VET 433B Clinical Approach to the Vomiting Patient

Common causes of vomiting

GI	Extra-GI
Dietary indiscretion	Liver disease
GI foreign body	Renal Disease
GI neoplasia	Hyperthyroidism
Pancreatitis	Toxin Exposure
Infectious gastroenteropathy	Addison's Disease
IBD	Heartworm

Cat Information

Chronic small bowel disease is a common cause of vomiting in cats

- IBD 49%
- Lymphoma 46%
- Mast Cell Disease 3%
- Adenocarcinoma 1%

Clinical signs

- Weight loss 71%
- Vomiting 61%
- Diarrhea 11%

Vomiting Reflex

- Humoral pathway (bloodborne)- CRTZ
    - Renal failure, liver disease, digoxin toxicity, endotoxemia, apomorphine (dogs)
- Neural pathway- Vomiting Center
    - GI infection, GI inflammation, GI toxicity
    - Most common cause in the dog and cat

Four components of the Vomiting Reflex

1. Visceral receptors in the GI tract
2. Vagal and sympathetic afferent neurons
3. Chemoreceptor trigger zone
4. Vomiting center

Approach to the Vomiting Dog and Cat

1. Determine whether the animal is vomiting, regurgitating, retching or coughing

Regurgitation	Vomiting
Passive – normally w/o abdominal contraction	Active – abdominal contractions
No prodromal nausea	Prodromal nausea
Seconds to hours after a meal	Minutes to hours after a meal
Usually undigested material in evacuated contents	Undigested or digested evacuated contents +/- bile

2. Determine if the animal has mild, self-limiting disease or a more serious issue
    a. History
    b. Physical Exam
    c. Minimum database
    d. Clinical experience
3. Determine if vomiting is due to primary GI or extra-GI disease
    a. History
    b. Physical Exam
    c. Chemistry panel
    d. Serum T4 (cats)
    e. Spec cPL or fPL
    f. Abdominal imaging

When collecting a history for a dog that has been vomiting what should you ask about?

- Vaccination status
- Deworming history
- Travel history
- Dietary changes
- Previous medical problems
- Physical characteristics of vomitus (+/- pictures)
- Relationship of vomiting episodes to meals

Physical Exam of the Vomiting Patient

- Always perform a thorough oral exam
    - Look for dental floss under the tongue or stuck behind a tooth (esp. cats)!
- Signs of serious disease
    - Fever
    - Melena/hematochezia
    - Weakness
    - Anorexia > 48h

    - Abdominal Pain
    - Vomiting of "coffee grounds" or frank blood
    - Pale, icteric or muddy mucous membranes
    - Enlargement of abdominal organs/peripheral LNs

Diagnostic Approach to the Vomiting Patient

- CBC / Chem / UA
- PCV/TP
- Glucose
- Azostix
    - Renal dz
- Urine SG
    - Renal dz
- Abdominal radiographs
    - Foreign body
    - Contrast radiography
        - Gastrogram
        - Upper GI series
- +/- fecal flotation, Ag testing, PCR
    - GI parasitism
- +/- resting cortisol
    - Addison's
- Serum T4 (cats)
- Serum B12/folate
    - B12 is produced in the ileum
    - Folate is produced in the jejunum
- FeLV/FIV (cats)
- Abdominal ultrasound
- Serum bile acids
- Serum Spec cPL or fPL
- Liver aspirates or biopsy
- GI biopsy

What is the value of a chemistry profile for the vomiting dog/cat?

- Renal insufficiency
- Diabetic ketoacidosis
- Liver disease
- Hypercalcemia
- Electrolyte abnormalities (Na^+ and K^+)

- Hyperthyroidism (T4 may not be on all panels)
- Addison's disease cannot be ruled-out on the basis of normal electrolytes
    - Could still be atypical Addison's dz
    - Normally see hyperkalemia and hyponatremia

Management of the acutely Vomiting Dog and Cat

- Beneficial
    - Crystalloid fluid administration
    - Dietary management: fat-restricted, digestible diet
    - Antiemetics
    - Broad spectrum anthelminthic
- Not Beneficial
    - NPO
    - Gastric acid suppressants
    - Antibiotics
    - Corticosteroids

What are some causes of gastritis?

- IBD
    - Group of idiopathic chronic GI disorders characterized by infiltration of the GIT with inflammatory cells
    - Can impact the stomach, small bowel, or colon
- Foreign body
- Toxin ingestion
- Infections

***Helicobacter spp* infection importance?**

- *Helicobacter spp* have been frequently ID in gastric biopsies from healthy dogs and cats
    - Its role is still unclear in dogs and cats
- Histopathology: Lymphofollicular gastritis
- Triple therapy can be used to manage patients
    - Metronidazole, ampicillin, bismuth subsalicylate
    - Clarithromycin, metronidazole, PPI

What if there isn't a response to treatment?

- Make sure the animal is vomiting (not regurgitating)

- Repeat imaging studies of the abdomen
- Perform resting cortisol +/- ACTH stimulation test
    - Rule out Addison's Dz
- Consider the benefits of dietary modification *elimination diets
- Consider referral