



Maryland Chapter

AMERICAN COLLEGE OF EMERGENCY PHYSICIANS

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PRESENTATION

Cyclic Vomiting: A Medication Bottomless Pit?

DESCRIPTION

Cyclic Vomiting Syndrome (CVS) is a disorder characterized by recurrent, stereotypic episodes of incapacitating nausea, vomiting and other symptoms, separated by intervals of comparative wellness.

The goal of the talk is to help the emergency provider understand and manage this challenging and debilitating condition.

OBJECTIVES

- Discuss the diagnosis and management of cyclic vomiting syndrome including emergency department workup and treatment.
- Discuss the management of cannabinoid hyperemesis.
- What defines cyclic vomiting syndrome?
- Describe the relationship between cannabis use and cyclic vomiting?
- What work-up (if any) needs to be performed in the emergency department?
- If the diagnosis is already established, are any tests necessary?
- What medications are most effective for symptom control? Should any meds be avoided?

DISCLOSURE

No significant financial relationships to disclose.

Cyclic Vomiting: A Medication Bottomless Pit?

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Disclosures

- No Financial Disclosures

Cyclic Vomiting

- Which chart would you rather pick up?

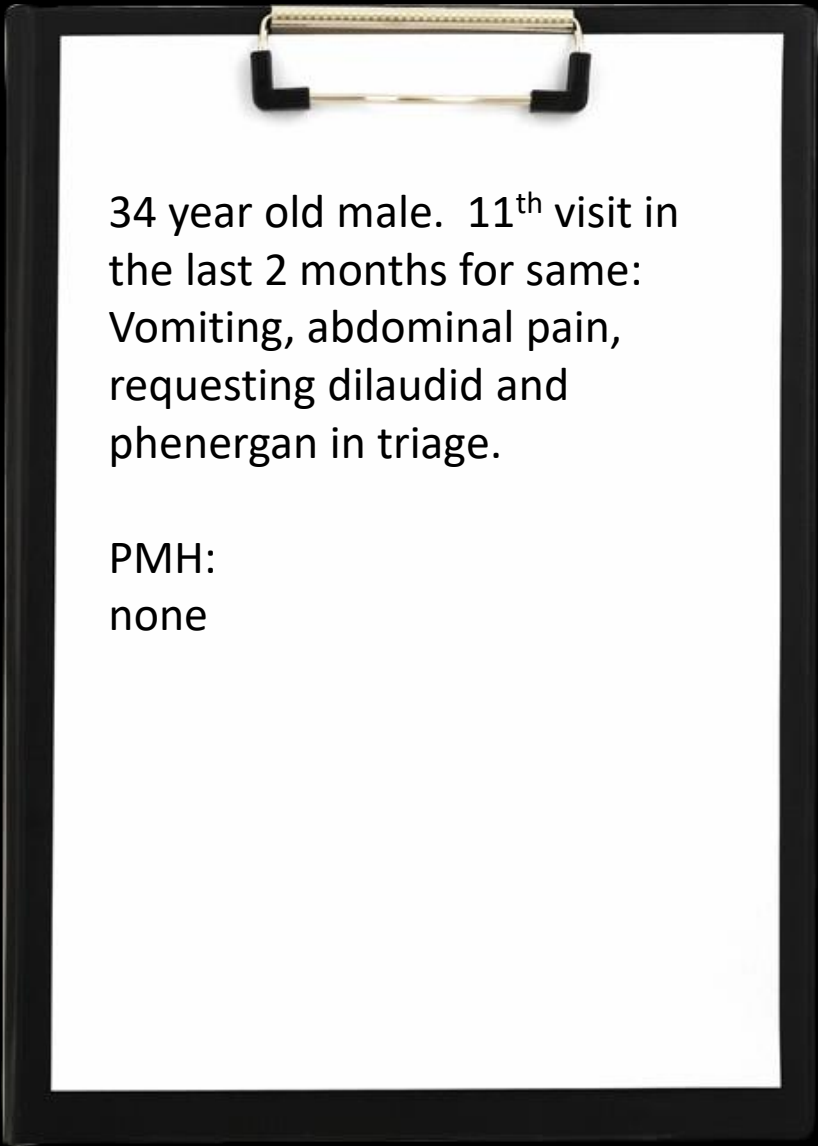


46 year old male with chronic lyme disease, PICC line for home chelation therapy fell out. Needs PICC replaced.

