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Feline Bocaparvovirus in domestic cats with gastrointestinal disease

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Bocaparvoviruses (BoVs) are non-enveloped viruses with linear single-stranded DNA genome and are classified in the genus Bocaparvovirus (subfamily Parvovirinae, family Parvoviridae). BoVs infect the respiratory and gastrointestinal tracts of young animals and humans and have been detected in a wide range of mammalian hosts (i.e. primates, carnivores, ungulates and rodents). In cats, feline BoV (FBoV) has been identified in three genetic types, namely FBoV-1, -2, and -3 (Bocaparvovirus carnivoran 3, 4 and 5, respectively), which have been described in cats with gastrointestinal symptoms. We investigated the prevalence of FBoV in 126 feline rectal swab samples of cats with gastroenteritis from two different regions, Apulia (collection A, 101 samples) and Abruzzi and Molise (collection C, 25 samples) between 2023 and 2025. We used a pan-bocavirus PCR assay with broadly reactive primers able to identify all human and animal BoVs. Overall, 16.7% (21/126) stool samples tested positive for BoVs. Partial NS1 sequences were generated for 9 strains, with nucleotide identities ranging from 95.0 to 100% to FBoV-1 strains. A quantitative PCR assay specific for FBoV-1 was designed and used to re-screen the sample collections, with an infection rate of 19.0% (24/126). Gathering epidemiological data is necessary to improve our understanding of the enteric virome of companion animals.

Keywords

feline, Bocaparvovirus, gastrointestinal disease, virus discovery

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