Neutrophil-to-Lymphocyte Ratio (NLR) in Canine Patients with Immunosuppressant-Responsive Enteropathy (IRE)

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In human IBD, neutrophil-to-lymphocyte ratio (NLR) was associated with active bowel inflammation and correlated with clinical and laboratory indices. So far, NLR in dogs has been only evaluated in oncologic patients and in septic peritonitis.

The aim of the study was to evaluate the NLR in canine immunosuppressant-responsive enteropathy (IRE).

Forty-one dogs presented to two veterinary facilities (Veterinary Teaching Hospital and Private Veterinary Center) with a final diagnosis of IRE were retrospectively included. The Canine Chronic Enteropathy Clinical Activity Index (CCECAI) score was assessed for each dog at presentation. The diagnosis of IRE was set on histopathology performed on endoscopic biopsies and classified using the current WSAVA guidelines. Lacteal dilatation (LD) and crypts abscesses (CD) were also recorded. NLR was calculated for each dog. Serum total protein, albumin, cholesterol and C-reactive protein (CRP) were also recorded. Kruskal-Wallis test was performed to evaluate NLR between different CCECAI category (0–3, 4–5, 6–8, 9–11 and >12) and different histological grading. Spearman's correlation tests were performed between NLR and total protein, albumin, cholesterol and CRP. Mann-Whitney U-test was used to compare NLR in dogs with or without LD and CD. A receiving operator characteristic curve (ROC) was built to obtain an optimal cut-off value of NLR to differentiate dogs with or without LD. A Fisher's exact test was then performed between the presence of LD and NLR groups.

NLR was significantly different between CCECAI score categories (p=0.004). NLR was negatively correlated with total protein (p=0.022, r=-0.35), albumin (p=0.007, r=-0.41) and cholesterol (p=0.03, r=-0.33). No significant correlation between CRP and NLR was found. NLR was not different between histological grading and dogs with or without CD. Contrarily, NLR was higher in dogs with LD (p=0.004). The cut-off value of NLR for the detection of LD was 3.96 (sensitivity 82.4% and specificity 58.3%).

So far, this is the first report evaluating the NLR in IRE dogs. Our results suggest that NLR could be an easy, feasible and economic additional tool to evaluate the disease severity in IRE dogs. Moreover, NLR seem to have a good correlation with other essential biochemistry parameters in the evaluation of dogs with protein-losing enteropathy. Furthermore, the most interesting data was the association between NLR and histologic lymphangectasia.

DISCLOSURES

No disclosures to report.

SPEAKER INFORMATION
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