

**CLINICAL SIGNIFICANCE OF RED CELL DISTRIBUTION WIDTH
(RDW) AND CIRCULATING NEUTROPHIL - LYMPHOCYTE COUNT
RATIO (NLCR) AS PROGNOSTIC MARKERS IN SEPSIS**

ABSTRACT

BACKGROUND

Sepsis and septic shock are one of the leading causes of death worldwide. Rapid and precise diagnosis and appropriate antibiotic therapy is necessary to reduce mortality and morbidity in patients with sepsis. Though several biomarkers and scoring systems have been evaluated, prognostic markers to quickly and precisely establish the diagnosis or prognosis of patients with sepsis and septic shock are yet to be evaluated. Hence this study is being done to assess the efficiency of the haemogram parameters RDW and NLCR as biomarkers in predicting the clinical outcome of patients with sepsis, severe sepsis and septic shock and to study the correlation of RDW and NLCR with SOFA score.

METHODOLOGY

In this prospective observational study, 85 adult patients of both sex with a diagnosis of sepsis and admitted in the emergency wards and Intensive medical Care unit between April 2017 and September 2017 in the Stanley Medical college Hospital,

Chennai were included. The source of infection, complications, duration of in-hospital stay, RDW and NLCR were compared between the survivors and non-survivors groups.

RESULTS

The male-female ratio was 59.42:40.58. Females showed a high rate of mortality. The occurrence of comorbid conditions like Diabetic mellitus, Hypertension and Chronic kidney disease showed higher risk of death outcome. Mean RDW was 16.22 ± 0.89 in the case of survivors and 19.08 ± 1.04 in the case of non-survivors which was statistically significant ($p < 0.0001$) with respect to duration of stay and need for inotropic support. The mean NLCR was 8.95 ± 1.54 in survivors and 13.24 ± 1.37 in non-survivors, the results are statistically significant ($p < 0.0001$). A highly significant and positive correlation of RDW and NLCR with SOFA score was observed.

CONCLUSION

RDW and NLCR measured on admission can be used as prognostic markers in patients with sepsis, severe sepsis and septic shock.

KEYWORDS:

Sepsis, septic shock, prognostic markers, RDW, NLCR, SOFA Score.