PMH:
Chronic fatigue syndrome
Pseudo seizures.

32 year old female: borderline personality disorder, ingested 56 pills of lithium, now would like to sign out AMA.

PMH:
Interstitial cystitis
Costochondritis
Fibromyalgia
PANDAS



34 year old male. 11th visit in
the last 2 months for same:
Vomiting, abdominal pain,
requesting dilaudid and
phenergan in triage.

PMH:
none

Cyclic Vomiting Syndrome

- ❑ What Is it?
- ❑ What about cannabinoids?
- ❑ What do you need to do in the ED?
- ❑ How do you fix it?
- ❑ Dispo?



**Cyclic Vomiting
Syndrome Association**

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Newly released: The Guidelines on Management of Cyclic Vomiting Syndrome in Adults.

What exactly is it?

- Easy:
 - G43.A1 or G43.A0??

ICD 10

Seriously what is it?

- ROME IV criteria
 - Stereotypical episodes of vomiting regarding onset (acute) and duration less than one week)
 - two or more discrete episodes in the past 6 months
 - Absence of vomiting between episodes
 - Often with personal/family history: migraine



Abdominal Migraine



Gastroparesis

- Motility Disorder – delayed gastric emptying

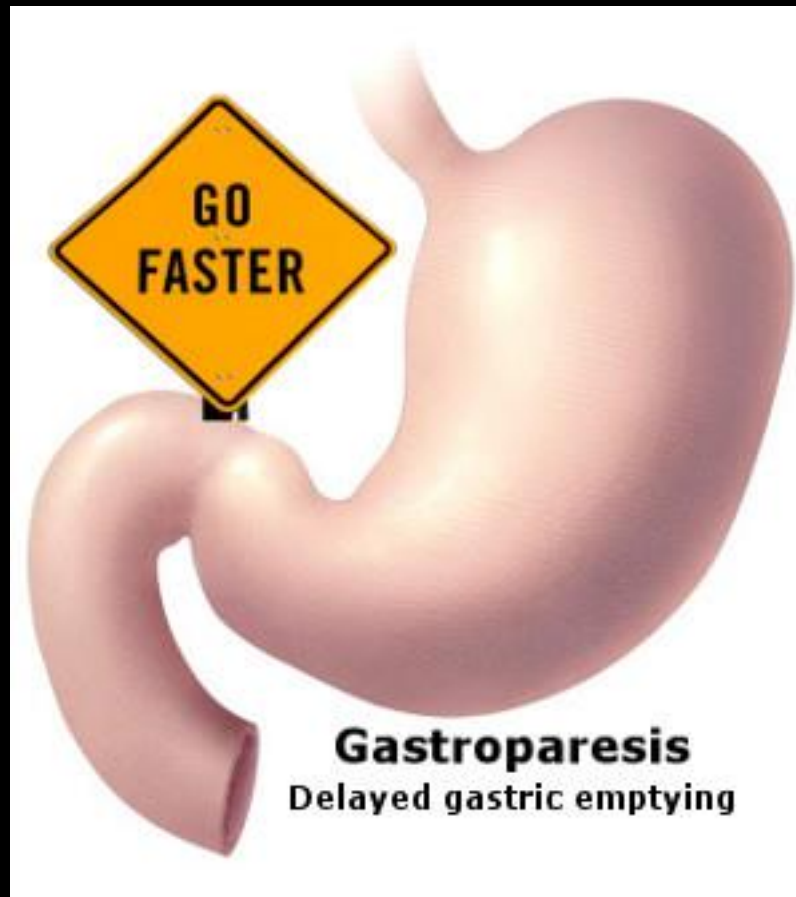


Photo from <http://gastrodigestivesystem.com/stomach/gastroparesis>

Pathophysiology

- Migraine
- Mitochondrial dysfunction (kids)

