 30 episodes of vomiting daily
- Paradoxical effects – patients may note relief of symptoms such as emesis with cannabis use

Cyclical Vomiting Syndrome

Table 1. Rome IV Criteria for Cyclical Vomiting Syndrome in Adults[a]

• Stereotypical episodes of vomiting regarding onset (acute) and duration (<1 week)
• At least 3 discrete episodes in the previous year and 2 episodes in the past 6 months, occurring at least 1 week apart
• Absence of nausea and vomiting between episodes, but other milder symptoms can be present between episodes
• Supportive remarks: history or family history of migraine headaches

[a]Criteria fulfilled for the last 3 months with symptom onset at least 6 months before diagnosis.
Adapted from Stanghellini et al.[1]



Epidemiology

- ⬆️ prevalence in emergency departments (ED), primary care, and gastroenterology clinics
  - Prevalence of CHS in EDs doubled between 2017-2021 in North America
  - Highest prevalence: 16-34 age range
- Males > females
- Cannabinoid hyperemesis syndrome (CHS)
  - associated with chronic (typically years) and heavy (usually daily / near-daily) cannabis use

The Emoroid Digest

@EmoryGastroHep

Citations: Rubio-Tapia, et al. (2024). AGA Clinical Practice Update on Diagnosis and Management of Cannabinoid Hyperemesis Syndrome: Commentary. Gastroenterology 2024; 166: 930–934; UpToDate –Cannabinoid Hyperemesis Syndrome

Pathophysiology

- THC activates these receptors:
  - CB1 → **brain** and **gut**
    - effects on anxiety, depression, GI secretions, emesis and appetite control
  - CB2 → **inflammatory** (immunocyte/macrophage) and **epithelial cells/neurons** (sensory neurons)
    - effects on inflammation and nociception
  - Transient receptors of vanilloid type 1 channel
    - affects vagus nerve and gut function

Diagnostic Criteria for CHS

1. **Clinical features**
   - episodic vomiting episodes, 3+ episodes annually
2. **Cannabis use patterns**
   - duration of cannabis use > 1 year before symptom onset
   - frequency more than 4 times per week, on average
3. **Cannabis cessation**
   - resolution of symptoms after a period of abstinence from cannabis use for at least 6 months or at least equal to the total duration of 3 typical vomiting cycles in that patient

* a negative result on a urine THC metabolite immunoassay (i.e. drug screen) likely excludes CHS

Management

- Mainstay of treatment: **TCA**
  - Amitriptyline with minimal effective dose being 75-100 mg at bedtime
    - start with 25 mg → up-titrate with weekly increments to reach minimal effective dose with close monitoring of adverse effects
- Topical capsaicin (0.1%) cream applied to upper abdomen
  - may improve symptoms by activation of transient receptor potential vanilloid type 1 receptors
- Avoid ❌ opioids
  - Can worsen nausea
  - addiction risk, tolerance, dependence
- Anti-emetics as needed
- Counseling to achieve marijuana cessation is **necessary** for successful treatment
  - Stopping use immediately may incite withdrawal symptoms and high frequency of recidivism
- Co-management with psychologist/psychiatrist may be helpful
- Ongoing clinical trials regarding topical capsaicin, benzodiazepines, haloperidol, promethazine, olanzaprine, ondansetron

Citations: Rubio-Tapia, et al. (2024). AGA Clinical Practice Update on Diagnosis and Management of Cannabinoid Hyperemesis Syndrome: Commentary. Gastroenterology 2024; 166: 930–934; UpToDate –Cannabinoid Hyperemesis Syndrome