Aim: Complete surgical resection is the most effective treatment in early stage non-small cell lung cancer. However, as many as 50% of patients eventually recur and die because of their disease. In addition, currently used prognostic markers are imperfect to estimate the patients with high risk of relapse. One of the main roles of immune system, immune surveillance, is to detect and destroy the tumor cells. Therefore, it is suggested that deficiency in immune surveillance may play important role in disease relapse. Main aim of the present study is to explore whether semi-quantitatively measured rate of T-regulatory cell to total T lymphocyte with immunohistochemical method in the primary tumor tissue is related with disease relapse and have a prognostic role.

Methods: The present study was approved by our institutional ethic committee and review board. Diagnostic work-up included the history, physical examination and radiological evaluation. Pathologist reviewed ten separate fields for each slide, and an average immunohistochemical score was recorded for each patient.

Results: A total 62 patients, 52 (83.9%) male and 10 (16.1%) female, were included. Low risk, intermediate risk, and high risk score were detected in 29 (46.8%), 22 (35.5%), and 11 (17.7%) patients, respectively. There was significantly higher rate of low risk score in patients who experienced disease relapse as compared to patients who did not (p = 0.045). Overall survival rate was 81.2%, 73.3%, 65%, and 59% for 1, 2, 3 and 5 years, respectively. The statistical analysis was failed to show statistically significant effect of risk scoring of T-reg/TIL on survival rate. In univariate analysis, ECOG performance scale, pathological stage, primary tumor size, and lymph node stage had statistically significant effect on overall survival.

Conclusions: In conclusion, result of the present study suggested that forming the risk scoring group which used the rate of T-regulatory cells to total T lymphocytes could not be used as a prognostic marker in early stage completely resected non-small cell lung carcinoma.

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