

Asthma and Bronchitis in Cats

Basics

OVERVIEW

- “Upper respiratory tract” (also known as the “upper airways”) includes the nose, nasal passages, throat (pharynx), and windpipe (trachea)
- “Lower respiratory tract” (also known as the “lower airways”) includes the bronchi, bronchioles, and alveoli (the terminal portion of the airways, in which oxygen and carbon dioxide are exchanged)
- Asthma—sudden (acute) or long-term (chronic) inflammation of the lower airways, associated with increased responsiveness of the airways to various stimuli, airway narrowing, and presence of eosinophils, lymphocytes, and mast cells within the airways; “eosinophils” are a type of white blood cell—they are involved in allergic responses by the body and are active in fighting larvae of parasites; “lymphocytes” are a type of white blood cell that are formed in lymphatic tissues throughout the body—they are involved in the immune process; “mast cells” are immune-system cells that frequently are located near blood vessels—they contain histamine and are involved in allergy and inflammation
- Long-term (chronic) bronchitis—inflammation in the lower airways (bronchi and bronchioles); chronic daily cough of greater than 2 months' duration
- The terms “feline bronchitis” and “feline bronchopulmonary disease” are used to describe the clinical syndrome in cats of sudden (acute) or long-term (chronic) coughing and/or wheezing (squeaking or whistling sounds) due to lower airway inflammation

SIGNALMENT/DESCRIPTION OF PET

Species

- Cats

Breed Predispositions

- Siamese appear to be more likely to develop asthma or bronchitis than other breeds

Mean Age and Range

- Any age; more common between 2 and 8 years of age

Predominant Sex

- One study indicated that females are more likely to develop asthma or bronchitis than males

SIGNS/OBSERVED CHANGES IN THE PET

- Coughing (80%), sneezing (60%), labored breathing or wheezing (40%)
- Signs typically are episodic and can be sudden (acute) or long-term (chronic)
- Severely affected cats have open-mouth breathing, rapid breathing (known as “tachypnea”), and bluish discoloration of the skin and moist tissues (known as “mucous membranes”) of the body, caused by inadequate oxygen levels in the red blood cells (known as “cyanosis”)

- Increased sensitivity to feeling the windpipe (trachea) is common
- Listening to the chest with a stethoscope (known as “chest auscultation”) may reveal short, rough snapping sounds (known as “crackles”) and/or squeaking or whistling sounds (wheezes), or may be normal
- Labored breathing, with an increase in expiratory effort; “expiratory effort” refers to the act of expiration or exhalation (breathing out)

CAUSES

- Triggers or causes of airway inflammation are unknown

RISK FACTORS

- Cigarette smoke, dusty cat litter, hair sprays, and air fresheners may make the disease worse
- Parasitic lung infections are more common in outdoor cats in certain geographic locations
- Use of potassium bromide (treatment for seizures) has been implicated causing signs of asthma or bronchitis in some cats

Treatment

HEALTH CARE

- Remove cat from the inciting environment
- Pet should be hospitalized for a sudden (acute) respiratory distress
- Oxygen therapy and sedatives in a sudden (acute) crisis, characterized by breathing distress
- Minimize handling during a crisis, in order to lessen stress and oxygen needs of the cat

ACTIVITY

- Usually self-limited by the cat

DIET

- Calorie restriction for obese cats

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

EMERGENCY TREATMENT

- Combine the use of oxygen and a medication that enlarges the bronchi and bronchioles in the lungs, administered by injection (medication known as a “parenteral bronchodilator”)
- Terbutaline is a β -2 agonist that is used as a bronchodilator; administered by injection
- A sedative (such as butorphanol, buprenorphine, or acepromazine) can aid in decreasing anxiety
- A short-acting steroid, administered by injection, also may be required, such as dexamethasone sodium phosphate or prednisolone sodium succinate (Solu-Delta-Cortef), administered by injection, also can be used

