ELSEVIER
SAUNDERS

Clinical Techniques in
Small Animal
Practice

Chronic Rhinitis in Cats

Ned F. Kuehn, DVM, MS, DACVIM

Chronic rhinitis is a common and important problem in cats potentially resulting from a number of intranasal or systemic disorders. Idiopathic chronic rhinosinusitis and nasal neoplasia are the most common causes of chronic nasal disease in cats. For most cats with chronic rhinitis, diagnostic imaging, endoscopic studies, and nasal biopsy will be required to establish a diagnosis. A discussion of some of the more common causes of chronic nasal disease is presented.
Clin Tech Small Anim Pract 21:69-75 © 2006 Elsevier Inc. All rights reserved.

KEYWORDS chronic rhinitis, feline, chronic rhinosinusitis

Chronic rhinitis is a common and important problem in cats that may result from a number of intranasal or systemic disorders (Table 1). Idiopathic chronic rhinosinusitis and nasal neoplasia are the most common causes of chronic nasal disease in cats.[1] Nasopharyngeal polyps, fungal rhinitis, nasal foreign bodies, dental disease, and nasopharyngeal stenosis are less frequent, but important, causes of chronic rhinitis in cats.

Clinical Signs Associated with Chronic Nasal Disease

Nasal discharge, sneezing, stertorous respiration, and open-mouth breathing (rare) are typical signs associated with chronic nasal disease in cats.[2,3] Chronic sneezing is a common clinical sign in cats and often is accompanied by nasal discharge. Epiphora may be seen with obstruction of the nasolacrimal duct. Gagging, dysphagia, or halitosis may occur when the disease involves the oral or pharyngeal cavities. Facial deformity may occur in advanced stages of nasal, extraocular, or oral neoplasia or fungal rhinitis. Chronic nasal disease may be seen concurrent with otitis externa or vestibular disease in cats with nasopharyngeal polyps. Behavior changes, seizures, or obtundation in cats with a chronic history of nasal disease may occur with neoplasia or fungal rhinitis resulting from compromise of the cribriform plate with extension of disease into the brain.

The type and location of the nasal discharge may help limit differential diagnoses. Unilateral nasal discharge may be seen with nasal foreign bodies, early nasal neoplasia, and dental disease. Bilateral nasal discharge is most commonly seen and does not further define the cause for the rhinitis. Mucopurulent nasal discharge is most common type resulting from secondary bacterial infection from a large number of primary causes for rhinitis. Serous discharges are uncommon and typically seen with allergic rhinitis or early viral infection. Serous discharges are often modified to mucoid or mucopurulent types with persistence of the underlying cause for the nasal disease. Blood may be seen intermittently in mucopurulent discharges from a wide variety of underlying nasal diseases due to erosion of blood vessels and sneezing. Epistaxis is not commonly seen in cats, as compared with dogs, with chronic nasal disease. Epistaxis is seen with aggressive intranasal diseases causing erosion of blood vessels (eg, neoplasia, inflammation) or coagulopathies. Oronasal fistula in adult cats or cleft palate in kittens may be associated with food material appearing in the nasal discharge.

Signalment, History, and Physical Examination with Chronic Nasal Disease

Age, breed, and lifestyle may be helpful in narrowing the list of potential causes for chronic rhinitis. Young to middle-aged cats will not likely have neoplastic disease as opposed to older cats (>8 years of age).[1] Nasopharyngeal polyps are typically seen in cats <8 years of age.[4] Brachycephalic breeds (eg, Persians), cats coming from a high-density housing situations (eg, multicat households, poorly maintained catteries, or pet stores), or stray and barn cats may be more likely to develop idiopathic chronic rhinosinusitis secondary to previous upper respiratory viral infections.[5] Outdoor cats have a higher occurrence of nasal foreign bodies, nasal trauma, and fungal rhinitis.[1,6-9] Prior vaccination history is important for the affected cat as well as other cats in the household. Vaccination will not prevent viral upper respiratory tract infection, but may diminish the severity of clinical signs. Viral infection should be suspected when acute upper respiratory tract in-

Diplomate of the American College of Veterinary Internal Medicine, Chief of Internal Medicine, Michigan Veterinary Specialists, Southfield, MI.
Address reprint requests to Dr. Ned F. Kuehn, Michigan Veterinary Specialists, 29080 Inkster Road, Southfield, MI 48034, USA. E-mail: nedkuehn@comcast.net.

