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Paramyxovirus infections in small animals and rodents: an update

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Paramyxoviruses have significant impact on veterinary medicine and global public health. The family Paramyxoviridae includes significant pathogens such as the Measles virus (the causative agent of measles) and Rinderpest virus, which has now been eradicated worldwide. The relevance of these enveloped, single-stranded RNA viruses is further highlighted by the global impact of Canine Distemper Virus (CDV) on carnivores. The epidemiological and clinical implications of these viruses are far-reaching, affecting a wide range of host species, including companion animals (such as ferrets), rodents (mice), poultry, and marine mammals.

The zoonotic potential of selected paramyxoviruses like Hendra virus (HeV) and Nipah virus (NiV), which can be transmitted to humans from intermediate animal hosts like horses and pigs, emphasizes the “One Health” paradigm and the interconnectedness of animal, human, and environmental health. Understanding infection dynamics requires elucidating their complex transmission routes, including direct contact, aerosol transmission, and indirect environmental pathways. Prominent paramyxoviruses in veterinary practice include the Feline Morbillivirus (FeMV), which is frequently associated with renal pathologies in cats, and the Canine Parainfluenzavirus (CaPIV), a key etiological agent in canine respiratory disease complexes. Other examples, like the Sendai virus in mice, highlight the phylogenetic diversity that continues to gain relevance with the discovery of new viruses like the Jeilongvirus, an emerging virus with implications for research integrity and animal welfare.

This overview aims to deepen the scientific and clinical understanding of paramyxovirus infections in small animals and rodents. It seeks to foster improved veterinary surveillance, effective disease control, and enhanced public health preparedness.

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Professional Status of the submitter, who is also the speaker

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