Stress Response

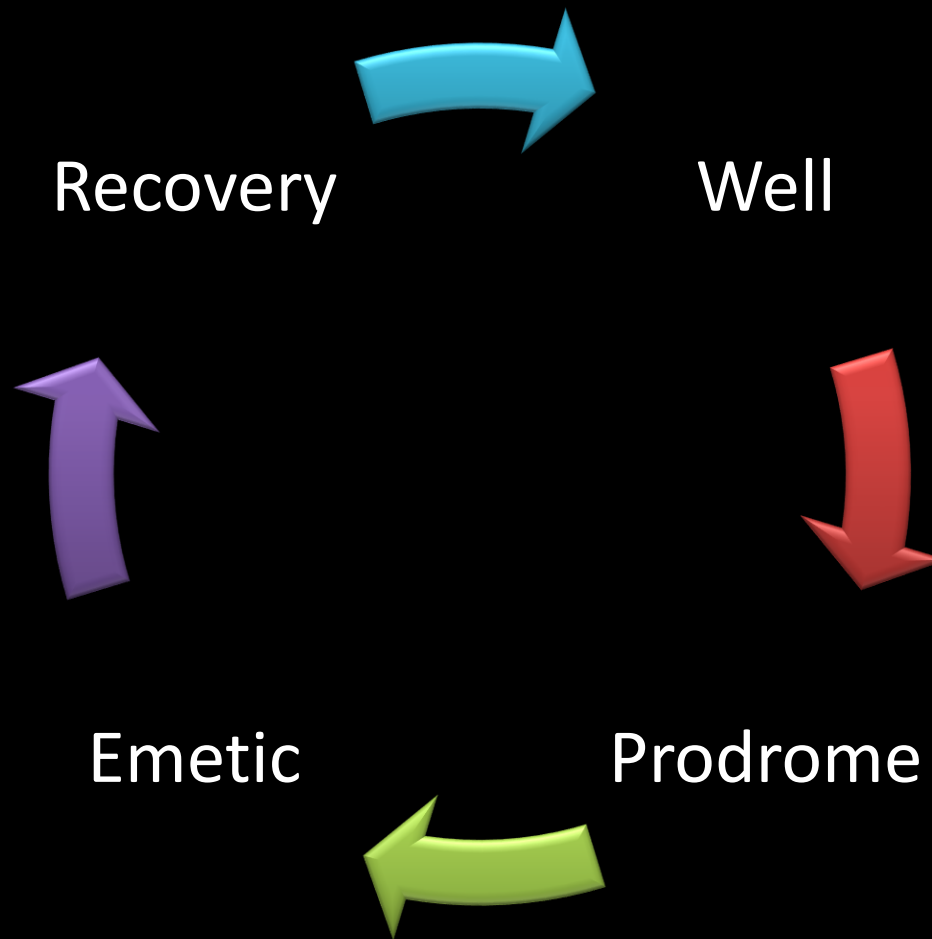


Sympathetic “hyperresponsiveness”



