



Narrowing of the Esophagus (Esophageal Stricture)

Basics

OVERVIEW

- The esophagus is the tubular organ that runs from the throat to the stomach; an esophageal stricture is an abnormal narrowing of esophageal lumen (the inner open space of the esophagus)

GENETICS

- No apparent genetic basis

SIGNALMENT/DESCRIPTION OF PET

Species

- Dogs
- Cats

Mean Age and Range

- Any age; strictures secondary to cancer tend to occur in middle-aged to older pets

SIGNS/OBSERVED CHANGES IN THE PET

- Clinical signs are related to the severity and extent of narrowing or stricture
- Regurgitation (return of food or other contents from the esophagus or stomach back up through the mouth)
- Liquid meals often tolerated better than solid meals
- Difficulty swallowing (known as “dysphagia”)—seen with upper esophageal strictures
- Drooling or salivation
- Howling, crying, or yelping during swallowing when the pet has active inflammation of the esophagus (known as “esophagitis”)
- Good appetite initially; eventually, lack of appetite (known as “anorexia”) with progressive esophageal narrowing and inflammation
- Weight loss and malnutrition as the disease progresses
- May develop aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids) with progressive regurgitation and difficulty swallowing (dysphagia)
- Coughing and/or discharge from the nose in pets that have aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids)
- Weight loss to severe weight loss with muscle wasting (known as “cachexia”)—in pets with long-term (chronic) or advanced stricture
- Excessive production of saliva and drooling and/or pain on feeling (palpation) the neck and esophagus—may be seen in pets with inflammation of the esophagus (esophagitis) at the same time as the stricture is present

- Abnormal lung or breathing sounds (such as wheezes and coughing)—may be detected in pets with aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids)

CAUSES

- Backward or reverse flow of stomach contents into the esophagus (known as “gastroesophageal reflux”) during anesthesia—most common
- Ingestion of chemical irritants
- Persistent vomiting
- Esophageal retention of pills and capsules (such as doxycycline, clindamycin, and nonsteroidal anti-inflammatory drugs [NSAIDs])—most common in cats
- Backward or reverse flow of stomach contents into the esophagus, unrelated to anesthesia (known as “gastroesophageal reflux disease”)
- Esophageal foreign body
- Esophageal surgery
- Cancer
- Mass lesion (known as a “granuloma”) secondary to a parasite, *Spirocerca lupi*; occasionally seen in the southeastern United States

RISK FACTORS

- Poor preparation (either not fasted adequately or prolonged fasting) prior to anesthesia places some pets at risk for backward or reverse flow of stomach contents into the esophagus (gastroesophageal reflux), leading to inflammation of the esophagus (esophagitis), and subsequently to scarring or narrowing of the esophagus (stricture formation)
- Certain drugs used prior to anesthesia (such as diazepam, atropine, pentobarbital, phenothiazine-derivative tranquilizers)—decrease the pressure of the muscle that closes the opening between the esophagus and stomach (known as the “gastroesophageal sphincter”) and can result in the backward or reverse flow of stomach contents into the esophagus (gastroesophageal reflux)
- Administration of medication in pill form to cats
- Esophageal foreign body

Treatment

HEALTH CARE

- Inpatient management initially
- May discharge pets from the hospital after addressing hydration needs, achieving dilation of the narrowed section of the esophagus (esophageal stricture), and initiating any needed treatment for aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids) and inflammation of the esophagus (esophagitis)
- Intravenous fluids—may be needed to correct hydration status
- Medications—give by injection following dilation procedures, to facilitate healing
- Oxygen—may be needed for pets with severe aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids)

ACTIVITY

- Unrestricted for most cases
- May be limited for pets with aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids)

DIET

- Withhold feeding pets by mouth that have severe inflammation of the esophagus (esophagitis) and following dilation procedures
- Temporary feeding tube may be placed at the time of esophageal dilation as a means of providing continual nutritional support
- Give liquid meals when restarting feeding by mouth

