

Prognostic factors associated with survival and time to discharge in juvenile canine infectious gastroenteritis



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Introduction

Infectious gastroenteritis is one of the main causes of hospitalization in dogs during the first year of life. At admission, these patients show acute onset signs of vomiting, diarrhea and anorexia, usually as a result of a viral infection. Canine parvovirus (CPV) is frequently diagnosed in young dogs with this condition and remains associated with high rates of morbidity and mortality [1,2]. For this reason, attempts have been made to identify which factors are associated with the prognosis of these animals [3]. The aims of this study were to describe a juvenile canine population diagnosed with acute infectious gastroenteritis and identify potential factors that influence hospitalization time and mortality.

Methods

- **Study design:** Retrospective
- **Inclusion criteria:** Dogs up to 12 months of age diagnosed with acute infectious gastroenteritis
- **Data source:** Clinical database of two veterinary referral hospitals (Hospital Veterinário Bom Jesus and Anicura – Centro Hospitalar Veterinário)
- **Time period:** 2015 – 2020
- **Population information:** patient signalment (age, sex, weight, breed, size, deworming and vaccination status); clinical signs at admission (hematochezia, fever and systemic inflammatory response syndrome [SIRS]); initial blood test results (serum albumin concentration and nadir neutrophil count)
- **Hospitalization time and mortality analysis:** association with the variables

Results

- n = 106**
- 54 ♂ vs 52 ♀
 - Median age: 16 weeks
 - Range: 4 – 52 weeks
 - Median weight: 6.75 kg
 - Range: 0.4 – 41.4 kg
 - Breed: 54 purebred vs 52 crossbred dogs
 - Size (purebred dogs):
 - 12 small-sized vs 8 medium-sized vs 34 large-sized
 - Deworming protocol:
 - Only 35% showed an adequate protocol
 - Primo-vaccination:
 - Only 4% had properly completed primo-vaccination

- Clinical signs at admission**
- 74% showed hematochezia (n=78)
 - 53% showed fever (n=56)
 - 35% showed signs of SIRS (n=37)

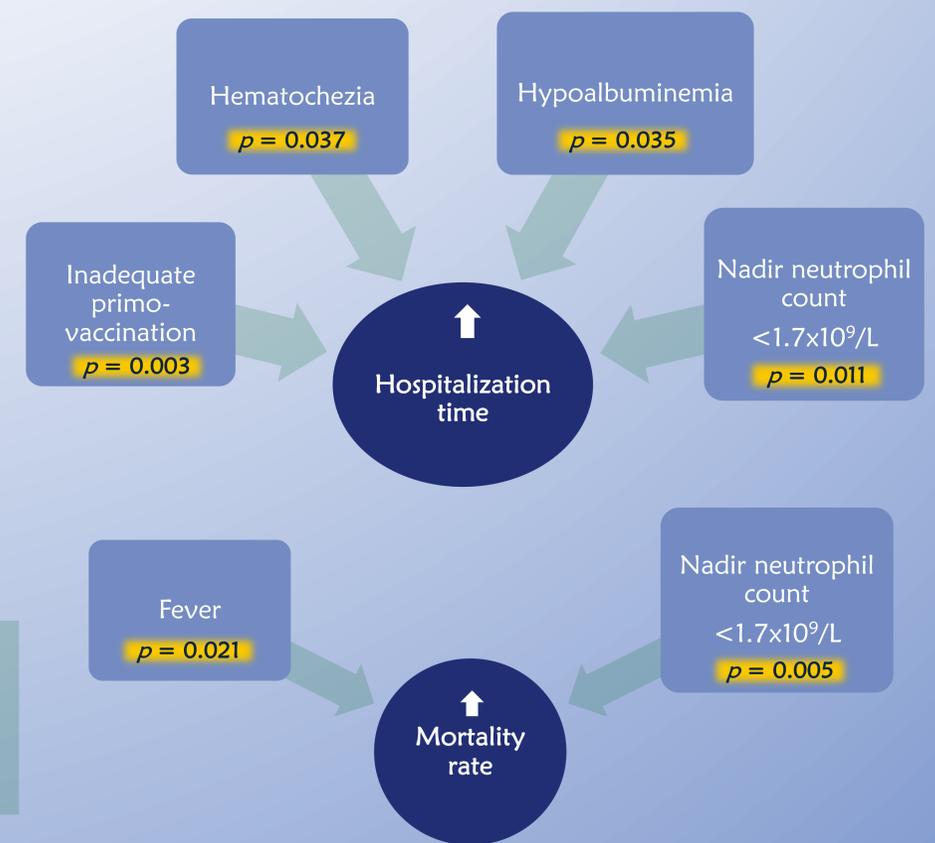


- Initial blood test results**
- 37% presented confirmed hypoalbuminemia (n=39)
 - Median nadir neutrophil count: $1.7 \times 10^9/L$
 - Range: $0.06 - 12.9 \times 10^9/L$

Results

87 dogs survived with a **median hospitalization time of 5 days** (range: 1 – 16 days)
 19 dogs died with a **median survival time of 3 days** (range: 1 – 8 days)
 Mortality rate = 17.9%

Statistically significant associations ($p < 0.05$) with hospitalization time and mortality:



Conclusion

Dogs with fever and dogs with a nadir neutrophil count lower than $1.7 \times 10^9/L$ showed a significantly higher mortality rate. Inadequate primo-vaccination prior admission, hematochezia, hypoalbuminemia and lower nadir neutrophil count had a negative impact on the animal's clinical recovery and, therefore, were associated with longer hospitalization time.

References

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3. Kalli I, Leontides LS, Mylonakis ME, et al. Factors affecting the occurrence, duration of hospitalization and final outcome in canine parvovirus infection. Research in Veterinary Science 2010;89:174-178.