

Feline Respiratory Disease Complex

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KEYWORDS

- Feline calicivirus • Feline herpes virus • Rhinotracheitis
- *Chlamydophila felis* • *Bordetella bronchiseptica*
- Upper respiratory infection

Feline respiratory disease complex (FRDC) refers to the characteristic acute presentation of a contagious respiratory or ocular disease caused by one or multiple pathogens. The complex is also referred to simply as feline upper respiratory tract infection. Although the presentation of FRDC is usually an acute illness, chronic disease sequelae are possible either from infection or an immune-mediated response to the infection.

Because FRDC is initiated by contagious pathogens, the acute manifestations are exceedingly rare in singly housed indoor cats. Rather, FRDC is a major problem in animal shelters; cats in outdoor colonies; and occasionally in cats housed in catteries, multiple cat households, boarding facilities, or cats that travel to shows. Although pathogens are crucial in initiation of FRDC, it is complicated by a number of factors related to the environment and host. For example, not only are cats housed in animal shelters exposed to contagious pathogens, but also the illness caused by these pathogens may be complicated by factors such as poor air quality or immunosuppression related to stress.¹

Respiratory disease complex remains a major challenge to veterinarians, shelter operators, and cat owners alike. Although morbidity greatly exceeds mortality, cats and especially young kittens may die as a result of infection. Outbreaks in animal shelters may prevent adoption of homeless cats and increase rates of euthanasia. Costs associated with treatment and prevention may impact the ability of shelters to function effectively.^{2–5} Although vaccines are available for several of the pathogens involved in FRDC, they do not prevent infection or pathogen transmission entirely. Although eradication of FRDC is not a realistic goal, studious efforts to minimize transmission and manage infections will result in reduced morbidity and mortality.

The author has been a consultant and speaker for Intervet/Schering Plough Animal Health and Pfizer, both of which produce vaccines against some of the pathogens in this syndrome, as well as for IDEXX, a company that offers a polymerase chain reaction panel (PCR) for diagnosis of these pathogens. The author does not believe these positions present a conflict of interest relevant to this manuscript.

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Vet Clin Small Anim 41 (2011) 1273–1289

doi:10.1016/j.cvsm.2011.07.006

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Fig. 1. A young kitten, found as a stray, affected by FRDC. A combination of lethargy, fever, and ocular and nasal discharge is typical, and kittens are usually more severely affected than adult cats.

CLINICAL PRESENTATION

The clinical presentation of kittens and cats with FRDC is similar regardless of the pathogen(s) involved (**Fig. 1**). Clinical signs may be quite mild or extremely severe. Secondary bacterial infections can lead to major complications including lower respiratory infections (ie, pneumonia). Simultaneous viral infections are also possible, especially in the setting of animal shelters. The concurrent presence of two or more infections can greatly complicate the clinical disease picture.^{6–8} For instance, although neither feline immunodeficiency virus or feline panleukopenia are respiratory viruses, cats with either of these and simultaneous calicivirus infections would demonstrate a much more severe systemic illness than cats with a typical calicivirus infection alone.

The most common signs of FRDC include serous, mucoid, or mucopurulent nasal discharge; sneezing; conjunctivitis and ocular discharge; ulcerations of the lips, tongue, gums, or nasal planum; salivation; coughing; fever; lethargy; and inappetence. Although there are no truly pathognomonic signs of any particular underlying agent, the presence of certain clinical findings can offer a potential clue to the pathogen involved (**Table 1**).

Table 1 FRDC: Clinical clues to pathogen incriminated	
Clinical Clue	Pathogens
Limping	FCV
Oral ulceration	FCV FHV-1
Keratitis, corneal (dendritic) ulcers	FHV-1
Conjunctivitis without nasal signs	<i>C felis</i> <i>Mycoplasma</i> spp
Dermatitis, dermal ulcers	VS-FCV FHV-1
Cough	<i>B bronchiseptica</i>

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