

# LONG-TERM (CHRONIC) VOMITING

## BASICS

### OVERVIEW

- Persistent vomiting lasting longer than 5 to 7 days or vomiting that occurs intermittently several days per week and is not responsive to medical treatment designed to control vomiting (known as “symptomatic treatment”)
- The gastrointestinal tract includes the stomach, small intestines, and large intestines (known as the “colon”)

### SIGNALMENT/DESCRIPTION of ANIMAL

#### Species

- Dogs and cats

#### Breed Predispositions

- Confirmed or suspected breed predispositions—Lhasa apsos, shih tzu, and other short-nosed, flat-faced (brachycephalic) breeds are prone to blockage of the pylorus (the muscular area where the stomach empties into the upper small intestine; condition known as “pyloric outflow obstruction”) secondary to enlargement of the lining of the gastrointestinal tract (known as “mucosal hypertrophy”); basenjis, German shepherd dogs, and Chinese shar peis are prone to inflammatory bowel disease (IBD); rottweilers are prone to development of masses or nodular lesions containing a type of white blood cell (called “eosinophils”) in the stomach (condition known as “gastric eosinophilic granulomas”); Airedale terriers are prone to cancer of the pancreas (known as “pancreatic carcinoma”); beagles, Bedlington terriers, cocker spaniels, Doberman pinschers, Labrador retrievers, Skye terriers, and standard poodles are prone to long-term inflammation of the liver (known as “chronic hepatitis”)
- Linear foreign bodies (such as string or yarn) are more common in cats

#### Mean Age and Range

- Young animals are more likely to ingest foreign bodies

### SIGNS/OBSERVED CHANGES in the ANIMAL

- Vomiting of food, clear or yellow-tinged (due to the presence of bile from the upper small intestine) fluid; vomiting blood (known as “hematemesis”); decreased appetite (anorexia); eating of nonfood items (known as “pica”); black, tarry stools (due to the presence of digested blood; condition known as “melena”); increased thirst (known as “polydipsia”); and abdominal distention are typical of diseases involving the stomach
- Diarrhea and profound weight loss are more characteristic of diseases involving the intestines
- Signs such as weakness; increased urination (known as “polyuria”); or yellowish discoloration to the gums and other tissues of the body (known as “jaundice” or “icterus”) relate to other underlying metabolic diseases that may cause long-term (chronic) vomiting)
- Weight loss and poor hair coat may indicate long-term (chronic) malnutrition
- Abdominal distention, pain, thickened bowel loops, or masses may be detected during physical examination
- “Tacky” or slightly sticky gums and prolonged skin tenting if dehydration is present; pale membranes if patient has low red-blood cell count (known as “anemia”)

### CAUSES

#### Disease of the Esophagus (the tube running from the throat to the stomach)

- Hiatal hernia
- Backward or reverse flow of stomach contents into the esophagus (known as “gastroesophageal reflux”)
- Inflammation of the lower esophagus (known as “distal esophagitis”)

#### Infectious Disease

- *Helicobacter*-related inflammation of the stomach (known as “gastritis”)
- Histoplasmosis, a disease caused by *Histoplasma* (a deep fungal infection)
- *Pythium*, a water mold that causes pythiosis
- Small intestinal bacterial overgrowth (SIBO)
- Stomach parasites—*Physaloptera*
- Intestinal parasitism

#### Metabolic Diseases

- Kidney disease
- Disease of the liver and/or bile system (known as “hepatobiliary disease”)
- Inadequate production of steroids by the adrenal gland (known as “hypoadrenocorticism” or “Addison’s disease”)
- Long-term (chronic) inflammation of the pancreas (pancreatitis)
- Condition in which levels of acid are increased in the blood due to the presence of ketone bodies secondary to diabetes (known as “diabetic ketoacidosis”)
- Metabolic acidosis (a condition in which levels of acid are increased in the blood)

- Electrolyte abnormalities—decreased levels of potassium in the blood (known as “hypokalemia”); increased levels of potassium in the blood (known as “hyperkalemia”); decreased levels of sodium in the blood (known as “hyponatremia”); and increased levels of calcium in the blood (known as “hypercalcemia”)

#### **Inflammatory Bowel Disease (IBD)**

- Inflammation characterized by the type of cells present (such as lymphocytic, plasmacytic, or eosinophilic IBD) or the presence of nodular lesions (known as “granulomatous IBD”)
- May involve inflammation of the stomach (gastritis), intestines (enteritis), or colon (known as “colitis”)

#### **Obstructive Gastrointestinal Disease**

- Foreign body
- Congenital (present at birth) narrowing of the pylorus (the muscular area where the stomach empties into the upper small intestine; condition known as “pyloric stenosis”)
- Long-term (chronic) enlargement of the tissue of the pylorus (the muscular area where the stomach empties into the upper small intestine; condition known as “pyloric hypertrophic gastropathy”)
- Folding of one segment of the intestine into another segment (known as “intussusception”)

#### **Tumors or Cancer**

- Cancer of the gastrointestinal tract: lymphoma, adenocarcinoma, fibrosarcoma
- Cancer of the pancreas (pancreatic adenocarcinoma)
- Tumor of the pancreas that produces gastrin, a hormone that causes the stomach to produce hydrochloric acid (HCl); tumor known as a “gastrinoma”
- Generalized (systemic) mastocytosis (condition in which an abnormal number of mast cells are present in multiple tissues; mast cells contain histamine, and if it is released, it stimulates stomach-acid secretion)
- Nervous system disorders
- Fluid build-up in the brain (known as “cerebral edema”)
- Central nervous system (brain, spinal cord) tumors
- Inflammation of the brain (known as “encephalitis”) or inflammation of the brain and its surrounding membranes (known as “meningoencephalitis”)
- Vestibular disease (inner ear problems leading to “dizziness” and nausea)

