

ABSTRACT NO. 34

THE IMPACT OF PATIENT BMI ON LYMPH NODE RETRIEVAL IN COLON CANCER

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Introduction: The number of lymph nodes retrieved in colon cancer resection predicts patient survival. In general, a twelve-node minimum is endorsed. Patient weight has not been investigated as a factor for adequate lymphadenectomy. In this study, we examined the impact of body mass index (BMI) on the total number of lymph nodes retrieved.

Methods: Using the Veteran Affairs Nashville Tumor Registry, we conducted a retrospective cohort analysis on patients treated operatively for colon cancer during 2002 to 2006. Patients were stratified by BMI into a non-obese group (BMI < 30) and an obese group (BMI > 30). Demographic data (age, sex, race) and clinical variables (histology, tumor stage, total lymph nodes, positive lymph nodes, tumor size, and BMI) were compared between the two groups using chi square test for categorical variables and t-test for continuous variables. All tests were two sided with p-value of <0.05 considered significant. Summary data are presented as mean \pm SD or percentages.

Results: We identified 189 patients of whom 121 had a BMI < 30 and 68 had a BMI > 30. There were no differences in sex, race, histology, tumor stage (including AJCC status), number of positive lymph nodes, or tumor size between the two groups. Patients with a BMI > 30 were younger (65.3 ± 8.7 vs. 68.3 ± 10.5 , $p < 0.05$). Interestingly, total number of lymph nodes in the resected specimens was higher in the obese population (15.9 ± 8.7 vs. 13.1 ± 7.6 , $p = 0.03$). After stratification with a cutoff value of >12 lymph nodes, retrieval of this number was more likely in specimens from patients with a BMI > 30 (67.6%) than from those with BMI < 30 (52.9%) $p < 0.05$.

Conclusions: Inadequate lymph node retrieval occurs more often from specimens of non-obese colon cancer patients. Increased efforts are needed to improve the number of lymph nodes retrieved from surgical specimens.