

## RELATIONSHIP BETWEEN NEUTROPHIL LYMPHOCYTE RATIO AND METABOLIC SYNDROME

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### ABSTRACT

#### Back Ground

Metabolic syndrome is associated with the risk of developing cardiovascular diseases and diabetes mellitus. The syndrome is thought to be caused by an underlying disorder of energy utilization and storage. Central obesity is the key feature of the syndrome. Neutrophil Lymphocyte Ratio is used as a marker for subclinical inflammation and it has been shown to predict the outcome in oncology and cardiovascular disease patients.

#### Aim

The aim of the study is to investigate the usage of neutrophil lymphocyte ratio as an inflammatory marker in patients with metabolic syndrome and its correlation with the severity of the disease.

#### Materials and Methods

The study population consisted of 75 patients with metabolic syndrome and 75 age and sex matched controls. The study was done in outpatient department, Coimbatore Medical College Hospital. Neutrophil lymphocyte ratio was calculated in the study groups.

#### Results

Statistical analysis was done using Mann Whitney U test. The mean value for normal is  $1.42 \pm 0.30$  and in patients with metabolic syndrome is  $1.72 \pm 0.58$ . Significant difference ( $p < 0.05$ ) was found between normal and metabolic syndrome patients. Significant positive correlation ( $p < 0.05$ ) between neutrophil lymphocyte ratio and the severity of metabolic syndrome was observed.

#### Conclusion

The elevated levels of inflammatory mediators such as IL-6, TNF $\alpha$  in metabolic syndrome may be the cause for elevated neutrophil lymphocyte ratio. The results may have clinical importance as the neutrophil lymphocyte ratio can be used as an early marker for cardiovascular diseases. It is also a readily available and cost effective biomarker.

**KEYWORDS:** Statistical Analysis, Neutrophil Lymphocyte Ratio

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