Delayed gastric emptying/vomiting

4 cycles of cyclic vomiting



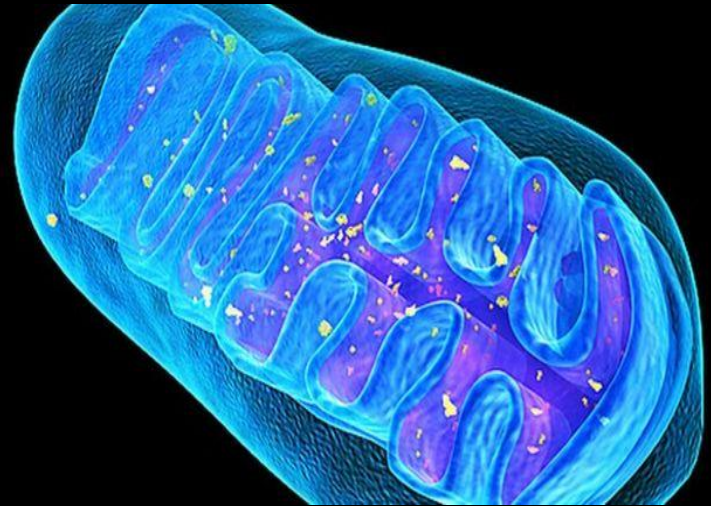
Prakash C, Staiano A, Rothbaum RJ, Clouse RE. Similarities in cyclic vomiting syndrome across age groups. *Am J Gastroenterol* 2001; 96: 684–8.

ED presentation

- Generally will have been seen before
- Prior workup
- Not going to make diagnosis on first visit
- No definitive lab/imaging test

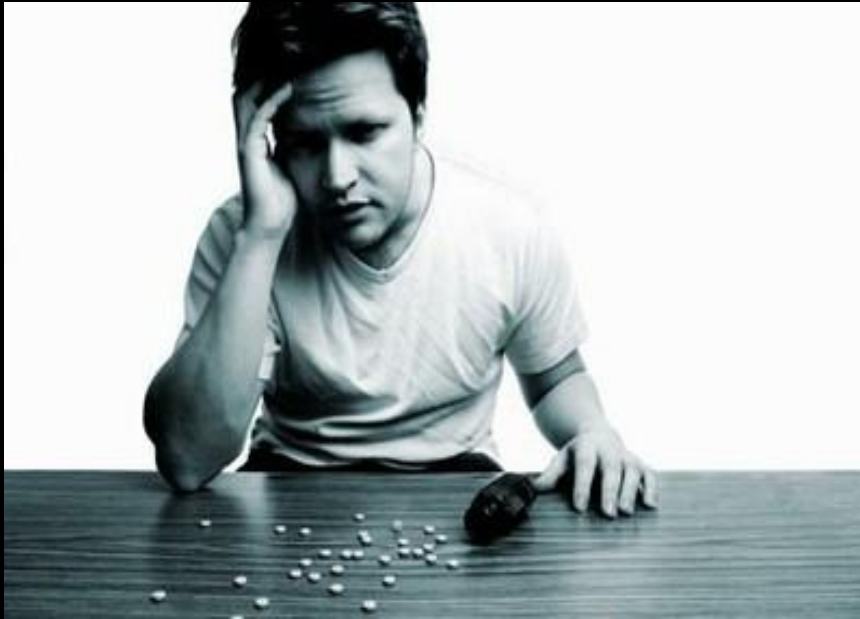
Kids

- Maternal inheritance
- Less opioid dependent
- More commonly female
- Rare interepisodic attacks
- Acute stressor



Abell, T. L., et al. "Cyclic vomiting syndrome in adults." *Neurogastroenterology & Motility* 20.4 (2008): 269-284.

Adults



- Chronic opiate users
- Often have symptoms in between attacks.
- Associated with cannabinoid use

Abell, T. L., et al. "Cyclic vomiting syndrome in adults." *Neurogastroenterology & Motility* 20.4 (2008): 269-284.