SURGERY

- Dilate the narrowed opening of the esophagus by inserting one or more cylindrical medical instruments to gradually open up the narrowed area (known as “Bougienage tube dilation”)
- Mechanical dilation using balloon catheter to open up the narrowed area, with observation of the procedure and esophagus using a special lighted medical instrument called an “endoscope” (general term for procedure is “endoscopy) or using special x-ray (radiograph) equipment called a “fluoroscope” that allows one to see movement of the balloon (procedure is “fluoroscopy”); perform endoscopy after dilation to assess damage to the lining of the esophagus; redilation at 1- to 2-week intervals may be necessary until stricture is resolved
- Surgical removal of the narrowed section of the esophagus—reportedly has less than a 50% success rate and often is associated with substantial postoperative complications
- Other surgical methods are available to treat narrowing of the esophagus (esophageal stricture)

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

- Administer medications by injection following dilation procedures and if severe inflammation of the esophagus (esophagitis) is present
- When administering medications by mouth is resumed, dissolve medications in water and give by syringe or give directly via a feeding tube to ensure that they reach the stomach
- Anti-inflammatory dosage of steroids (such as prednisone)—may help prevent scarring and restricture during the healing phase
- Injections of triamcinolone directly into the area where the stricture was located, after dilation of esophageal stricture, may be helpful in decreasing esophageal scarring
- Sucralfate suspension
- Agents to decrease stomach-acid secretion (such as famotidine, ranitidine, cimetidine, omeprazole)—to prevent irritation of the esophageal lining by backward or reverse flow of stomach contents into the esophagus (gastroesophageal reflux)
- Drugs that improve the propulsion of contents through the stomach and intestines (known as “gastrointestinal prokinetic agents,” such as cisapride, metoclopramide)—may increase tone of the muscle between the stomach and esophagus (gastroesophageal sphincter)
- Lidocaine solution—to manage severe esophageal pain

Follow-Up Care

PATIENT MONITORING

- Repeat barium contrast x-rays (radiographs) or endoscopy every 2–4 weeks until clinical signs have resolved and adequate esophageal lumen size has been achieved

PREVENTIONS AND AVOIDANCE

- Proper patient preparation prior to anesthesia (8- to 12-hour preoperative fast)
- Avoid certain drugs (such as diazepam, atropine, pentobarbital, morphine, phenothiazine-derivative tranquilizers) prior to anesthesia, if possible
- If gastroesophageal reflux is present, avoid late-night feedings as they tend to decrease the ability of the muscle between the stomach and esophagus to remain closed during sleep
- Follow administration of capsules and tablets by mouth with a teaspoon (5 ml) of water in cats and dogs to help the medication move through the esophagus
- Coat pills with butter to decrease the time required to get through the esophagus and into the stomach (especially for cats) or apply Nutrical® to the cat's nose to stimulate licking after administration of pills
- Encourage the pet to eat after administering capsules or tablets by mouth, to encourage swallowing and movement of the medication into the stomach
- Prevent pet from ingesting caustic substances and foreign bodies

POSSIBLE COMPLICATIONS

- Esophageal tear or perforation—a life-threatening complication of esophageal stricture dilation; usually occurs at the time of dilation, although it has been observed several days to weeks later
- Risk for aspiration pneumonia (inflammation of the lungs, caused by accidentally inhaling food, vomit, or liquids)
- Excessive esophageal bleeding and/or introduction of bacteria into the blood stream (known as “bacteremia”) can occur secondary to esophageal dilation

EXPECTED COURSE AND PROGNOSIS

- Generally, the longer the stricture, the more guarded the prognosis
- Esophageal strictures due to scarring—generally, fair to guarded prognosis; many recur despite repeated esophageal dilation; improvement without cure is a more realistic goal
- Esophageal strictures secondary to cancer—poor prognosis

Key Points

- Pets generally do not recover from untreated esophageal stricture
- Benign strictures are best treated by esophageal dilation
- Pets with esophageal strictures secondary to cancer have a poor prognosis
- High probability of happening again (recurrence) and common need for multiple dilation procedures
- Possibility of improvement (such as decreased to absent regurgitation [return of food or other contents from the esophagus or stomach back up through the mouth], ability to eat softened canned foods but not dry food), but not cure

Notes

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