



## Feline morbillivirus and domestic cat hepadnavirus in cats from Northern Italy

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### Abstract:

OFeline morbillivirus (FeMV) and domestic cat hepadnavirus (DCH) are emerging viruses in cats that were first described in Hong Kong in 2012 and in Australia in 2018, respectively. The epidemiological association of FeMV with chronic kidney disease (CKD) and of DCH with feline chronic hepatitis and hepatocellular carcinoma in cats have been suggested. The aims of this study were to investigate the presence and the genetic diversity of FeMV and DCH as well as the relationship between FeMV infection and CKD and DCH and hepatic disease in cats from Northern Italy. Urine and renal samples (no. 108), as well as 30 blood samples (no. 27) were collected from cats admitted to the Veterinary Teaching Hospital of the University of Milan between 2014 and 2019. Urine and kidney samples were tested for FeMV infection whereas blood samples were investigated for DCH infection. FeMV was detected in three samples (2.8%) from cats without evidence of CKD. Phylogenetic analysis showed that the three Italian FeMV strains clustered with the FeMV strains retrieved from public databases and formed a distinct sub-cluster of FeMV. DCH was detected in one blood sample (3.7%) from a cat with liver disorder, reflected by a high transaminase activity. The DCH strain clustered with DCH sequences retrieved from public databases. The presence of distinct genotypes of FeMV found in this study confirms the genetic diversity of FeMV strains that has been previously reported. The absence of a clear relationship between the presence of FeMV infection and CKD in the cats from Northern Italy is in accordance with recent reports that do not support the hypothesis that FeMV infection is associated with the development of CKD. Despite the presence of DCH in a cat with liver disorder, further investigations are needed to confirm the relationship of DCH with hepatic disease in cats.



### Biography:

Stefania Lauzi is a Veterinarian, University Researcher of the Veterinary Medicine Department, University of Milan, Italy. Specialist in Animal health, breeding and production, in the field of Public Health and Infectious diseases of animals, her scientific and research activity focused on the epidemiology and molecular diagnostics of zoonoses and bacterial and viral veterinary infectious diseases such as bovine tuberculosis, bovine viral diarrhea virus, vector-borne pathogens, feline coronavirus, feline morbillivirus and colibacillosis. To date her studies and activities are also focused on the influence of the microbiome on animal diseases. She is author and co-author of several publications on national and international scientific peer-reviewed journals. She is also teacher of university courses on emerging zoonoses and infectious diseases in animals for Veterinary Medicine degree students and for post-graduate students at the University of Milan, Italy.

### Publication of speakers:

1. Stranieri A, Lauzi S, Dallari A et al. Feline morbillivirus in Northern Italy: prevalence in urine and kidneys with and without renal disease. *Veterinary Microbiology* 2019; 233:133-139
2. Woo PC, Lau SK, Wong BH et al. Feline morbillivirus, a previously undescribed paramyxovirus associated with tubulointerstitial nephritis in domestic cats. *Proc. Natl. Acad. Sci. U.S.A.* 2012; 109: 5435-5440

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