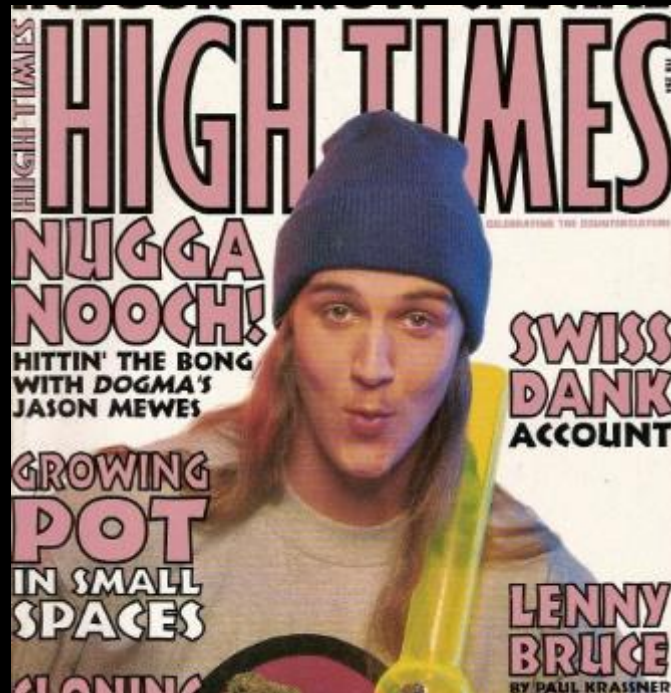
Cyclic Vomiting Syndrome

- ☒ What Is it?
- ☐ What about cannabinoids?
- ☐ What do you need to do in the ED?
- ☐ How do you fix it?
- ☐ Dispo?

Cannabinoid Hyperemesis (CHS)



Cannabinoid Hyperemesis (CHS)



“CHS is a very rare syndrome and is easily cured by stopping the consumption of cannabis. This should not, by any means, hurt marijuana’s reputation for being the safest recreational drug around, but people need to be aware of the syndrome’s existence. ” – High Times December 2014

