

Excretion of canine parvovirus type 2 (CPV-2) during gestation and lactation in bitches and puppies

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INTRODUCTION

Canine parvovirus type 2 (CPV-2) is a frequent intestinal pathogen associated with high mortality in puppies. Transmission control by disinfection and patient isolation is of limited efficiency, raising questions about other possible contagion sources.

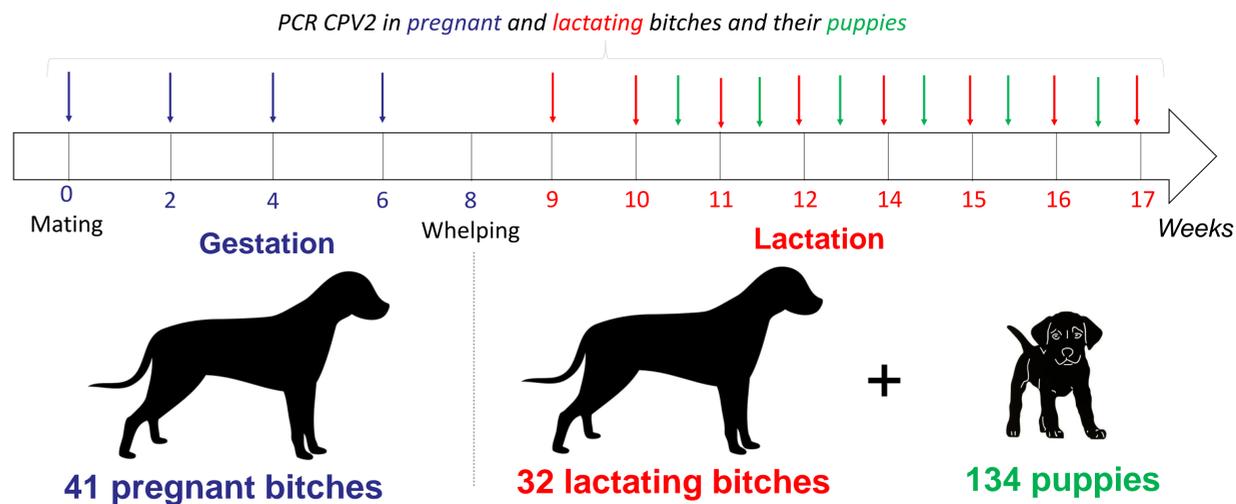
The aim of our study was to determine whether vaccinated dams could excrete CPV2 from mating to end of lactation and so be a potential source of infection for their offspring.

MATERIAL AND METHODS

1 breeding kennel
73 bitches
15 breeds
4.4 ± 1.9 years old
 Annually vaccinated
 (Nobivac DHPPi-Lepto vaccine; MSD)

PCR CPV2

- On **1258** rectal swabs
- Real time PCR** for CPV-2 genomic DNA (capsid) [1].
- Quantification threshold = **2x10⁵ copies/g feces** [1]
- Viral load associated with clinical parvovirus = **5x10⁸ copies/g feces** [1]



RESULTS

Excretion of parvovirus in adult dogs

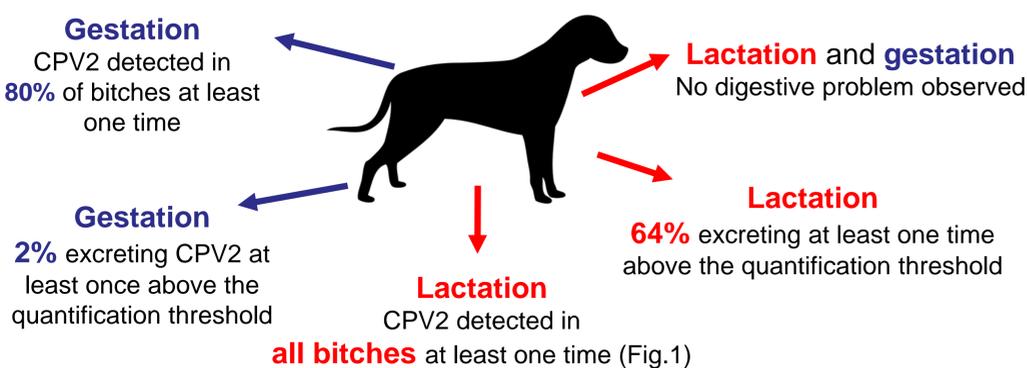
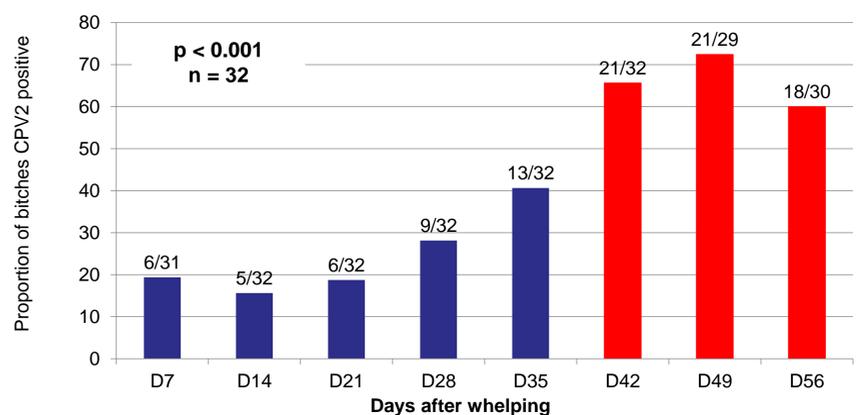


