

## HEMATOLOGIC AND BIOCHEMICAL ALTERATIONS IN PARVOVIRAL GASTROENTERITIS WITH SPECIAL REFERENCE TO IN-CLINIC RAPID DIAGNOSIS

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**ABSTRACT :** Parvoviral gastroenteritis (PVGE) is a highly contagious viral disease of canine frequently encountered in small animal practice. Information regarding hematological and biochemical changes associated with PVGE in Gadag, Karnataka area is sparse, so the study was carried out to analyze the haemato-biochemical characteristics of canine parvovirus gastroenteritis in dogs from Gadag, Karnataka. In the current study, the Anigen Rapid CPV Ag test kit detected 18 cases of canine parvovirus. Anorexia, vomiting, diarrhea, and pale mucus membrane were the most prevalent clinical symptoms reported in the current study. The hematological and serum biochemistry results were compared to the healthy dogs (control). Anemia and leucopenia were the most common hematological abnormalities reported. The levels of glucose reduced while the levels of liver enzymes such as Alanine aminotransferase and Aspartate aminotransferase increased.

**Key words :** Anemia, canine parvovirus, hematology, rapid Ag kit, serum biochemistry.

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### INTRODUCTION

Parvo viral diarrhea is a common complaint seen by pet practitioners on a frequent basis (Tams, 2003). Diarrhea is a multi-factorial condition with etiologic agents such as diet, parasites, and infectious agents such as canine parvovirus (CPV) and canine distemper virus (CDV (Salem, 2014 and Willard, 2009). Canine parvovirus is a member of the Parvovirus genus and exhibits antigenic and genomic similarities with feline panleukopenia virus (FPV), mink enteritis virus (MEV), and raccoon parvovirus (RPV). Canine parvovirus 2 (CPV-2) is a highly contagious and often fatal disease that causes vomiting and hemorrhagic enteritis in dogs of all ages, as well as myocarditis and heart failure in puppies under 3 months old (Surendhar *et al*, 2018). Puppies between 6 weeks to 6 months are especially vulnerable. The main source of infection is infected dogs' faeces, having a considerable amount of virus particles. Viral shedding in the faeces occurs during the incubation period and continues for two or three weeks after infection, implying that the virus may endure in nature causing new disease epizootics. Viral has a propensity

for rapidly dividing gastrointestinal, lymphoid, and bone marrow cells, leading to hemorrhagic diarrhea, vomiting, significant leucopenia, and immunosuppression (Pollock and Coyne, 1993).

In small animal practice, in general for any infection came of diarrhea, especially like PVGE hematological parameters have been widely used to include clinical status, nutritional balance, deficit condition treatment as well as for monitoring and forecasting prognosis in individual animals as well as populations (Talebi *et al*, 2005). The purpose of this study was to analyze the haemato-biochemical characteristics of canine parvovirus gastroenteritis in dogs from Gadag, Karnataka, India.

### MATERIALS AND METHODS

Diarrheic dogs presented at Gadag Veterinary Hospital, Veterinary College in Gadag, Karnataka were diagnosed using rapid in-clinic enzyme immunoassay test kits (Anigen Rapid CPV Ag test kit Bionote® Korea). A detailed history was gathered with respect to age, breed, gender and immunization status. Prior to treatment blood was drawn in sterile vials containing EDTA and plain

gastrointestinal system.

### CONCLUSION

Anorexia, depression, bloody diarrhea, and vomiting were the most frequently observed clinical findings in canine parvovirus infection in the current study. Anemia and neutrophilia were the most prevalent hematobiochemical abnormalities found in parvovirus infection. In the seriously afflicted dogs, there were substantial reductions in Hb, PCV, TEC, and total protein values, as well as elevations in ALT, ALP and glucose values.

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