#### **Motility Disorders**

- Following “gastric dilatation-volvulus” or “bloat” (condition in which the stomach dilates with gas and/or fluid [known as “gastric dilatation”], and subsequently rotates around its short axis [known as “volvulus”])
- Following surgical procedures—such as surgery involving the stomach, pylorus, and upper small intestine (duodenum)
- Electrolyte imbalances

#### **Miscellaneous**

- Drug-induced (such as from nonsteroidal anti-inflammatory drugs [NSAIDs], steroids, antibiotics, antifungals)
- Food intolerance/allergy
- Toxicity

#### **Additional Causes in Cats**

- Parasitic—heartworm disease (known as “dirofilariasis”), *Ollulanus tricuspis*, *Giardia*
- Inflammatory—inflammation of the gallbladder (known as “cholecystitis”); inflammation of the bile ducts and liver (known as “cholangiohepatitis”)
- Metabolic—increased levels of thyroid hormone (known as “hyperthyroidism”)
- Functional—constipation/obstipation

#### **RISK FACTORS**

- Breed-associated disease

## **TREATMENT**

#### **HEALTH CARE**

- Specific treatment should be aimed at eliminating the underlying cause in addition to supportive therapy (such as administration of fluids)
- If vomiting persists, stop oral intake of food and water for several days
- Use fluid therapy to replace deficits and to provide for maintenance and ongoing losses of body fluids
- Supplement potassium, if low levels of potassium in the blood (hypokalemia) are present
- Blood transfusion in patients with severely low levels of red-blood cells (severe anemia), with evidence of active bleeding into the gastrointestinal tract

#### **DIET**

- Debilitated patients and those in poor nutritional condition may need supplemental feeding by feeding tubes or intravenous feeding

- Dietary therapy for patients with suspected food allergy or with inflammatory bowel disease (IBD) should use a diet containing a single-source protein novel to the patient (that is, feeding a protein to which the animal has never been exposed)

### **SURGERY**

- Use surgical treatment if uncontrolled bleeding, blockage or obstruction, or abnormal opening (known as a “perforation”) of the gastrointestinal tract is identified

## **MEDICATIONS**

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive.

- Anti-secretory drugs, such as H<sub>2</sub>-blockers (such as cimetidine, ranitidine, famotidine, nizatidine), or proton-pump inhibitors, such as omeprazole (more potent)
- Protectants (such as sucralfate) to accelerate stomach lining healing; can be used with anti-secretory drugs for patients with evidence of upper gastrointestinal bleeding (signs include vomiting blood [hematemesis] or black, tarry stools [melena])
- Antibiotics—indicated for treatment of *Helicobacter*-associated inflammation of the stomach (gastritis); in addition to steroids in the treatment of inflammatory bowel disease (IBD), and to treat small intestinal bacterial overgrowth (SIBO) syndrome
- Suggested treatment of *Helicobacter*-associated inflammation of the stomach (gastritis)—amoxicillin plus omeprazole and metronidazole; clarithromycin can be used with amoxicillin and metronidazole as an alternative therapy for cats
- Metronidazole—may be used in conjunction with steroids to treat inflammatory bowel disease (IBD)
- Small intestinal bacterial overgrowth (SIBO) syndrome—tetracycline, metronidazole, amoxicillin, and tylosin, in addition to correcting the underlying cause
- Use steroids in conjunction with dietary changes and metronidazole to treat biopsy-confirmed inflammatory bowel disease (IBD); azathioprine, chlorambucil, or cyclosporine also can be used in patients with poor response to steroids alone or to decrease the dosage of steroids required to control signs
- Drugs that improve the propulsion of contents through the stomach and intestines (known as “gastrointestinal prokinetic agents,” such as metoclopramide or erythromycin) are used to treat delayed stomach emptying, not associated with obstructive disease
- Pyrantel pamoate is effective for *Physaloptera*; fenbendazole is effective for *Ollulanus*
- Iron supplementation for animals with long-term (chronic) gastrointestinal bleeding that develop blood-loss anemia
- Surgery and/or chemotherapy for cancer, depending on the tumor type and location
- Excessive production of stomach acid, as occurs with mastocytosis and gastrin-secreting pancreatic tumors, is best treated with potent anti-secretory drugs (such as omeprazole) to diminish inflammation of the stomach (gastritis), stomach ulcer, and long-term (chronic) vomiting
- Reserve drugs to control nausea and vomiting (known as “antiemetics”) for patients with persistent vomiting unresponsive to treatment of the underlying disease
- Vomiting caused by chemotherapy is best treated with ondansetron, given 30 minutes before chemotherapy

## **FOLLOW-UP CARE**

### **POSSIBLE COMPLICATIONS**

- Aspiration pneumonia
- Inflammation of the esophagus (the tube running from the throat to the stomach; condition known as “esophagitis”)

### **KEY POINTS**

- Chronic vomiting is persistent vomiting lasting longer than 5 to 7 days or vomiting that occurs intermittently several days per week and is not responsive to medical treatment designed to control vomiting (known as “symptomatic treatment”)
- Specific treatment should be aimed at eliminating the underlying cause in addition to supportive therapy
- Debilitated patients and those in poor nutritional condition may need supplemental feeding by feeding tubes or intravenous feeding