Aim: The aim of this study was to determine diagnostic and prognostic roles of the neutrophil to lymphocyte ratio (NLR) in breast cancer patients, in view of disease-specific survival and the intrinsic subtype.

Methods: We carried out a retrospective study of a sequence of 300 breast cancer registered between 2008 and 2012 at R.G.C.I, New Delhi, India.

Results: The median age was 48 years (range 18-88). The TNM stage distribution was stage I - 3%, stage II - 20%, stage III - 57%, and stage IV - 20%. ER/PR and her2neu positivity was 50% and 20%, respectively. Triple-negative breast cancer (TNBC) constituted 30%. Patients with higher NLR (NLR $\geq 2.5$) showed significantly lower disease-specific survival rate than those with lower NLR (NLR < 2.5). Higher NLR along with her2neu positive receptor status and positive nodal status were independently correlated with poor prognosis, with hazard ratio 2.08 (95% confidence interval [CI], 1.62-4.28), 1.93 (95% CI, 1.08-3.99, and 3.23 (95% CI, 1.34-5.83), respectively. Triple-negative subtype was the only intrinsic subtype in which higher NLR patients showed significantly poor prognosis (87.7% vs. 96.7%, p = 0.009).

Conclusions: Patients with an elevated pretreatment NLR showed poorer disease-specific survival than patients without elevated NLR, most evident in the triple-negative subtype. It has been suggested some immune check points are also play a part in the biology of triple-negative breast cancer.

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