A METASTATIC LYMPH NODE RATIO OF THE CENTRAL NECK HAS PREDICTIVE VALUES FOR LOCO-REGIONAL RECURRENCE IN PAPILLARY THYROID CARCINOMA

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Background/Purpose: This study aimed to evaluate the significance of the absolute number of lymph node metastasis (LNM) and the metastatic lymph node ratio (the ratio between the metastatic lymph node and the harvested lymph nodes; MLNR) in the central neck for the prediction of loco-regional recurrence in patients with papillary thyroid microcarcinoma (PTMC).
Methods: After reviewing medical records of PTMC patients who received total thyroidectomy with more than one lymph node harvested from the central neck, 573 consecutive patients were enrolled in this study, with a follow-up period of more than 36 months. Regarding the risk of recurrence, multivariate analyses were performed with the following variables; sex, multiplicity of the primary tumor, pathological extrathyroidal extension, presence of clinically positive lymph nodes, the level of postoperative stimulated serum thyroglobulin, the number of harvested lymph nodes, the number of LNM and MLNR.
Results: Both the number of LNM and MLNR exhibited predictive significance towards loco-regional recurrence ($P < 0.05$). The lowest cut-off value of the MLNR for a meaningful separation of disease recurrence was 0.44 (HR = 8.86, 95% CI = 1.49 - 52.58, $P = 0.001$) when three or more lymph nodes were harvested.
Discussion & Conclusion: Both the number of LNM and MLNR in the central neck have predictive values for loco-regional recurrence. When the MLNR is higher than 0.44, there is an increased risk of loco-regional recurrence with an HR of 8.86.