

Assessment of Lymphatic Drainage Through Sentinel Lymph Node Biopsy in Cutaneous Melanoma Using a Radioactive Tracer - Technetium-99m (99mTc)

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Abstract

Background: cutaneous melanoma has often unpredictable lymphatic drainage patterns, especially at the level of the trunk, head and neck regions. Sentinel lymph node biopsy (SLNB) is an important prognostic tool that accurately assesses regional lymph node involvement and guides therapeutic decisions.

Material and Methods: this prospective study involved 104 patients diagnosed with cutaneous melanoma who underwent SLNB using a radioactive tracer. Sentinel lymph nodes (SLN) were identified via lymphoscintigraphy and gamma camera guidance, followed by histopathological and immunohistochemical evaluation.

Results: the SLNB identification rate was 100%. Multiple lymphatic drainage basins (LDB) were identified in 27% of cases, predominantly in trunk, head, and neck regions. The mean number of SLN identified was 2.11 by lymphoscintigraphy and 3.35 by histopathology. SLN metastases were present in 22.11% of patients.

Conclusions: SLNB with a radioactive tracer is particularly useful for cutaneous melanomas of the trunk, head or neck. This technique also has less false negative results for melanomas located at the level of the limbs.

Key words: cutaneous melanoma, sentinel lymph node biopsy, radioactive tracer, multiple lymphatic drainage