Figure 1: Proportion of bitches CPV2 positive during lactation



Excretion of parvovirus in puppies and relationship with their dams excretion

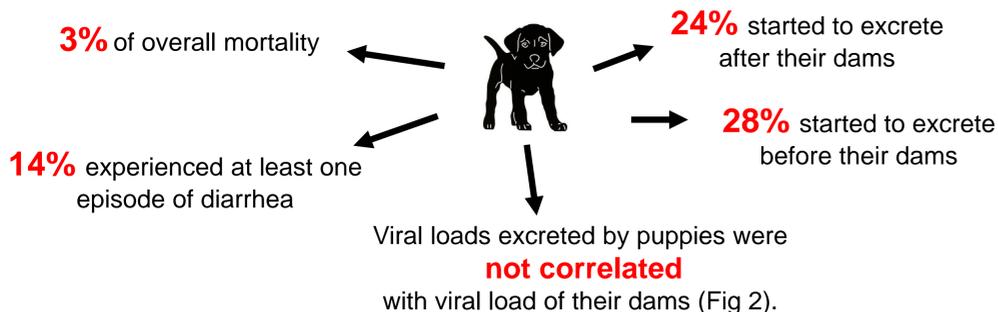
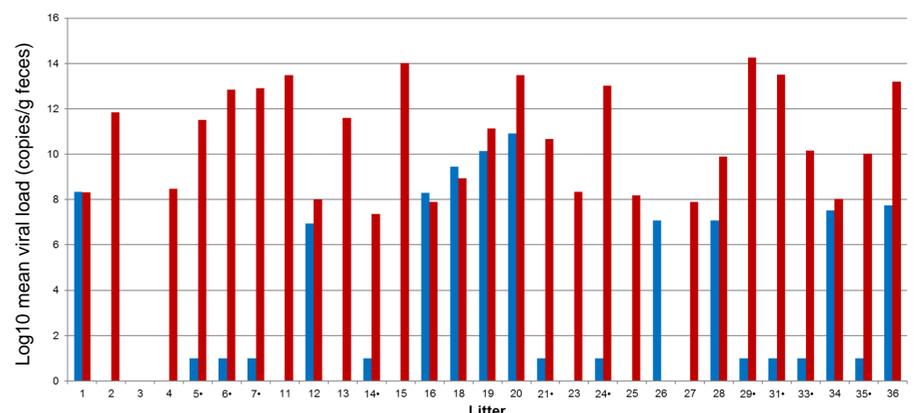


Figure 2: Mean viral loads excreted by puppies (in red) and their dams (in blue) at 49 days of age



DISCUSSION – CONCLUSIONS

- This study indicates that vaccinated dams may contribute to CPV2 circulation.
- The role of dams in CPV2 circulation in the kennel (between the end of lactation until next whelping) remains to be explored.
- The role of systemic and local immunity in the control of viral excretion and into the control of clinical expression would also be interesting to evaluate, both in dams (after vaccination) and in puppies (quality of the passive immune transfer).

[1] Grellet A, Chastant-Maillard S, Robin C, Feugier A, Boogaerts C, Boucraut-Baralon C, Grandjean D, Polack B. Risk factors of weaning diarrhea in puppies housed in breeding kennels. Prev Vet Med, 2014. 117(1):260-5.