

FEASIBILITY OF SENTINEL LYMPH NODE DISSECTION USING TC-99M PHYTATE IN PAPILLARY THYROID CARCINOMA

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Background/Purpose: Various methods of sentinel lymph node (SLN) biopsy in thyroid cancer have been introduced. Tc-99m phytate as a radiotracer has been successfully utilized for SLN biopsy in breast, cervix and endometrial cancer. We assessed the feasibility of SLN dissection using Tc-99m phytate in papillary thyroid carcinoma.

Methods: Eighteen patients with papillary thyroid carcinoma were prospectively enrolled. Ultrasound guided peritumoral injection of a Tc-99m phytate was performed. Preoperative single photon emission computed tomography (SPECT) and intraoperative gamma-probe were used for SLN detection.

Results: Identification rate of SLNs was 44.7% (8/18) with SPECT and 66.7% (12/18) with gamma-probe. Combined SPECT and gamma probe had identification rate of 72.2% (13/18). Identification rate of SLNs in central lymph node compartment was 55.6% (10/18) and 44.4% (8/18) in lateral lymph node compartment. Four patients (22.2%) had metastasis in SLNs; three patients in central compartment and one patient in both central and lateral compartment.

Discussion & Conclusion: Combined SPECT and gamma-probe could detect SLNs with 72.2% identification rate in papillary thyroid carcinoma. SLN biopsy using Tc-99m phytate is technically feasible. Further investigation is warranted for clinical application of Tc-99m phytate in papillary thyroid carcinoma