Surgical margin/Tissue edges (Core and Non-core)

When the clinical intention of the biopsy is to completely remove a melanoma,[1] it is important to document when the surgical margins are microscopically involved (positive) by in situ or invasive melanoma and to specify the precise area of the positive margin, if possible. If the margins are microscopically clear, for clinical management purposes, it is usually sufficient to simply state this in the pathology report, unless the microscopic margin is narrow (where there is a risk that limited routine pathological sampling may fail to detect a positive margin). What constitutes a narrow microscopic margin in the excision specimen probably varies with the type of melanoma. For most cases of superficial spreading and nodular melanoma, a 1 mm peripheral rim of histologically uninvolved tissue is likely to be sufficient. However, with lentigo maligna and other melanomas with less well circumscribed and well-defined peripheral edges, a wider rim of histologically uninvolved tissue may be advisable.

When the deep margin is microscopically positive with invasive melanoma, it is often helpful to know whether the margin involvement represents focal transection or broad involvement by invasive tumour. This may be clinically useful, as an invasive melanoma with broad transection at the peripheral and deep margins in a partial biopsy of a larger lesion may influence future treatment planning. In contrast, focal transection at the deep margin is unlikely to result in a thicker melanoma in a wide excision specimen or to ultimately affect the American Joint Commission on Cancer (AJCC) stage defined by T category.

The standard treatment for primary melanoma is wide local excision of the skin and subcutaneous tissues around the melanoma. Such definitive treatment is not usually performed until after a pathological diagnosis of melanoma has been established. The aim is complete surgical excision of all in situ and invasive melanoma components. Involvement of the surgical margin may result in regrowth or metastasis from residual melanoma, and may adversely affect patient outcome.[2-4] On the basis of several randomized controlled trials (RCTs)[5-9] national guidelines from several countries have recommended wide excision margins according to the thickness of the primary cutaneous melanoma.[10-12] The trials were based on surgical margins measured clinically at the time of wide excision. Clinically measured wide excision margins are a less precise measure of the extent of excision of normal tissues surrounding the tumour than the histopathological margins. However, little prospective evidence is available that demonstrates a definite relationship between histopathological measured margin and local, in transit and regional recurrence. A number of recent retrospective studies have correlated histological and clinical margins with recurrence of melanoma.[13-17] These studies suggest that a histological margin of <8 mm in T1-T3 melanomas and <16 mm in T4 melanomas may be associated with adverse outcomes (such as locoregional recurrence and recurrence-free survival), but this requires validation in prospective studies.

Providing data on distance of melanoma from the margins may be helpful not only to clinicians in guiding patient management but also for pathologists when examining any subsequent specimen (e.g., re-excision specimen or for determining whether recurrent tumour at the primary site represents local persistence of melanoma or a metastasis).

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