

# Assessing the utility of the neutrophil-to-lymphocyte ratio to differentiate canine inflammatory bowel disease from intestinal lymphoma

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## OBJECTIVES

To assess the utility of the neutrophil-to-lymphocyte ratio (NLR) to differentiate between canine inflammatory bowel disease and canine intestinal lymphoma.

## METHODS

A retrospective study was performed in dogs diagnosed with either inflammatory bowel disease or intestinal lymphoma. Cases were excluded if a pre-diagnosis haematology was not available, if they had received medications that may influence the NLR prior to the haematology sample being obtained, if they had undergone surgery within the 2 months prior to diagnosis, or if they had any concurrent illnesses identified during investigations. Cases included had a histological diagnosis of inflammatory bowel disease or intestinal lymphoma, or a combination of cytological diagnosis and ultrasonographic findings consistent with intestinal lymphoma.

## RESULTS

Statistical analysis showed that dogs diagnosed with inflammatory bowel disease (n=32) had a significantly lower NLR than those diagnosed with intestinal lymphoma (n=17) (p=0.001). In dogs with inflammatory bowel disease the mean and median NLR were 7.88 and 7.07, compared to 29.9 and 22.74, respectively, in those diagnosed with intestinal lymphoma. An NLR threshold value of 14 (sensitivity of 82%, specificity of 84%) had a positive predictive value of 74% and negative predictive value of 90%.

## STATEMENT

The neutrophil-to-lymphocyte ratio (NLR) is a useful and cost-effective biomarker in aiding to differentiate between canine inflammatory bowel disease and canine intestinal lymphoma.