

Relationship Between Tumor Infiltrating Lymphocytes (Tils) And Neutrophil-Lymphocyte Ratio (NLR) As A Prognostic Factor In Patients With Advanced Non Small Cell Lung Cancer.

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BACKGROUND: Association between cancer and inflammation is extensively studied. There is a greater probability that a tumor arises at places of chronic inflammation. In a recent study in our institution, we demonstrated the role of tumor infiltrating lymphocytes (TILs) as a prognostic factor in non-small cell lung cancer (NSCLC). Our study showed that patients with present TILs had a higher OS and PFS compared to those with no present TILs. The relation between cancer and systemic inflammation has been less studied. We primarily aim to investigate the NLR pre-treatment and its relation to overall survival (OS) and progression-free survival (PFS). Our secondary endpoint is to establish the relationship between the state of lymphocyte infiltration and NLR and its association to survival.

METHODS: Retrospective and analytical study of patients of Instituto Oncológico de Córdoba. 165 patients with stage IIIB and IV NSCLC were analyzed. Patients were split into two groups according to the value of the NLR (pre established as low: < 3.44 and high: ≥ 3.44). TILs were classified as present or absent. Survival curves were calculated using the Kaplan-Meier method.

RESULTS: 88 patients had NLR < 3.44, with a median OS of 12.8 months and a median PFS of 7.7 months. The remaining 77 patients had pre-treatment NLR > 3.44. Among them, the median OS was 8.8 months and the median PFS was 5.3 months. These differences were statistically significant ($p: 0.001$ for OS and $p: 0.001$ for PFS). 52 patients (out of the 88 patients with low present NLR) had TILs in their tumor samples with an OS of 11 months; the 36 patients who did not have TILs had an OS of 10 months ($p = 0.15$). 40 patients with present TILs (out of the 77 patients with high NLR) had an OS of 10.4 months and the remaining 37 with no present TILs, had an OS of 7 months ($p = 0.16$).

CONCLUSIONS: NLR pre-treatment measurements can provide important prognostic outcomes in patients with NSCLC. In this study, we found that OS and PFS were significantly associated with the value of NLR, with significantly lower outcomes in patients who showed an NLR > 3.44. But when we try to relate the NLR with the presence or absence of TILs, the results are not statistically significant. We are actively working on adding a more significant number of patients.