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Gastroparesis

- Definition
- Etiology
- Clinical manifestations
- Diagnosis
- Treatment
- Cumulative Management

References

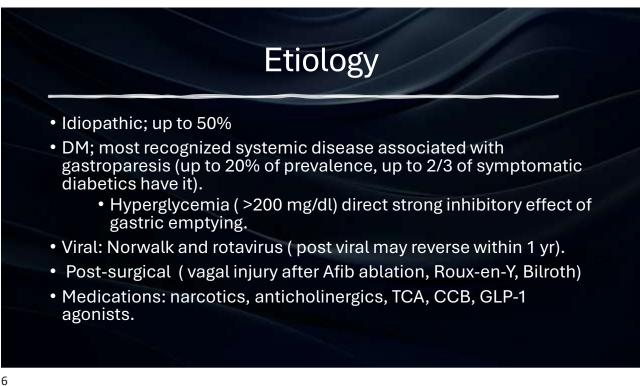
American Gastroenterological Association (AGA) American College of Gastroenterology (ACG)

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Gastroparesis

Definition: Syndrome

Objectively delayed gastric emptying of solids Absence of Mechanical obstruction Symptoms: N, V, early satiety, bloating, belching, pain



Etiology (2)

- Neurologic diseases: MS, brainstem stroke, Parkinsonism, amyloid.
- Autoimmune: Lupus, Sjogrens, resolution with immunoglobulins Rx.
- Para-neoplastic: small cell lung cancer
- Mesenteric ischemia
- Degeneration of stomach muscle layer (scleroderma).

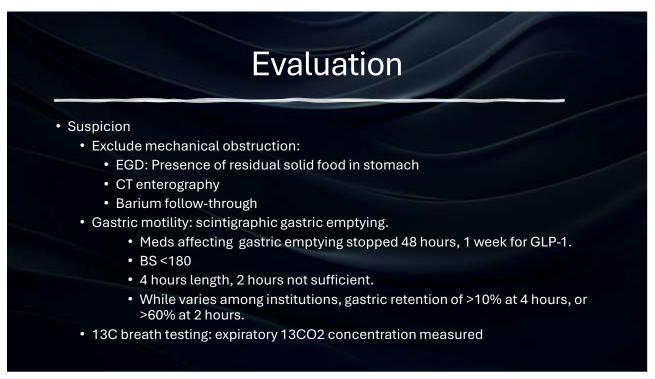
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Clinical	Manifes	tations

- Nausea (up to 93%)
- Vomiting (up to 85%), undigested
- Early satiety (up to 80%)
- Bloating
- Postprandial fullness
- Epigastric abdominal pain
- Weight loss
- Avoidance/ restriction of food

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Physical examination

- Epigastric abdominal distention
- Succussion splash
- •Look for hints of systemic clues: Raynaud, orthostatic hypotension, etc..



Differential Diagnosis

- Psychiatric diseases
 - Anorexia nervosa, bulimia, depression, psychogenic vomiting, side effect of psychotropic meds.
- Rumination syndrome
 - Behavioral disorder: effortless regurgitation of undigested food soon after a meal.
 - No nausea or retching.
 - Normal gastric emptying
- Functional dyspepsia
 - Not much N/V and weight loss
 - More of post-prandial bloating.
 - Normal gastric emptying
- Cyclical vomiting syndrome
 - Intermittent episodes of symptoms free periods.





Treatment of Gastroparesis

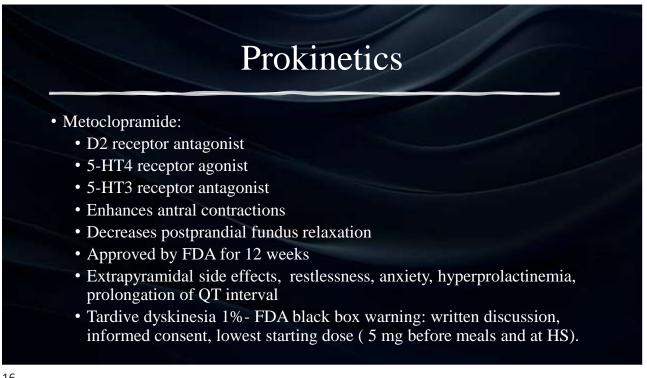
- Dietary Modifications
- Hydration and Nutrition
- Glycemic Control Optimization
- Medications
- Surgical Interventions