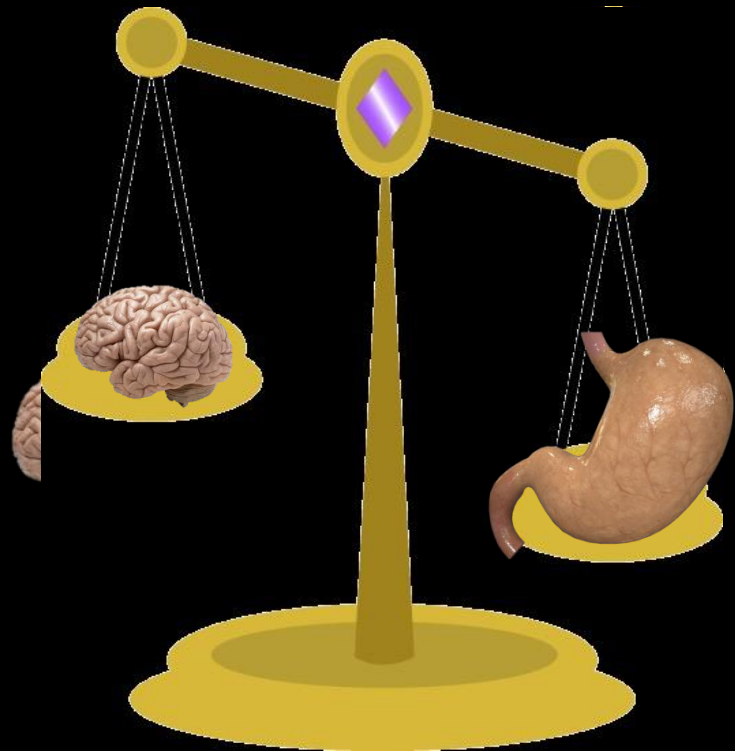
CHS



CHS

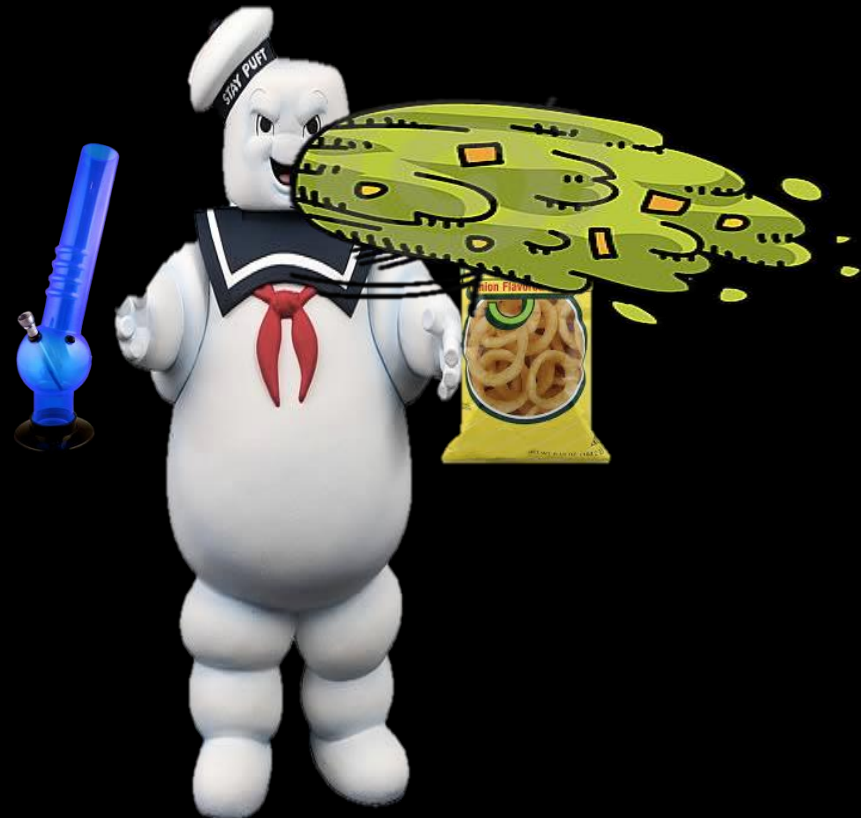
- Related primarily to CB1 and 5-HT1a receptors
 - Cannabidiol
 - Cannabigerol
 - THC

High Dose/Chronic Use



CHS

- THC/CBD
 - Fat soluble
 - Lipolysis



Galli JA, Sawaya RA, FriedenberG FK. Cannabinoid hyperemesis syndrome. Curr Drug Abuse Rev (2011) 4(4):241–910.

Cyclic Vomiting Syndrome

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What to do in the ED

- Lots of prior workup
- Feels the same as prior
- Labs – probably worth checking chemistry and a pregnancy test
- Probably don't need to re-image if all prior workups negative

What to do in the ED

Venkatesan et al. *BMC Emergency Medicine* 2010, **10**:4
<http://www.biomedcentral.com/1471-227X/10/4>