LONG-TERM MANAGEMENT

Steroids

- Decrease inflammation
- Steroid administered by mouth (oral treatment) is preferred over administration by injection,

because doses and duration can be monitored more closely; steroids such as prednisolone; administer steroids as directed by your pet's veterinarian

- Some cats only need steroids on a seasonal basis
- Longer-acting injectable steroids (such as Vetalog or Depomedrol) should be reserved only for situations in which owners are unable to administer medication by mouth on a routine basis
- Inhaled steroids—require a form-fitting face mask, spacer, and metered-dose inhaler; veterinary brands include AeroKat (Trudell Medical International) or NebulAir (DVM Pharmaceuticals); the most commonly used inhaled steroid in cats is fluticasone propionate (Flovent); Flovent is used for long-term control of airway inflammation (takes 10–14 days to reach peak effect; during this time steroids administered by mouth should be used as well)

Other Drugs

- Medications to enlarge or dilate the bronchi and bronchioles (bronchodilators), such as theophylline
- β -2 agonists (terbutaline, albuterol)—inhibit smooth muscle constriction to dilate the bronchi and bronchioles
Inhaled medications to enlarge or dilate the bronchi and bronchioles (bronchodilators)—albuterol is the preferred inhalant therapy in cats, providing immediate relief of spasm and constriction of the bronchi—its effect lasts less than 4 hours; ipratropium bromide can dilate the bronchi, and can be combined with albuterol to provide maximal dilation of bronchi
- Medications to kill intestinal parasites (known as “anthelmintics”)—routinely recommended for cats with clinical signs of feline bronchopulmonary disease, with predominantly eosinophils found on microscopic examination of material obtained from the lower airways; parasitic inflammation of the bronchi and bronchioles (bronchitis) can be difficult to diagnose—treatment is indicated with appropriate clinical signs and geographic location; appropriate medication will depend on specific parasite suspected in the geographic region; examples include fenbendazole, ivermectin, or praziquantel
- Antibiotics—choice of antibiotic based on bacterial culture and sensitivity testing
- Cyproheptadine—inhibits airway smooth muscle constriction in experimental studies; unknown effects in cats with asthma/bronchitis
- Cyclosporine (Neoral or Gengraf)—decreases the immune response; may be helpful in cats that do not respond to medications to enlarge or dilate the bronchi and bronchioles (bronchodilators) and steroid treatment

Follow-Up Care

PATIENT MONITORING

- Report any increase in coughing, sneezing, wheezing, or breathing distress; medications should be increased appropriately if clinical signs worsen, as directed by your pet's veterinarian
- Follow-up x-rays (radiographs) may be helpful to evaluate response to medical treatment
- Watch for signs of increased urination (known as “polyuria”) and increased thirst (known as “polydipsia”) that may indicate diabetes mellitus or kidney disease
- Monitor blood glucose levels
- Monitor urine (urinalysis, bacterial culture and sensitivity) as urinary tract infections can occur as a complication of treatment

PREVENTIONS AND AVOIDANCE

- Eliminate any environmental factors (such as cigarette smoke, dusty cat litter, hair sprays, and

- air fresheners) that may trigger a crisis situation
- Consider dust-free cat litter
- Change furnace and air-conditioner filters on a regular basis

POSSIBLE COMPLICATIONS

- Sudden (acute) episodes can be life-threatening Untreated sudden (acute) episodes can be life threatening
- Right-sided heart disease may develop as a result of long-term inflammation of the bronchi and bronchioles (bronchitis)

EXPECTED COURSE AND PROGNOSIS

- Long-term therapy should be expected
- Most cats do well, if recurrence of clinical signs is monitored carefully and medical therapy is adjusted appropriately
- A few cats will not respond to medical treatment; these cats carry a much worse prognosis

Key Points

- Most affected cats have long-term (chronic) and progressive disease
- Sudden (acute) episodes can be life-threatening
- Do not discontinue medical treatment when clinical signs have resolved—subclinical inflammation is common and can lead to progression of disease
- Lifelong medication and environmental changes usually are necessary, as directed by your pet's veterinarian