Dietary Modification

- Avoidance of fatty, acidic, spicy, roughage (insoluble fiber), carbonated beverages, alcohol and smoking (decrease contractility and delay emptying)
- Encourage low fat, soluble fiber, homogenization of food, hydration to avoid dehydration and electrolytes imbalance.
- Paramount importance to include Dietary Professionals in patients education and management

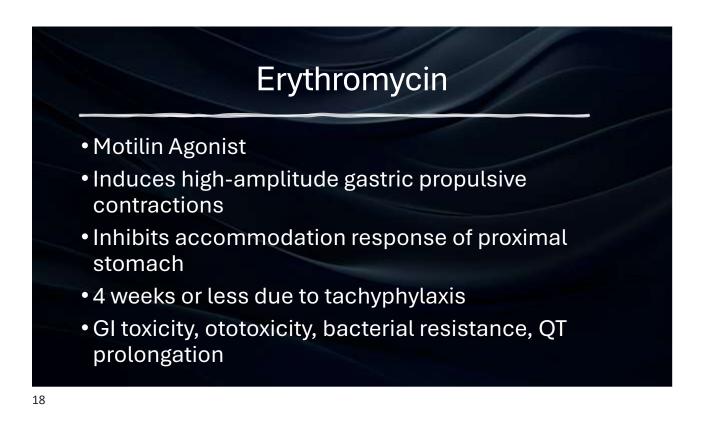
Glycemic Control Optimization

- Hyperglycemia slow gastric emptying
- Hyperglycemia attenuates efficacy of prokinetics
 - Avoid GLP-1 agonists
 - Dipeptidyl peptidase IV inhibitors (eg: sitagliptin- Januvia) do not affect gastric emptying.



Prokinetics

- Domperidone:
 - D2 agonist
 - Not cross BBB
 - Available in the US only through an FDA Investigational New Drug application. Widely available in Canada, Mexico, and Europe.
 - QT prolongation: therefore EKG before and during treatment. Must stop it if QTc>450 ms in men or >470 ms in women.



Azithromycin

- •Very similar profile to Erythromycin.
- •Fewer GI side effects.
- •Same side effect profile

Cisapride

- Propulsid
- 5-HT4 agonist
- Very effective in stimulating antral and duodenal motility
- Strong interactions with CyP3A4 isoenzyme (macrolide, antifungals) causing arrhythmias.
- In US, Investigational Limited Access Program

Prucalopride

- Motegrity or Resolor
- 5-HT4 agonist
- No cardiac arrhythmias
- FDA approved for chronic constipation and not gastroparesis but has shown to increase gastric emptying in a small group but mixed resolution of symptoms

Neurokinin 1 antagonists

- Chemotherapy agents for N/V
- Aprepitant and tradipitant
- No significant improvements

Antiemetics

• Diphenhydramine and ondansetron. No gastroparesis studies

Cannabinoids agents

- THC, delays gastric emptying of solids and may lead to cannabis-induced hyperemesis.
- Cannabidiol, a low-THC extract may have some efficacy.
- One single study of 44 individuals; Epidiolex; reduced symptoms severity despite slowing gastric emptying of solids.
- FDA approved for seizure disorder not gastroparesis

Endoscopic/Surgical Interventions

- Decompression and feeding tubes:
 - PEG/PEJ
- Interventions directed at the pylorus:
 - G-POEM (Gastric peroral endoscopic myotomy)
 - Transpyloric stent
 - Laparoscopic pyloroplasty
 - Intrapyloric botulinum toxin injections
- Gastric electrical stimulation: reserved for compassionate treatment N/V

