The Effects of Prednisolone Treatment in Cats with Immune-mediated Hemolytic Anemia

R. Pusoonthornthum[1]*, P. Limlenglert[2], P. Pornmingmas[3], A. Rungsipipat[4], P. Pusoonthornthum[1]

[1]Department of Veterinary Medicine, [2]Graduate Student, Department of Veterinary Medicine, [3]Suwannachard Animal Hospital, Bangkok, Thailand, [4]Department of Veterinary Pathology, Faculty of Veterinary Science, Chulalongkorn University, Bangkok, 10330 Thailand

Corresponding author: trosama71@hotmail.com

Keywords: cats, immune-mediated hemolytic anemia, prednisolone

Introduction

Immune-mediated hemolytic anemia (IMHA) is the abnormality that red blood cells are destroyed in blood vessel (intravascular hemolysis) and in tissue (extravascular hemolysis). Chronic stimulation of red blood cell by immunoglobulin and complements cause IMHA which resulting in red blood cell breakdown. Early, fast and precise diagnosis and proper treatment of IMHA is needed in small animal medicine to lower the death of anemic cats caused by IMHA. The objective of this study is to study the therapeutic effect of prednisolone in treating cats with IMHA.

Materials and Methods

Cats with anemia (PCV <27%) presented to Small Animal Hospital, Faculty of Veterinary Science, Chulalongkorn University and Hospitals in Bangkok metropolitan area were studied. Cats with chronic renal failure, blood loss anemia and/or receiving immunosuppressive treatment within one month were excluded. IMHA cats were diagnosed by using Direct Agglutination Test (DAT; Coomb's test) and/or flow cytometry. Cats diagnosed with IMHA were treated with prednisolone 2 mg/kg bid orally and followed-up for changes in the red blood cells and blood chemistry values. Variable (PCV, RBC cell count, PLT count, WBC count, ALT, ALP, BUN, creatinine) were compared before and after treatment using paired t-test. P-value of less than 0.05 is considered significant.

Results and Discussion

Twenty-five anemic cats were referred for diagnosis of IMHA over a study period of 16 months. All IMHA cats were 3 FeLV, 2 FIV, 1 FeLV and FIP combination. Six IMHA cats consisted of one Siamese, one Persian and four domestic short-hair with no gender predisposition. White blood cell counts varied for each cat and the number depend on stage of the disease. Four out of six IMHA cats survived in this study. The mortality rate is 33.3%(2/6). Mean white blood count and blood chemistry results of all cats were within normal range. However, these cats were also seropositive for FeLV (60%) and two cats for FIV (40%). Blood chemistry value were also unremarkable.

The prevalence of IMHA in cats with PCV of less than 27% from Small Animal Hospital, Chulalongkorn University and three veterinary hospitals in Bangkok is 24.0% by Coombs' test and/or flow cytometry. Our results are consistent with previous reports that the incidence of feline IMHA ranged between 13% in 2006 (3) and 24% in 2007 (4). This study also had shown that cats with IMHA are sero-positive for FeLV or FIV. Most IMHA cases in this study are secondary IMHA as previous reports (1, 2). The mortality rate in this study was 33.3% and consistent with previous study which reported that survival rate of IMHA is 30-70% (5). IMHA cats received prednisolone at the dose 2 mg/kg twice a day and taper dose to minimum for reducing side effect. Two IMHA cats responsed to prednisolone treatment but recurrence after stopping the drug too quickly or the underlying causes were not treated. One IMHA cats responsed well and did not relapse. This cat has lymphoma which may be one of the causes of IMHA. This outcome indicates the importance of IMHA diagnosis in cats with anemia. The early the diagnosis and treatment, the better the prognosis is for IMHA cats.

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