

## **Feline Constipation**

### **What are the three main functions of the colon?**

1. Fermentation and production of nutrients from indigestible ingesta by colonic flora (microbiome).
  - Vitamins
  - Short chain fatty acids
2. Electrolyte and water absorption
  - mainly in the ascending and transverse colon
3. Storage of feces
  - Mainly descending colon

### **Predisposing Factors for Constipation**

- Sedentary lifestyle
- Obesity
- Hx of trauma
- Dehydration
- Diets
  - Low fiber diets or diets high in indigestible material (bone fragments etc.)

### **Presenting Complaints**

- Constipation
- Tenesmus
- +/- dyschezia
- +/- hematochezia
- +/- diarrhea
- +/- hyporexia, weight loss
- +/- vomiting

### **Physical Exam Findings**

- Distended colon with firm feces
- Abdominal pain
- +/- dehydration
- +/- weight loss and poor BCS
- +/- neurologic deficits

- Sedated rectal exam
  - Evaluate for pelvic fractures/stenosis, colonic FB, strictures or masses, perineal hernia

### Underlying Causes of Constipation

Functional	Mechanical
<u>Neurologic Disease</u> <ul style="list-style-type: none"> <li>• Pelvic trauma</li> <li>• Sacrocaudal luxations (tail pull inj.)               <ul style="list-style-type: none"> <li>• Dysautonomia</li> </ul> </li> <li>• Ganglionopathies (Hirschsprung's disease)</li> </ul> <u>Dehydration</u> <ul style="list-style-type: none"> <li>• Systemic disease (CKD, DM/DKA, chronic vomiting, neoplasia)</li> <li>• Lack of water access or anorexia</li> </ul> <u>Electrolyte changes (severe)</u> <ul style="list-style-type: none"> <li>• Hypokalemia</li> <li>• Hypercalcemia</li> </ul>	<u>Intraluminal</u> <ul style="list-style-type: none"> <li>• Colorectal masses               <ul style="list-style-type: none"> <li>• Strictures</li> </ul> </li> <li>• Atresia ani in kittens</li> <li>• Foreign bodies</li> </ul> <u>Extraluminal</u> <ul style="list-style-type: none"> <li>• Orthopedic stenosis or fractures               <ul style="list-style-type: none"> <li>• Masses</li> </ul> </li> <li>• Pelvic trauma, orthopedic, soft tissue               <ul style="list-style-type: none"> <li>• Manx sacral deformity</li> </ul> </li> </ul>

### Underlying Causes of Constipation

- Idiopathic megacolon
  - A diagnosis of exclusion
  - Unknown cause but suspected to be a disturbance in colonic smooth muscle contraction
- Chronic enteropathy (anecdotally)

### Top Causes of Feline Obstipation

- Idiopathic megacolon (62%)
- Orthopedic (23%)
- Neurologic (11%)

### Diagnostic Work-Up for Constipation

- History
- Neurologic Examination

- Decreased anal tone, perineal reflex
  - Paraparesis
- CBC/Chem (with lytes), Urinalysis
  - Usually unremarkable unless there is an underlying dz
  - May have signs of dehydration
    - Increased HCT, Albumin, Crea
- Sedated rectal exam
  - Palpate for masses/stricture/stenosis
  - Palpate pelvis for fractures/stenosis
- Radiographs
  - Evaluation of amount and character of feces
  - Evaluation of fractures, stenosis, mass, FB
  - Colonic diameter (use L5)
    - $<1.3$  = normal
    - $>1.5$  = abnormal / megacolon
- Abdominal ultrasound
  - Extraluminal masses
- Colonoscopy/proctoscopy/contrast radiographs \*these are not always necessary 3<sup>rd</sup> and 4<sup>th</sup> tier diagnostics
  - Barium enema if colonoscopy isn't possible \*requires deobstipation first

### **Plan for Obstipated Cats**

- Hospitalization
  - Rehydrate with IVF therapy
  - Serial warm water enemas 10ml/kg
  - Monitor electrolytes
    - Cats almost always have hypokalemia
- Manual deobstipation
  - Done if above treatment is unsuccessful

### **Medical management**

- First-time offenders may require less aggressive intervention
- Recurrent offenders warrant more aggressive treatment
- Obstipated cats need to be hospitalized
- Address the underlying disease
- Lifestyle changes
  - Increase physical activity
  - Intentional weight loss

- Diet
  - Canned to increase water intake
  - High fiber diets or fiber additions
    - Canned pumpkin \*pay attention to the carb content
    - Psyllium
  - Highly digestible diets to reduce stool volume
- Stool softener
  - Hyperosmotic polysaccharide laxatives
    - Miralax (OTC) ~1/4 tsp/cat po bid
    - Lactulose syrup (Rx) ~ 0.5mL/kg po bid-tid
- Rectal suppositories (questionable value)
  - DSS emollient laxatives – soften stool
  - Glycerin – lubricant laxative
  - Bisacodyl – stimulant laxative
- Prokinetics
  - Cisapride 0.5-1 mg/kg po bid-tid
  - MOA: serotonin 5-HT<sub>4</sub> agonist
  - Must be compounded
  - Do not use oral metoclopramide (short T<sub>1/2</sub> no effect on colon)

**NEVER** use Fleet enemas in cats/dogs (or any hypertonic Na<sup>+</sup> phosphate enema)

- Can cause marked electrolyte derangements
- Hyponatremia
- Hyperphosphatemia
- Hypokalemia
- Hypocalcemia
- Leading to vomiting, weakness, dehydration, and acute death

**\*Never** use mineral oil orally in cats – can lead to lipid aspiration pneumonia

### **Subtotal Colectomy (last resort procedure!)**

- Idiopathic megacolon is a diagnosis of exclusion and a radiographic dx
  - Likely a disturbance in colonic smooth mm contraction
- Subtotal colectomy for refractory idiopathic megacolon cases after exhausting all medical options
  - Ideally spare the ileocolic junction
  - Colon has poorer blood supply and slower wound healing than the SI
  - Morbidity issues: post-op septic peritonitis, dehiscence at anastomosis, stricture formation, recurrence of megacolon if too much colon is left behind
  - Diarrhea post-op, but usually resolves in weeks to months if the ICJ is spared