1096-2867/06/$-see front matter © 2006 Elsevier Inc. All rights reserved.
doi:10.1053/j.ctsap.2005.12.013

Table 1 Differential Diagnosis for Chronic Rhinitis in Cats

Viral infection
Feline rhinotracheitis virus
Feline calicivirus
Bacterial infection
Mycoplasma spp
Pasteurella multocida
Bordetella bronchiseptica
Anaerobic bacteria
Fungal infection
Cryptococcus spp
Aspergillus spp
Parasitic infection
Cuterebra
Eucoleus (Capillaria) *boehmi*
Neoplasia (nasal, oral, extraocular)
Dental disease
Foreign body
Palatine defects
Hyperviscosity syndrome
Coagulopathy
Idiopathic chronic rhinosinusitis
Lymphoplasmacytic rhinitis
Allergic rhinitis
Nasopharyngeal polyp
Stenotic nares
Extranasal disease
Nasopharyngeal stenosis
Pneumonia
Vomiting
Esophageal stricture
Cricopharyngeal disease

fection is present in multiple cats within a household. The prior history of a cat obtained at a later age should be obtained (if possible) in regard to previous lifestyle, housing, and vaccination status. Many cats with prior viral upper respiratory tract infection will have recurrent bouts of rhinitis throughout their lives. Any sudden change in the nature or severity of nasal disease should prompt investigation into other causes for chronic rhinitis (eg, neoplasia, fungal rhinitis). Acute onset of sneezing and nasal discharge should prompt investigation into nasal foreign bodies, nasal trauma, and coagulopathies. Chronic nasal discharge is more often associated with idiopathic chronic rhinosinusitis, neoplasia, dental disease, lymphoplasmacytic rhinitis, and nasopharyngeal polyps.

A thorough physical examination with particular attention to orofacial structures is important in the evaluation of cats with chronic rhinitis.[3] The maxillary and frontal sinus regions should be visualized and palpated for evidence of asymmetry or swellings. The eyes should be examined for any evidence of exophthalmia. The external nares should be studied for patency, symmetry, and masses protruding through the openings. Facial asymmetry or exophthalmia would suggest an underlying neoplastic process or the presence of fungal rhinitis. Approximately 35% of cats with nasal cryptococcosis have prominent swellings over the bridge of the nose and some cats with nasal cryptococcosis will have a polypoid mass protruding through the nostril. The patency of airflow through each nostril may be determined by noting condensation on a glass slide held in front of the nose or alternately holding each nostril closed with assessment of airflow through the opposite nostril. Lack of airflow through one or both nostrils indicates the presence of obstructive disease, but does not define an underlying cause. Plugs of inspissated mucopurulent debris will be as likely to obstruct airflow as a space-occupying mass (eg, neoplasia, fungal granuloma). Oral examination should be attempted (depending on the temperament of the cat) with visualization around the teeth and the hard plate for the presence of masses or clefts within the hard or soft palate. The teeth should be evaluated for fractures or oronasal fistulae (the latter is often best accomplished using a dental probe with the cat under anesthesia). The mandibular lymph nodes should be palpated for enlargement or asymmetry. An otoscopic examination should be performed to detect signs of otitis, which may occur in cats with nasopharyngeal polyps. Finally, a complete ophthalmic examination should be conducted to detect signs of systemic or fungal disease (eg, anterior uveitis, chorioretinitis, optic neuritis) and for evidence for hypertension or hyperviscosity syndrome (eg, retinal hemorrhage, tortuous vessels, retinal detachment).

Diagnostic Evaluation for Chronic Nasal Disease

Cats with chronic rhinitis are frequently a diagnostic challenge. A complete blood count, chemistry profile, and urinalysis should be performed to rule out extranasal systemic causes for the nasal discharge (eg, hyperviscosity syndrome, polycythemia, thrombocytopenia). A coagulation profile is indicated if epistaxis is present and a coagulopathy is suspected. Blood pressure should be determined if hypertension is suspected. Serum titer for cryptococcal antigen is a very specific and sensitive test for cryptococcosis and should be performed if clinical findings are suggestive of this disease.[8] Thoracic radiographs are of limited value, but should be performed if pneumonia is suspected. Culturing of nasal discharge for bacterial or fungal organisms is not recommended as secondary bacterial contaminates are typically isolated. Deep culture of nasal tissue is of potential value in those patients where idiopathic chronic rhinosinusitis is suspected (see Idiopathic Chronic Rhinosinusitis below).

For most cats with chronic rhinitis, diagnostic imaging and endoscopic studies and nasal biopsy will be required to establish a diagnosis. Diagnostic imaging studies must be completed before endoscopic studies of the nose or nasal biopsy are performed. The introduction of instruments into the nose often induces hemorrhage, which will obscure or confuse the diagnostic imaging studies. General anesthesia is required for further evaluation of cats with chronic rhinitis. Before diagnostic imaging, the oral cavity should be carefully inspected and probed for the presence of masses, oronasal fistulae, or clefts in the hard or soft palate. A periodontal probe should be used to evaluate all teeth in the upper dental arcade, even if the teeth appear normal. This is especially important if unilateral chronic rhinitis is present. The probe is placed into the gingival sulcus and advanced to the depth of the periodontal pocket. The probe will advance into the nasal cavity or maxillary sinus in cats with chronic rhinitis secondary to dental disease. The soft palate should be palpated for the