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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. 11\textsuperscript{th} 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?
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
Pathophysiology

- Migraine
- Mitochondrial dysfunction (kids)

**Stress Response**

Sympathetic “hyperresponsiveness”

Delayed gastric emptying/vomiting
4 cycles of cyclic vomiting

Recovery ➔ Well

Emetic ⇐ Prodrome

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

Adults

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

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
CHS

- **THC/CBD**
  - Fat soluble
  - Lipolysis

Cyclic Vomiting Syndrome

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

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

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

Venkatesan et al. BMC Emergency Medicine 2010, 10:4
http://www.biomedcentral.com/1471-227X/10/4
A medication bottomless pit

- Ondansetron
- Prochlorperazine
- Promethazine
- Metoclopramide
- Haloperidol
- Fentanyl
- Hydromorphone
- Morphine
- Levetiractam
- Coenzyme Q10
- L-Carnitine
- Amitryptilline
- Propranolol
- Sumitriptan
- 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

How do you fix CVS?

- Well (prophylactic)
  - TCA (amitriptylline)
  - 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


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

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