Conclusion: N stage for colon cancer is based on the absolute number of cancer-positive lymph nodes removed at surgery. Lymph node ratio (LNR) is the ratio of the number of cancer-positive nodes to the total number of lymph nodes removed. In patients receiving adjuvant 5-fluorouracil (5-FU), LNR has been shown to be a more accurate prognostic indicator than N stage. However, a combination of adjuvant oxaliplatin and 5-FU has now become the new standard of care. There is limited evidence to show LNR retains its prognostic significance in this setting. The aim of this project is to determine if LNR retains its prognostic significance for colon cancer when patients are treated with oxaliplatin.

Methods: Data was collected for all patients with stage 3 colon cancer treated with adjuvant oxaliplatin at a single institution between 2000 and 2015. End points were overall survival and disease-free survival. Based on previous work patients were stratified into three groups according to LNR (LNR1 < 0.11; LNR2 0.11 - 0.27; LNR3 >0.27). These categories were related to the endpoints using Kaplan-Meier curves and Cox regression analysis.

Results: 142 patients met the inclusion criteria. Using LNR1 as the reference category, the hazard ratios for overall survival were 1.54 (p = 0.26) for LNR2 and 0.53 (p = 0.23) for LNR3. The hazard ratios for disease-free survival were 1.95 (p = 0.68) and 1.12 (p = 0.79) for LNR2 and LNR3, respectively. The Kaplan-Meier curves did not show a statistically significant relationship between LNR and overall survival (p = 0.10) or disease-free survival (p = 0.13). The hazard ratios for N2 compared to N1 were 0.8 (p = 0.578) and 1.65 (p = 0.124) for overall survival and disease-free survival, respectively. The Kaplan-Meier curves did not show a statistically significant relationship between N stage and overall survival (p = 0.58) or disease-free survival (p = 0.12).

Conclusion: LNR is not a useful prognostic indicator for colon cancer treated with 5-FU and oxaliplatin.