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The Proliferative Indices of the Primary Ileal Well-Differentiated Neuroendocrine Tumors, Corresponding Lymph Nodes/ Mesenteric Deposits, and Distant Metastatic Sites Show Poor Correlation

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BACKGROUND: Well-differentiated neuroendocrine tumors (NET) of the small bowel are generally associated with a good survival, although metastases is common. Ki-67 proliferative index is an important prognostic marker. Some studies have shown that Ki-67 proliferative index is often higher in the metastatic foci compared to the primary, but there is no data on how the Ki-67 proliferative index in mesenteric deposits/ regional nodal metastases correlates with those of the ileal primary and metastatic foci. We aimed to explore this feature in our study.

METHODS: 34 patients were identified at our institution who underwent resection for a primary ileal NET, with concurrent positive mesenteric lymph node/tumor deposit, and at least one in-house diagnosis for distant metastasis. Proliferative indices were assessed using the recommended guideline by the College of American Pathologists. A linear regression model followed by a Pearson correlation coefficient, and 2-tailed student's t test as applicable, was calculated using standard statistical software.

RESULTS: Overall, the Ki-67 proliferative indices of the mesenteric deposit correlated with those of the primary and metastatic tumors. On average, the Ki-67 proliferative indices for metastatic sites were higher than those of the primary and nodal tumors, but were highly variable in individual cases (52% of cases had higher and 30% of cases had lower metastatic Ki-67 indices when compared to corresponding primary tumors). Metastatic Ki-67 index correlated better with the higher of the primary or nodal Ki-67 index. Metastasis to sites other than the liver was associated with greater primary tumor size and higher proliferative index.

CONCLUSION: Although there is an overall correlation between the Ki-67 indices of primary, nodal, and metastatic tumors, there is significant variability in individual cases.

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