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P73 - PLATELET ALTERATIONS AND PLATELET-TO-LYMPHOCYTE RATIO (PLR) IN 41 DOGS WITH IMMUNOSUPPRESSANT-RESPONSIVE ENTEROPATHY (IRE)

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In humans, risk of thrombotic events is a major concern in people affected by ulcerative colitis and Crohn's disease [1]. Platelets number (PLTs), increased PLTs activation, mean platelet volume (MPV) reduction and immune-mediated thrombocytopenia are reported in patients with chronic enteropathies [1]. In dogs with inflammatory bowel disease, thrombocytopenia or thrombocytosis are reported to be 2.5-13% or 31% respectively [2,3]. Platelet-to-lymphocyte ratio (PLR) has been suggested as marker of active disease in humans with Crohn's disease [4].

This study investigated PLTs, MPV and PLR in dogs with immunosuppressant-responsive enteropathy (IRE). Forty-one dogs with IRE were retrospectively enrolled in a one-year study period. Food and antibiotic responsive enteropathies were previously excluded with therapeutical trials. All patients underwent a full staging including CBC, serum biochemical profile, fecal exam and endoscopy with histological study. Results from PLTs, MPV, PLR, CCECAI score, serum albumin and histopathological score were considered and analyzed. Evaluating follow up at 1 month (T1), dogs were divided into improved and unimproved: improved group had dogs with a T1 CCECAI <4 and dogs with CCECAI \geq 4 were in the unimproved group. Continuous and categorical variables were analyzed to compare data between variables with t-test, ANOVA, correlation and Fisher's exact tests. Odds ratio (OR) was calculated. Median age was 4 years (range 1-15 years). The most common breeds were German shepherd (n=7), Boxer (n=2), Dachshund (n=2), Rottweiler (n=2) and Jack Russel (n=2). The remaining 26 dogs were mixed (n=12) and other breeds. Five dogs (12%) showed thrombocytopenia and 9 (22%) had thrombocytosis. Seven (17%) dogs showed decreased MPV. PLTs were negatively correlated with MPV (p=0.001, r=-0.500). PLTs were significantly higher in dogs with low albumin (median 420 vs 210K/uL, p=0.008). Decreased MPV was associated with low albumin (p=0.023, OR 13.8, 95% CI=1.46-130.1). Median CCECAI was higher in dogs with thrombocytosis (10 vs 6, p=0.014) and in dogs with decreased MPV (10 vs 6, p=0.001). PLR was positively correlated with CCECAI (p=0.005, r=0.429) and negatively correlated with albumin (p=0.029, r=-0.348). Lastly, improved group had lower PLTs (P=0.047), MPV (P=0.029) and higher PLR (P= 0.046) than unimproved dogs.

PLTs, MPV and PLR should be considered in the evaluation of severity and follow up of IRE dogs, along with other markers already known to be useful, as serum albumin. PLR has been applied for the first time and could add interesting view of the PLTs and lymphocytes involvement in IRE dogs.

[1] Voudoukis et al. Multipotent role of platelets in inflammatory bowel diseases: A clinical approach, *World J Gastroenterol*, 20(12):3180-90, 2014. [2] Craven et al. Canine IBD: retrospective analysis of diagnosis and outcome in 80 cases, *JSAP*, 45(7):336-42, 2004. [3] Marchetti et al. Evaluation of Erythrocytes, Platelets, and Serum Iron Profile in Dogs with Chronic Enteropathy, *Vet Med Int*, 2010. [4] Feng et al. Diagnostic Value of Neutrophil-to-Lymphocyte Ratio and Platelet-to-Lymphocyte Ratio in Crohn's Disease. *Gastroenterol Res Pract*, 2017