



## Preoperative neutrophil-to-lymphocyte ratio in predicting the severity of appendicitis: a retrospective cohort study in a tertiary rural hospital

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### KEYWORDS :

#### INTRODUCTION:

Acute appendicitis (AA) is one of the most common acute surgical conditions of the abdomen, and has a lifetime risk of approximately 7%. [1] Although urgent appendectomy is still considered the gold standard treatment, recent evidence has shown that AA can be treated conservatively without surgery. [2] However, conservative treatment is likely inconvenient in cases of perforated AA. Therefore, any factor that allows for prediction of perforation in AA contributes significantly to patient-specific treatment. Furthermore, early diagnosis of perforation is likely to improve outcomes, allowing the surgeon to prepare for a relatively troublesome operation, including the selection of laparoscopy or laparotomy, etc. [3]

The Neutrophil-to-Lymphocyte ratio is derived from the counts of circulating neutrophils and lymphocytes, both of which are major leukocyte subpopulations. The inflammation-triggered release of arachidonic acid metabolites and platelet-activating factors results in neutrophilia, and cortisol-induced stress results in relative lymphopenia, and thus, the Neutrophil-to-Lymphocyte ratio accurately represents the underlying inflammatory process. [4,5]

#### AIM:

The aim of the present study was to evaluate the predictive value of simple laboratory parameters including white cell count (WCC), NLR in the diagnosis of acute appendicitis and its complications.

#### MATERIALS AND METHODS:

A retrospective analysis of patient data compiled by assessment of operative findings documented and patient follow up recorded over the period encompassing three years (2015-2012) at RL Jalappa hospital and research centre, Tamaka, Kolar.

#### STATISTICAL ANALYSIS:

Descriptive analysis will be performed, and data will be presented as mean  $\pm$  SD. Recommended cut-off values for NLR and MPV will be obtained with receiver operating curve (ROC) analysis. Logistic regression test was used for univariate analysis and to calculate odds ratios (OR) with 95% confidence interval (CI).

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