RESEARCH ARTICLE

Open Access

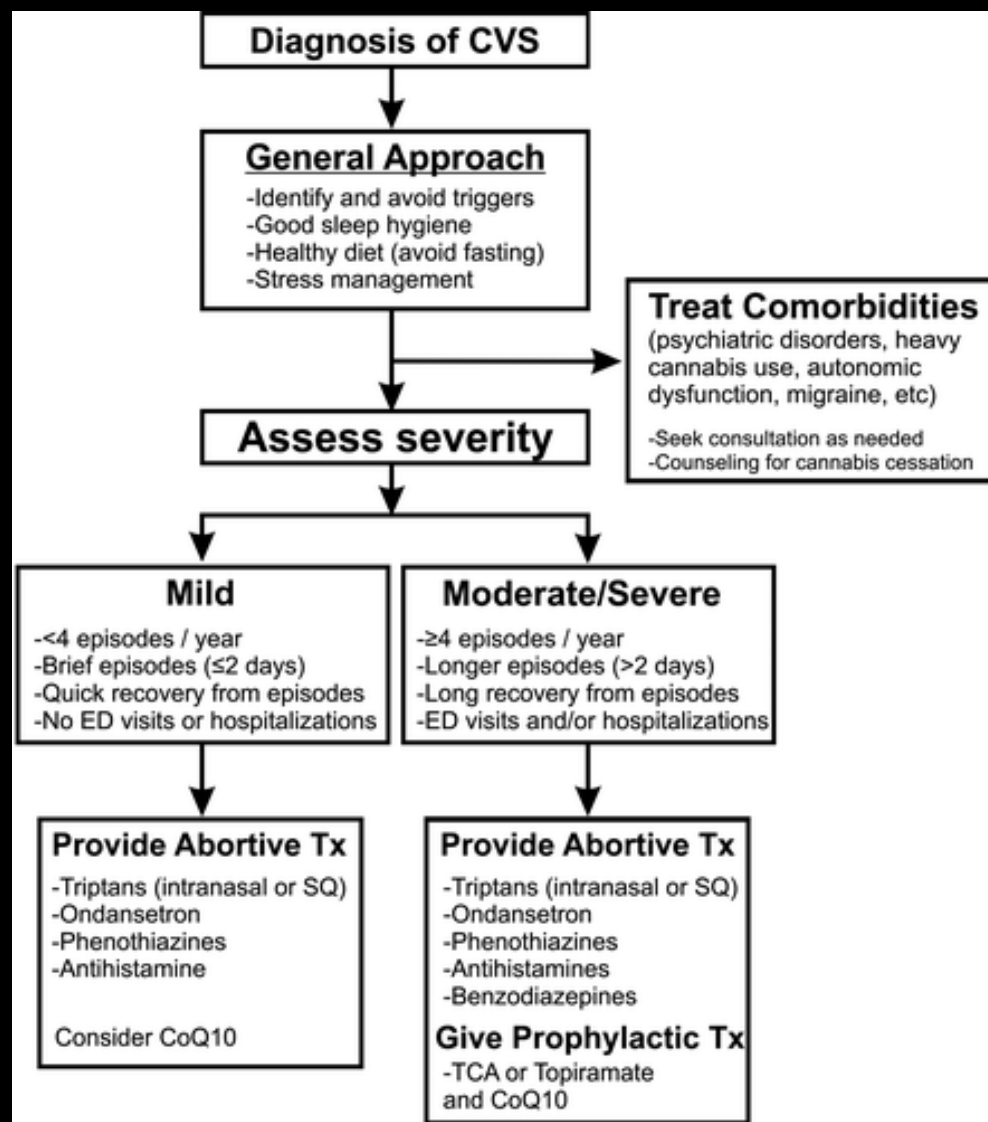
A survey of emergency department use in patients with cyclic vomiting syndrome

Thangam Venkatesan^{1*}, Sally Tarbell^{2†}, Kathleen Adams^{2†}, Jennifer McKanry^{3†}, Trish Barribeau^{4†}, Kathleen Beckmann^{5†}, Walter J Hogan^{1†}, Nilay Kumar^{1†}, BUK Li^{2†}

- 10 visits/year
- Minority (30%) had a care plan
- 80% ED use of care plan

...A medication bottomless pit

- 
- Ondansetron
 - Prochlorperazine
 - Promethazine
 - Metoclopramide
 - Haloperidol
 - Fentanyl
 - Hydromorphone
 - Morphine
 - Levetiracetam
 - Coenzyme Q10
 - L-Carnitine
 - Amitriptyline
 - Propranolol
 - Sumatriptan
 - Ketorolac
 - cyproheptadine
 - Phenobarbital
 - Topiramate



Guidelines on management of cyclic vomiting syndrome in adults by the American Neurogastroenterology and Motility Society and the Cyclic Vomiting Syndrome Association

Neurogastroenterology & Motility, Volume: 31, Issue: S2, First published: 26 June 2019, DOI: (10.1111/nmo.13604)

How do you fix CVS?

