Background: The most reliable prognostic factor to date is TNM stage. A high degree of tumor infiltrating markers such as CD45RO and FOXP3+ has been associated with poor outcome in various solid tumors such as pancreatic cancer, ovarian cancer and hepatocellular carcinoma. The prognostic value of tumor infiltrating lymphocytes (TILs) in metastatic colon cancer is unknown. The aim of this study was to assess and compare the prognostic role of TILs in curatively resected stage IV colon cancers, focusing on whether the type and density of TILs can predict overall survival.

Methods: Immunohistochemistry was used to assess the densities of CD8+, CD45RO+, and FOXP3+ according to tumor site (primary tumor, liver and lung) from 79 stage IV colon cancers. These were evaluated for association with histopathologic features and patients’ overall survival (OS).

Results: A higher density of CD45RO+ at primary and metastatic sites was associated with better patient outcomes (0.009 and P=0.027, respectively). The estimated 3-year overall survival rates for high density CD45RO+ at metastatic and primary sites was 82.6 and 62.4%, respectively, as compared to 60.8% and 27.1% in low density patients. In multivariate analysis, CD45RO+ at the colon primary site (P = 0.007; RR, 0.108; 95% CI = 0.021 – 0.546) was the strongest prognostic factor.

Conclusion: CD45RO+ TILs showed independent prognostic significance for overall survival. These results may help to improve the prognostication of curatively resected stage IV colon cancer.

PD-0006 Figure: Overall survival of stage IV curatively resected colon cancer patients based on density of tumor infiltrating lymphocytes. (A: primary tumor FOXP3*; B: metastatic site FOXP3*; C: primary tumor CD45RO*; D: metastatic site CD45RO*). Cumulative survival was estimated by the Kaplan-Meier method. Abbreviations: p, primary tumor; m, metastatic site.