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## Retroviral Infections of Cats in Vladivostok, Russia

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**Abstract:** Feline leukemia virus (FeLV) (*Ortervirales, Retroviridae, Gammaretrovirus*) and Feline immunodeficiency virus (FIV) (*Ortervirales, Retroviridae, Lentivirus*) are retroviruses with global distribution. Both FeLV and FIV can affect domestic and wild felids contributing to the development of severe immunosuppression and causing diseases feline leukemia and feline immunodeficiency, respectively. These infections are often cause morbidity and mortality in the feline family.

Blood samples from 44 cats (24 females and 20 males) were examined for the presence of FeLV and FIV in Vladivostok, Russia. Clinical data and blood samples were collected during one-year period. Detection of FeLV and FIV infections were provided using commercially available PCR tests (Leikis, InterLabService, Russia). Hematological and Biochemical Assay Hematological tests and biochemical parameters were performed for all cats. The statistical analysis was performed in STATA MP 4. Associations between each of the potential risk factors were performed using multivariable regression.

The overall prevalence of FeLV infection in cats was 15.9%, the higher prevalence was registered in young cats, follow adult animals and kittens. Most cats were neutered females, the FeLV prevalence in this sexual group was 12.5%; the prevalence of FeLV infection among neutered males was 20%. FeLV infection was not found in sexually intact animals. All infected animals have free outdoor access excluding one female kitten infected FeLV from her mother. The results of multivariate regression were not detected factors predisposed for FeLV/FIV infection. Out of 7 FeLV positive cats, 51.4 % cats show clinical signs including periodontitis (n=2), eczema (n=1); ovaries atrophy (n=1). Totally 57.1% (n=4) FeLV positive cats have increased levels of ESR which varied from 23 to 53 mm/h. Two of the seven FeLV positive cats have normal levels of ESR; cats with decreased ESR levels were not registered. All FeLV infected cats had normal number of leukocytes and normal values of hemoglobin. Five of seven FeLV positive cats (71.4%) had normal levels of HMT and one cat had decreased level of HMT. Two of seven FeLV infected cats (28.6%) had decreased percent of eosinophils; other cats showed normal values of eosinophils. Segmented neutrophils. All FeLV positive cats have increased values of segmented neutrophils which varied from up 54 to 70 × 10<sup>9</sup> / liter. Concerning non-segmented neutrophils, all FeLV positive cats had normal values of non-segmented neutrophils. All FeLV positive cats also had normal number of erythrocytes and lymphocytes. Levels of GGT were normal in all FeLV positive cats. One cat of sex FeLV infected had increased levels of urea and creatinine; other cats had normal levels of both parameters. In our study we didn't indicate any risk factors of FeLV and FIV infection.

Results presented in our study show a high local prevalence of FeLV in cats and low prevalence of FIV. The most cats were asymptomatic. Most infected cats also have increased ESR levels. The negative correlation was appeared between FeLV prevalence and cats' age, sex. It would be interesting to continue the study for investigation of FeLV potential risk factors and dynamics in cats from Vladivostok.

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