and 7 had received the 4-way. Of the 28 dogs with vaccination history, 14 had been vaccinated within the preceding 6 months. Only one (4- way) had a titre >1:80 of globulin against Corynebacterium pseudotuberculosis, whereas no serum titre was found in the non-vaccinated serovars. Seroreactivity to leptospira, not included in any of the vaccines available, was present in 10 dogs. Of the seronegative dogs, 20% (8/414) are known to have been previously vaccinated.

This study demonstrates a seroprevalence of 14% for Leptospira. The Midwest distributor of vaccines for shelter cats does not routinely include an inactivated leptospira vaccine. The majority of cats with positive leptospira results were positive on both nasal and pharyngeal swabs and so results from the 2 sites were combined. Of the 61 dogs, DNA of LFV-1 was amplified from 52 cats, aerobic bacteria were cultured from 57 cats, and Mycoplasma spp. were cultured from 35 cats. The distribution of positive results was as follows: LFV-1 alone (4 cats); LFV-1 and LFV-2 (18 cats); LFV-1 and Mycoplasma spp. (0 cats); LFV-1, aerobes and Mycoplasma spp. (30 cats), aerobes alone (4 cats), aerobes and Mycoplasma spp. (5 cats), and Mycoplasma spp. alone (0 cats). Bordetella bronchiseptica was isolated from 3 cats; 1 cat was coinfected with LFV-1 and Mycoplasma spp., 1 cat was coinfected with LFV-1 and Mycoplasma spp., and 1 cat was coinfected with other aerobes only.

In cats of this study, confinements of LFV-1 with aerobic bacterial or Myco- plasma spp. were most common (78.7%). Bordetella bronchiseptica infections were uncommon (4.9%). Because LFV-1, aerobic bacteria, and Mycoplasma spp. are commonly isolated from normal and clinically ill cats, results of these tests do not correlate to clinical disease in individual cats. Further studies will be required to determine the pathogenic potential of Mycoplasma spp. isolated from cats with upper respiratory tract disease.

**195 ATTEMPTED TRANSMISSION OF MYCOPLASMA HAEMOFELIS BY INGESTION OF M. HAEMOFELIS-INFECTED/FELINE.**

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Feline infectious anemia is caused by at least two Mycoplasma species: Mycoplasma haemofelis and Candidatus M. haemominutum. Although experimentally the organisms have been successfully transferred by a variety of routes, actual modes of transmission for these organisms have yet to be elucidated. Blood-sucking arthropods have long been incriminated in the natural transmission of this disease, and recently, our experiments have shown that the cat flea, Ctenocephalides felis, can transmit M. haemofelis between cats during hematophagous activity. In those studies, the cats were unable to groom and ingest the fleas or fleas excrement, a significant activity of cats with natural flea infestations. We hypothesize that the cat flea may transmit M. haemofelis when infected fleas or flea by-products are ingested, a transmission route known in other infectious diseases (e.g. Dipylidium caninum). The goal of this study was to determine whether M. haemofelis infection of previously naive cats could be initiated by the ingestion of infected fleas.

Four, young adult, mixed-sexed cats were used. Two cats were known chronic carriers of M. haemofelis. The other two cats were shown to be negative for hemoplasmosis by a PCR assay that amplifies the DNA of both Mycoplasma species. One flea chamber containing 100 C. felis fleas was attached to each of the chronic carrier cats and left in place for a period of five days during which time the fleas were allowed to feed. At the end of the five-day period the fleas were removed, the second swab for DNA extraction from each site was placed in sterile saline and stored at ~80°C between 2 and 3 hours after collection until batch analysis. Fluorescent PCR targeting LFV-1 was performed on the DNA extracts.

The majority of cats with positive results were positive on both nasal and pharyngeal swabs and so results from the 2 sites were combined. Of the 61 dogs, DNA of LFV-1 was amplified from 52 cats, aerobic bacteria were cultured from 57 cats, and Mycoplasma spp. were cultured from 35 cats. The distribution of positive results was as follows: LFV-1 alone (4 cats); LFV-1 and LFV-2 (18 cats); LFV-1 and Mycoplasma spp. (0 cats); LFV-1, aerobes and Mycoplasma spp. (30 cats), aerobes alone (4 cats), aerobes and Mycoplasma spp. (5 cats), and Mycoplasma spp. alone (0 cats). Bordetella bronchiseptica was isolated from 3 cats; 1 cat was coinfected with LFV-1 and Mycoplasma spp., 1 cat was coinfected with LFV-1 and Mycoplasma spp., and 1 cat was coinfected with other aerobes only.

In cats of this study, confinements of LFV-1 with aerobic bacterial or Myco- plasma spp. were most common (78.7%). Bordetella bronchiseptica infections were uncommon (4.9%). Because LFV-1, aerobic bacteria, and Mycoplasma spp. are commonly isolated from normal and clinically ill cats, results of these tests do not correlate to clinical disease in individual cats. Further studies will be required to determine the pathogenic potential of Mycoplasma spp. isolated from cats with upper respiratory tract disease.