WSVA8-0070

INFECTIOUS AND EMERGING DISEASES

IS FECAL SAMPLING THE IDEAL SPECIMEN FOR CANINE PARVOVIRUS PCR DETECTION? COMPARISON OF A NOVEL POINT-OF-CARE DIAGNOSTIC WITH REAL TIME PCR

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INTRODUCTION

Canine parvovirus (CPV) is one of the most common causes of acute hemorrhagic enteritis in young dogs, while clinical diagnosis is often indecisive. Infection leads to a rapid loss of condition of the animal and if not treated at an early stage will eventually lead to the death of the animal. Thus, this disease, as well as its diagnosis is of great concern.

OBJECTIVES

The aim of this study was to compare the efficiency of a point of care in clinic test, PCRun® DNA Detection Kit with an in-house probe-based TaqMan Real Time PCR and to determine the optimal sample to be used for PCR analysis – fecal (anal) swabs, oral swabs, or whole blood.

METHODS

Whole blood, fecal and oral swabs samples were collected from 44 unvaccinated healthy puppies and 60 clinical cases of diarrhea or hemorrhagic gastroenteritis from CPV vaccinated or non-vaccinated dogs. DNA purification was performed with a commercial kit and samples were tested using each of the two PCR methods targeting the VP2 gene.

RESULTS

The PCRun® assay, when compared to the TaqMan Real Time PCR assay, had a specificity of 97.9%, 97.7% and 98.1% and sensitivity of 100%, 96.7% and 98.1% when using samples from blood, oral swabs or fecal swabs respectively

CONCLUSIONS

The in-clinic PCR assay was found to be highly specific and sensitive in all samples. Blood and fecal samples has a slight advantage over oral samples. The PCRun® DNA Detection Kit is a suitable test for a simple initial in clinic screening in a short time.

WSVA8-0159

INFECTIOUS AND EMERGING DISEASES

MOLECULAR DETECTION OF HEMOTROPIC MYCOPLASMA SPP. AND BARTONELLA SPP. IN CATS AND FLEAS IN CHIANG MAI, THAILAND

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INTRODUCTION

Hemotropic *Mycoplasma* spp. and *Bartonella* spp. are important vector-borne pathogens in cats.

OBJECTIVES

The study aim was to use molecular techniques to investigate the presence of hemotropic *Mycoplasma* spp. and *Bartonella* spp. DNA in cats and fleas in Chiang Mai, Thailand.

METHODS

A total of 98 blood samples and 22 pools (1-5 fleas per pool) of fleas were collected from cats visiting the Small Animal Veterinary Teaching Hospital, Chiang Mai University and from cats residing in a temple in Chiang Mai Province between June and November 2016. Polymerase chain reaction assays (PCR) targeting each pathogen were performed.

RESULTS

The overall prevalence rates for at least one pathogen in cats and fleas were 73.5% (72/98) and 68.2% (15/22), respectively. Hemotropic *Mycoplasma* spp. DNA was amplified from 34.7% of cats and 9.1% of fleas. *Bartonella* spp. DNA was amplified from 62.24% of cats and 63.6% of fleas, respectively. Of 72 positive cat samples, 38 contained only *Bartonella* spp. DNA, 11 contained only *Mycoplasma* spp. DNA and 23 contained DNA of both pathogens Of 15 positive flea pools, 13 contained only *Bartonella* spp. DNA, 1 contained only *Mycoplasma* spp. DNA and 1 contained DNA of both pathogens.

CONCLUSIONS

The prevalence of hemotropic *Mycoplasma* spp. and *Bartonella* spp. in cats in Chiang Mai is high. Cats can be a potential reservoir for a zoonotic infection of *Bartonella* spp. in humans. Effective flea control in this population is suggested.