GUIDELINE for Feline Leukaemia Virus Infection

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The feline leukaemia guidelines were published in J Feline Med Surg 2009, 11: 565-574 and updated in J Feline Med Surg 2013, 15: 534-535 and in J Feline Med Surg 2015, 17, 570-58. **A very detailed update including a literature review compiled by Regina-Hofmann-Lehmann and Katrin Hartmann is available here.**

Synopsis

Feline leukaemia virus (FeLV), a gammaretrovirus of domestic cats, is a member of the Orthoretrovirinae subfamily of retroviruses. It contains a protein core with single-stranded RNA protected by an envelope. FeLV does not survive for long outside the host under dry conditions and is readily inactivated by disinfectants, soap, heating and drying. Although transmission via fomites is very unlikely, FeLV will retain infectivity and significant amounts of virus can survive for at least 48 hours if kept moist at room temperature.

Infections occur worldwide in domestic cats and some closely related wild felids. The prevalence of FeLV in Europe has decreased in many countries thanks to reliable tests, programmes to segregate progressively infected cats, understanding of FeLV pathogenesis and the introduction of effective vaccines. In some countries, however, FeLV prevalence rates up to 8.8% were reported in a pan-European FeLV study, particularly in southern European countries. In addition, stagnation of the decrease in prevalence has been recognized in some geographic areas and increased awareness will be necessary to further decrease the prevalence and impact of FeLV infection.

Progressively infected cats are the main source of infection; virus is shed in particularly high amounts in saliva, but also to some degree in nasal secretions, faeces, and milk. Risk factors for FeLV infection are mixed-breed, free ranging, male intact sex, living in multi-cat environments with five or more cats, originating from geographic areas with a high FeLV prevalence or from environments with progressively infected cats and lack of FeLV vaccination. Transmission occurs mainly via saliva through friendly contacts, like grooming, but also via aggressive interaction, i.e. biting, and less frequently by sharing food bowls or litter boxes. Transplacental transmission and transmission through milk can occur. Transmission through blood transfusion is also possible. Blood donors need to be tested for FeLV provirus; antigen testing is not sufficient. The cat's age at the time of the virus exposure is the most important determinant of the susceptibility for progressive infection and clinical outcome, with kittens being most susceptible.

Common FeLV-associated diseases associated with progressive infection are tumours (particularly lymphoma), bone marrow suppression (e.g. anaemia), and immunosuppression, leading to chronic or recurrent infections. Cats with progressive FeLV infection have a decreased life expectancy, but they can be asymptomatic and have a good quality of life for many years. Cats with progressive FeLV infection and FeLV-associated lymphoma or bone marrow suppression have a grave prognosis. Strict indoors-only lifestyle is the most important life-prolonging advice for progressively FeLV-infected cats to reduce exposure of the FeLV-infected cat to other infections. At the same time, it prevents contagion with FeLV to other cats. Cats with regressive FeLV infection should not be exposed to stress to avoid viral reactivation.

Identifying FeLV-infected cats is, together with vaccination, the mainstay of preventing further transmission. The FeLV status of every cat should be known because FeLV infection affects long-term management, which should differ from that of uninfected cats. All cats at risk of exposure should be vaccinated, kittens at the age of 8 or 9 weeks and again at 12 weeks. Prior to vaccination, cats should be tested for FeLV antigenemia and, preferably, also for FeLV provirus to avoid unnecessarily vaccinating FeLV-infected cats since vaccination affords no benefits to such cats.

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