



## Research Article

### EFFICACY INCIDENCE OF SEPTIC SIRS IN DOGS

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**Abstract-** The data obtained for 653 dogs from clinical records (September 2012- May 2014) and screening of 80 clinical cases presented to Madras Veterinary College Teaching Veterinary Clinical Complex during the study period (August 2013 to May 2014) were pooled to study the breed, age and sex related incidence of septic Systemic Inflammatory Response Syndrome (SIRS) among dogs.

**Keywords-** Septic SIRS, Dogs, Incidence

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#### Introduction

SIRS is defined as a systemic response of the body to various infectious and non-infectious conditions and it is one of the major causes of mortality and morbidity in dogs. SIRS in dogs is an emergency condition and cases continue to fill critical care units with serious yet predictably complicated cases and it is a leading cause of death in critically ill patients despite the use of higher range of antibiotics and resuscitation therapies. SIRS and sepsis are the conditions that occur with increasing incidence in human medicine in India i.e SIRS with organ dysfunction was found in 25% patients, of which 52.77% were due to sepsis per year [1]. Recognizing SIRS in veterinary medicine earlier is an important tool in order to initiate effective treatment and to assess the outcome of these patients. The present study reports breed, age and sex related to septic SIRS among dogs.

#### Materials and Methods

Eighty dogs of different breeds, age and sex brought to small animal outpatient unit and Emergency and Critical Care Unit Madras Veterinary College Teaching Veterinary Clinical Complex (August 2013 To May 2014) with SIRS were selected based on the classification [2]. Detailed history was obtained for each clinical case about the chief complaints, time of last normalcy, management practices, medication history and chronology of events were assessed. Complete physical examination, clinico-pathological examinations, critical assessment, additional clinical findings oxidative stress markers, antioxidants and canine C-reactive protein analysis were performed. The data from the present study and those obtained for 653 dogs from clinical records (July 2012- August 2013) were pooled to study age, breed and sex related incidence of dogs with septic SIRS. Criteria for SIRS in dogs is considered to be present if two or more of the following occurs, Temperature (<100°F or >103.5°F), Heart Rate (>160 beats per minute), Respiratory Rate (>20 beats per minute or PaCO<sub>2</sub> <30mmHg), Leukogram (<4000 or >12,000 cells/μL) and Band Neutrophils (> 10% bands) [2].

#### Results and Discussion

The total number of critically ill dogs presented to the critical care unit of Madras Veterinary College during the study period was 653. A total of 80 cases selected under SIRS criteria and based on the Clinical-pathological examinations with concurrent microbiological analysis, 50 were septic SIRS and 30 were non-septic SIRS. The Septic SIRS group was further classified according to the underlying pathophysiological conditions as septic SIRS viz., babesiosis, pyometra, trypanosomiasis, ehrlichiosis, parvo viral enteritis, leptospirosis. In the present study the incidence of septic SIRS was found to be 32 per cent in Labrador Retriever, 18 per cent in Non descript, 8 per cent in Spitz, 6 per cent in Dalmatian, 6 per cent in Doberman, 6 per cent in Rottweiler, 4 per cent in Cross breed, 4 per cent in Dachshund, 4 per cent in Golden retriever, 4 per cent in German shepherd, 2 per cent in Cocker spaniel, 2 per cent in Great Dane, 2 per cent in Lhas apso and 2 per cent in Pug. The findings of the present study were in concordance with the findings of author [3] who also reported that SIRS due to babesiosis was reported maximum in Labrador and mixed breeds. Studies on age related incidence of septic SIRS was found to be 30 per cent in <1 years, 20 per cent in 1-3 years, 24 per cent in 3-6 years, 14 per cent in 6-9 years and 4 per cent in 9-12 years, 8 per cent in >12 years. Parvo viral enteritis had increased mortality in age between 6-20 weeks due to cardiomyopathy in young puppies, thus explaining the reason for a higher incidence of septic SIRS of parvo viral disease among young dogs [4] [Fig-1]. The incidence of septic SIRS was 66 per cent in male and 34 per cent in females. The higher incidence of SIRS in male dogs might be due to the fact that over representation of male in the population [5].



Fig-1 Septic SIRS in a dog with Hemorrhagic gastro enteritis

**Conflict of Interest: None declared**

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