Factors Influencing Lymph Node Assessment in Colorectal Cancer Resection Specimens in Barbados

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Lymph node assessment is an integral part of colorectal cancer staging. Multiple factors affect lymph node evaluation. However, the relative importance of each factor is controversial. The aims of this study were to determine the main factors which influence lymph node retrieval in colorectal cancer resection specimens in Barbados and to identify any relationships between the factors and the lymph node counts. All surgical pathology colorectal cancer resection reports issued from January 2006 to December 2010 in Barbados were retrospectively reviewed to obtain patient-, tumor, pathologist, and surgeon-related data. Associations between variables were explored by regression analysis, using a binary model of <12 and ≥ 12 lymph nodes. At least 12 lymph nodes were retrieved in 21.7% (75/345) of resections. All variables examined explained 42.94% of variation in lymph node count. The pathologist who examined the specimen contributed the greatest quantity of variation in lymph node count (Proportion of variance explained 32.34%, p=<0.001). One pathologist (C) contributed 70.2% of the variation attributed to pathologists and 22.71% of the overall variation. The surgeons provided 2.3% of the variation explained, however their contributions were not significant, ANOVA (p=0.529). On linear regression, each additional year of patient age was associated with retrieval of 0.05 (95% CI 0.0975 – 0.002, p=0.05) fewer nodes. Multivariate logistic regression showed an odds ratio of 1.17 for tumor size; and considerable variation between pathologists. Pathologist E retrieved, on average, 1.8 (95% CI 1.41 – 26.35) more nodes than the reference Pathologist (D). In contrast, Pathologists B and C removed 1.8 (95% CI 0.04 – 2.60) and 3.3 (95% CI 0.01 – 4.19) respectively, fewer nodes than Pathologist (D). In Barbados, of the factors which affect lymph node counts, the pathologist who examined the colorectal resection specimen has the greatest influence on the number of lymph nodes identified.

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