Pathological staging (TNM 8th ed.) - Regional lymph nodes (N) (Core)

“Thickness should be measured by using an ocular micrometer calibrated to the magnification of the microscope used for the measurement. In accordance with consensus recommendations,[1] thickness measurements should be recorded to the nearest 0.1 mm, not the nearest 0.01 mm, because of impracticality and imprecision of measurement, particularly for tumours >1 mm thick. Tumours ≤1 mm thick may be measured to the nearest 0.01 mm if practical, but the measurement should be rounded up or down to be recorded as a single digit after the decimal (i.e., to the nearest 0.1 mm). The convention for rounding decimal values is to round down those ending in 1 to 4 and to round up for those ending in 5 to 9. For example, a melanoma measuring 0.75 mm in thickness would be recorded as 0.8 mm in thickness. Tumour measuring 0.95 mm and one measuring 1.04 mm both would be rounded to 1.0 mm (i.e., T1b).”[2]

“Patients without clinical or radiographic evidence of regional lymph node metastases but who have microscopically documented nodal metastases (usually detected by lymphatic mapping and SLN biopsy) are defined as having "clinically occult” (previously termed *microscopic* in the 7th edition) disease, and represent the vast majority of patients who are diagnosed with regional metastasis at presentation.[3,4] Patients with clinically occult metastases are designated as N1a, N2a, or N3a based on the number of tumour-involved nodes, unless microsatellites, satellites, or in-transit metastases are present. If they are, the patient is assigned N1c, N2c, or N3c according to the number of involved nodes. Patients who may undergo systemic treatment after needle biopsy of a clinically detected node or an sentinel lymph node (SLN) biopsy only are clinically staged as cN1 or greater. There is growing evidence that microscopic tumour burden in the sentinel node is prognostically significant.[5-17] Though this histopathologic characteristic was not proposed for the N category in the 8th edition, it was recommended to be recorded; documentation of sentinel node burden is an important factor that will be included in and likely guide future prognostic models and the development of clinical tools for patients with regional disease. Sentinel node tumour burden is discussed in detail in Additional Factors Recommended for Clinical Care.”[2]

“In melanoma, there is no unequivocal evidence that there is a lower threshold of microscopically identifiable sentinel node tumour burden that should be used to define node-positive disease for staging purposes. A sentinel lymph node in which any metastatic tumour cells are identified, irrespective of how few the cells are or whether they are identified on hematoxylin and eosin (H&E) or immunostained sections, should be designated as a tumour-positive lymph node. This is unchanged from the 7th edition. If melanoma cells are found within a lymphatic channel within or immediately adjacent to a lymph node, that node is regarded as tumour- involved for staging purposes.”[2]

To determine the number of nodes involved for pathological staging, the number of tumour-positive sentinel nodes should be added to the number of tumour-positive nonsentinel nodes, if any, identified after completion lymph node dissection (if performed). Not all patients with a positive SLN biopsy undergo completion lymph node dissection (CLND). If a patient undergoes SLN biopsy that is positive for metastasis, and does not undergo CLND, the designation of pN1 (sn) is appropriate and may be used. In the context of patients who undergo completion lymphadenectomy after SLN biopsy, the pN1a, pN1b, or pN1c subcategory (without the suffix “(sn)”) implying that a CLND has been performed and the (sn) description is not used.[2]

“Patients who present with clinical evidence of regional disease are assigned as N1b, N2b, or N3b based on the number of nodes involved. If at least one node was clinically evident and there are additional involved nodes detected only on microscopic examination, the total number of involved nodes (e.g., both those clinically apparent and those detected only on microscopic examination of a

complete lymphadenectomy specimen) should be recorded for N categorization. As noted for patients with clinically occult disease, those with clinically evident disease who also have microsatellites, satellites, or in-transit metastases at diagnosis are assigned as N1c, N2c, or N3c, based on the number of nodes involved by metastasis."[2]

"Patients with clinically occult regional disease have been shown to have better survival than patients with clinically evident disease.[18-20] Overall, there is marked heterogeneity in prognosis among patients with Stage III regional node disease by N-category designation or by T category among patients with N+ disease. Although N category alone predicts outcome, more accurate prognostic estimation is obtained by also incorporating features of the primary tumour."[2]

M category criteria continue to be determined both by site of distant metastases and serum lactate dehydrogenase (LDH), but patients with regionally isolated metastasis from an unknown primary site should be categorised as Stage III rather than Stage IV, because their prognosis corresponds to that of Stage III disease from a known primary site.

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