

## The prognostic value of Neutrophil-Lymphocyte ratio in acute pancreatitis

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### ABSTRACT

**Introduction and objective:** Acute Pancreatitis (AP) is one of the leading causes of morbidity and mortality worldwide. In approximately a third of the patient with acute pancreatitis, severe pancreatitis may develop, producing progressive organ dysfunction caused by a systemic inflammatory response syndrome (SIRS). This study aimed to determine the correlation between Neutrophil Lymphocyte Ratio (NLR) and the severity of AP.

**Materials and Methods:** All patients admitted in the Surgical Ward of Tribhuvan University Teaching Hospital with the diagnosis of AP were studied prospectively over a period of one year from January 2014 to January 2015. Total leucocyte count (TLC), neutrophil count, lymphocyte count and neutrophil lymphocyte ratio (NLR) at admission was recorded for each patient. Modified Marshall Score was determined at admission and at 48 hours. Severity of acute pancreatitis as defined by revised Atlanta Classification 2012 was taken into account.

**Results:** A total of 79 patients of AP were included in the study. Among them, 38 % were categorized as having severe AP according to the revised Atlanta classification. There was a weak positive correlation of NLR to severity of AP which was statistically significant. The mean NLR was high in higher severity grades of AP (p-value < 0.05). The cutoff NLR of 8.02 showed sensitivity of 60 %, specificity of 60.4 %, PPV of 48.6 % and NPV of 70.7 %.

**Conclusion:** NLR may be useful as an easy and reliable prognostic marker for the severity and complications of acute pancreatitis.

**Keywords:** Acute Pancreatitis, revised Atlanta classification, Neutrophil Lymphocyte Ratio