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Short Communication

RAPID DIAGNOSIS OF CANINE CORONAVIRUS INFECTION BY INDIRECT FLUORESCENT ANTIBODY ASSAY*

Canine corona virus (CCV) is one of the important viral diseases of dogs and its presence has recently been reported from India (Pillai *et al.*, 1990). This infection is highly contagious and spreads rapidly through dog population. It is impossible to distinguish between the various causes of gastroenteritis by clinical signs. In the diagnosis, electron microscopy and virus isolation have been used, but these procedures take a long time and are not suitable for handling many samples. Hence, the present study is directed to diagnose the disease by indirect fluorescent antibody assay.

A total of 851 dogs showing signs of persistant vomiting and diarrhoea forms the part of the study. The faecal samples from suspected dogs collected on to sterile rectal swabs were smeared thinly at two places on a clean microscopic glass slide and air dried. The indirect fluorescent antibody assay (IFA) was carried out as per the method of Johnson (1977) and Ramadass and Khader (1982). The dried faecal smears were fixed in acetone for 30 minutes at 4°C and then air dried. To one of the smears two drops of anti canine coronavirus hyperimmune serum prepared in rabbits were added. To serve as a control the other smear was treated with normal rabbit serum. The slides were incubated at 37°C in humid chamber for 30 minutes. The smears were then washed in phosphate buffer saline (PBS) for about 10 minutes. The smears were dried and 3 drops of fluorescein isothiocyanate conjugated goat anti rabbit IgG (SIGMA) were added and once again incubated at 37°C for 30 minutes in a humid chamber. Slides were then washed in PBS, air dried and mounted with a coverslip over a drop of glycerol

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saline (1:1) solution and examined under a fluorescent microscope. Control smears were examined first followed by test smear.

Among 851 dogs tested 143 (16.8%) revealed the presence of CCV which was visible as granular fluorescence. Rai and Singh (1983) also employed indirect fluorescent antibody assay for detection of bovine coronavirus from faecal smears. In the present study granular fluorescence of CCV has been identified by IFA. When compared to electron microscopy and virus isolation IFA is simple, rapid, cheap and easy to perform.

Indirect fluorescent antibody assay for the detection of canine coronavirus (CCV) in faeces was developed. Out of 851 dogs screened using this technique 143 revealed the presence of CCV. The test is simple, rapid, cheap and easy to perform.

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