- Well (prophylactic)
 - TCA (amitriptyline)
 - ondansetron
 - Phenothiazines
 - Antihistamines
 - CoQ10
 - Being taken seriously



How do you fix CVS?

- Abortive
 - Triptans
 - Ondansetron
 - Aprepitant
 - Sedation
 - Benzo
 - Diphenhydramine



How do you fix CVS?

- Emetic:
 - Dextrose
 - IV fluids
 - Antiemetics (take your pick)
 - Sedation – lorazepam/diphenhydramine
 - Avoid narcotics
- Li, B. UK, et al. "North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition consensus statement on the diagnosis and management of cyclic vomiting syndrome." *Journal of pediatric gastroenterology and nutrition* 47.3 (2008): 379-393.
- **Neurogastroenterology & Motility, Volume: 31, Issue: S2, First published: 26 June 2019, DOI: (10.1111/nmo.13604)**

ED Care Plan

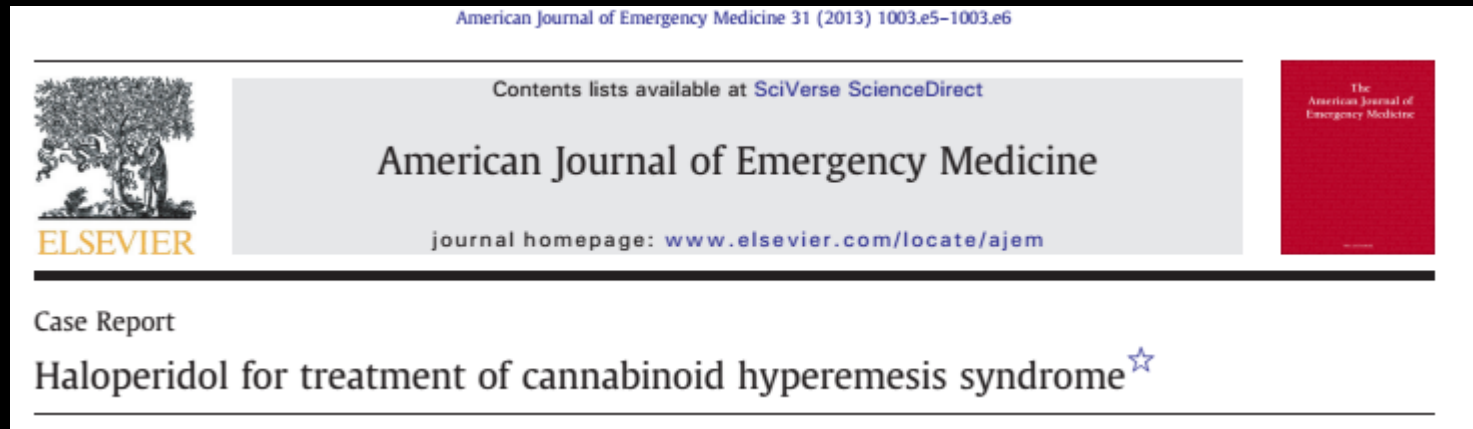
- First line:
 - Ondansetron 8mg IV x 1
 - D5 NS x 2 liters
- Second line:
 - Diphenhydramine 50mg IV x 1
- Third Line
 - Lorazepam 2mg IV x 1

What about CHS?



Novel Treatments

- CHS
 - Haloperidol



Novel Treatments



Cyclic Vomiting Syndrome

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- ☐ Dispo?

Admission?



- Renal injury
- Electrolytes
- Imaging reveals non CVS/CHS diagnosis

Disposition?

- Discuss expectations at outset
- Early engagement of patient's PMD/GI physician
- Hydration



Take Home Points

- Kids vs adults
- Testing: BMP, Uhcg
- CHS – capsaicin, haldol, hot showers, time
- CVS
 - Antiemetics, dextrose
 - Sedation, avoiding narcotics
- Dispo

Questions?

