Lymph node status (Core)

The regional lymph node status is a major determinant of whether or not a patient receives adjuvant chemotherapy. Non-regional lymph node involvement by tumour, within large resection specimens, should be recorded separately, as this indicates distant metastatic (pM1) disease. In the case of two synchronous primary tumours in distinct anatomic regions, lymph nodes need to be assigned by regional status and assessed for each cancer separately.

The number of nodes present depends on the length of the resection specimen, the amount of attached mesenteric tissue, the age of the patient and whether or not the patient has received neoadjuvant therapy.[1] Diligent pathology dissection is crucial as many positive lymph nodes are less than 5 millimetre (mm) in size. Some cases contain only a small number of nodes, but dissectors and departments should aim for a median lymph node yield of at least twelve per case. In stage II disease, low lymph node harvest is an adverse prognostic factor.[2]

With respect to small nodal tumour deposits, a systematic review and meta-analysis found higher risk of disease recurrence in stage I/II colorectal cancer cases in the presence of only micrometastatic disease in lymph nodes (one or more deposit ≥0.2 mm and <2 mm) compared to those with tumour-negative nodes, but no increased risk of disease recurrence in cases in the presence of only 'isolated tumour cells' in lymph nodes (single tumour cells or groups <0.2 mm in maximum dimension) compared to those with tumour-negative nodes.[3] Therefore, cases in which isolated tumour cells, identified on haematoxylin and eosin (H&E) or immunohistochemical staining, represent the only form of nodal involvement should be classified as pN0, with a comment on the presence of the isolated tumour cells and optional designation as pN0(i+). Any lymph node containing tumour measuring ≥0.2 mm in diameter is counted as a positive node.

If neoadjuvant therapy has been received, designation as nodal involvement (ypN1/2) is based only on the presence of viable tumour. Assessment of lymph nodes in this setting should include a descriptive comment on the presence or absence of signs of regression (fibrosis, necrosis or mucin) within nodal tissue, to allow correlation with initial staging magnetic resonance imaging (MRI).

References

1 Wijesuriya RE, Deen KI, Hewavisenthi J, Balawardana J and Perera M (2005). Neoadjuvant therapy for rectal cancer down-stages the tumor but reduces lymph node harvest significantly. *Surg Today* 35(6):442-445.

2 Chang GJ, Rodriguez-Bigas MA, Skibber JM and Moyer VA (2007). Lymph node evaluation and survival after curative resection of colon cancer: systematic review. *J Natl Cancer Inst* 99(6):433-441.

3 Sloothaak DA, Sahami S, van der Zaag-Loonen HJ, van der Zaag ES, Tanis PJ, Bemelman WA and Buskens CJ (2014). The prognostic value of micrometastases and isolated tumour cells in histologically negative lymph nodes of patients with colorectal cancer: a systematic review and meta-analysis. *Eur J Surg Oncol* 40(3):263-269.