Review of: "Identification of Canine Parvovirus Antigenic Types Circulating in the Mexican Cat Population"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

Reviewer comments

The manuscript entitled “Identification of Canine Parvovirus Antigenic Types Circulating in the Mexican Cat Population” describes the incidence of CPV-2 antigenic variants circulating in domestic cats from Mexico. The authors extracted DNA from both healthy and symptomatic cats, confirmed the presence of CPV-2 viral DNA by PCR, sequenced the amplicons to determine the CPV-2 antigenic types.

The reviewer has generalised comments about the manuscript, which the authors need to address each of them with scientific justification.

Abstract

- Title: The title could be changed to “Canine Parvovirus-2 Antigenic Types Circulating in symptomatic and healthy Mexican cats”. The title will justify the authors screening suspected CPV-2 samples both from healthy and symptomatic cats.
- Objectives: The objective should also reflect the genetic diversity in CPV-2 antigenic types present in domestic cats from Mexico.
- Results: The results should mention the number of samples positive out of the total samples screened for each type. The results should be reflected as 64%(16/25) of cats with gastroenteritis and 22% (11/50) of healthy cats were positive for the presence of CPV-2 viral DNA.
- Conclusion and relevance: The main conclusion is that apparently healthy cats also harbour CPV-2 and may act as a reservoir for transmission to susceptible cats or dogs; and therefore, should be included in the routine screening for CPV-2 antigenic variants.

Introduction

- The authors need to discuss whether CPV-2 causes severe gastroenteritis and mortality in cats. Whether CPV-2 vaccines are administered to domestic cats?
- The authors must mention that amino acid mutations are on the major antigenic protein VP2.

Materials and Methods

- Please mention the software for the primer design. What criteria were set for the primer design? What is the reason for choosing a particular strain, FJ0051962, for primer design?
- The full length VP2 gene is 1755bp. Why is 1740bp amplified and not the full length VP2 gene?
- The authors must mention the software for chromatogram visualization.

- The authors must deposit all the sequences in NCBI GenBank and mention the accession numbers for all the sequences.
- The authors must do phylogenetic analysis to understand the ancestral origin of their isolates, sequence diversity among CPV-2 antigenic types.

Results

- The authors must perform the phylogenetic analysis and discuss the results.
- What was the significance of the mutations found on the VP2 protein, and whether these were novel or reported previously also?

Discussion

- Why do the authors believe that CPV-2a is causing more gastroenteritis in cats rather than CV-2c? In the introduction, the authors mention that “In an experimental study conducted with CPV-2c, the authors observed leukopenia in all the infected cats, and more severe clinical signs than those caused by other CPV variants”. Please explain why there was a difference in observation between natural and experimental infection of CPV-2 antigenic types in cats.
- Why can only CPV-2c be detected in healthy cats? What is the possible explanation for this?
- The authors must discuss previous studies of CPV-2 in dogs from Mexico. How much was the prevalence of CPV-2 in dogs from Mexico?
- What is the possible origin of CPV-2a in cats? As the authors mention in the conclusion, this is the first report of CPV-2a from Mexico.