

Platelet Abnormalities and Platelet-to-Lymphocyte Ratio (PLR) in Canine Immunosuppressant-responsive Enteropathy (IRE): A Retrospective Study on 41 Patients

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In human medicine, risk of systemic thrombotic events is a major concern in people affected by ulcerative colitis and Crohn's disease. Platelets number (PLTs) and morphology alterations, increased PLTs activation, tendency to aggregate, mean platelet volume (MPV) reduction and immune-mediated thrombocytopenia are reported in patients with chronic enteropathies. In dogs with inflammatory bowel disease, thrombocytopenia or thrombocytosis are accounted to be 2.5–13% or 31% respectively and other PLTs alterations are infrequently reported. Moreover, platelet-to-lymphocyte ratio (PLR) has been suggested as marker of active disease in humans with Crohn's disease.

This study investigated PLTs, MPV and PLR in dogs with immunosuppressant-responsive enteropathy (IRE).

Forty-one dogs with a diagnosis of IRE were retrospectively enrolled in this multicentric study 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. 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 also calculated.

Patient median age was 4 years (range 1–15 years). The most commonly affected breeds were German shepherd (n=7), Boxer (n=2), Dachshund (n=2), Rottweiler (n=2) and Jack Russel (n=2). Twelve were mixed breed dogs. Five (12.2%) dogs showed thrombocytopenia and 9 (22%) showed thrombocytosis. Seven (17%) dogs showed decreased MPV. PLTs were negatively correlated with MPV ($p=0.0010$, $r=-0.5001$). PLTs were significantly higher in dogs with low serum albumin (median 420 vs 210 K/uL, $p=0.0084$). Decreased MPV was associated with low serum albumin ($p=0.0232$, OR 13.8, 95% CI=1.46–130.1). The CCECAI score was higher in dogs with thrombocytosis (median 10 vs 6, $p=0.0145$) and in dogs with decreased MPV (median 10 vs 6, $p=0.0009$). PLR was positively correlated with CCECAI score ($p=0.0050$, $r=0.4297$) and negatively correlated with serum albumin ($p=0.0297$, $r=-0.3485$).

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

DISCLOSURES

No disclosures to report.

SPEAKER INFORMATION

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