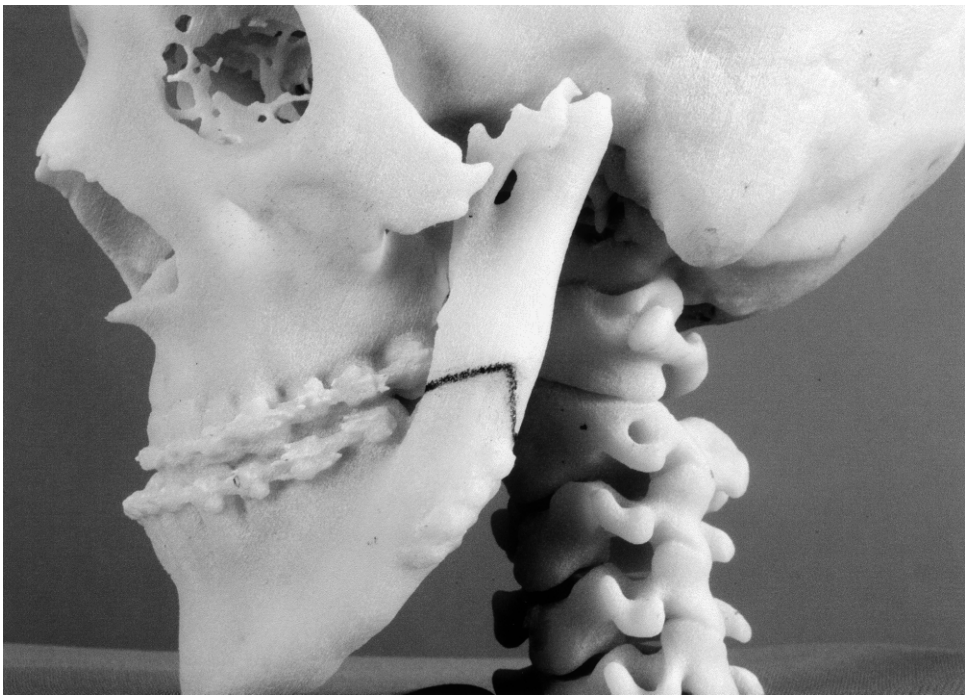

Fig. 1 The customised nylon model of the patient, with the position of the modified osteotomy marked on the reconstructed mandible. The outline of the fixation plate used at the time of graft placement can be seen along the lower border.

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Sentinel node biopsy in patients with in-transit recurrence of malignant melanoma

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Summary Sentinel node biopsy (SNB) is now widely used for accurate staging of patients with clinical stage I or II malignant melanoma. We describe the use of SNB in five patients with in-transit recurrence (stage IIIB) and demonstrate that it provides accurate staging of the lymph nodes in this group of patients.

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Sentinel node biopsy (SNB) is now widely used for accurate staging of patients with clinical stage I or II malignant melanoma. Local recurrence as either satellite or in-transit deposits (now grouped together in the most recent American Joint Committee on Cancer staging system)[1] is associated with a poor prognosis and is a marker for more extensive disease.[2,3] Nonetheless, treatment of in-transit metastases is focused primarily on achieving local control. We describe the use of SNB to evaluate the lymph-node status of five patients with in-transit recurrence. None of the patients had had SNB as part of the treatment of their primary melanoma.

Case reports

Case 1

A 61-year-old Caucasian man had a malignant melanoma of Breslow thickness 3.0 mm removed from his lower back. Wider excision of the scar was performed, and regular follow-up was arranged. He discovered a small pigmented subcutaneous nodule in his right axilla 18 months later. This was excised and found to be an in-transit deposit of malignant melanoma. A whole-body CT scan showed no evidence of metastases.

SNB was performed using preoperative lymphoscintigraphy and intraoperative blue dye and gamma probe. The site of the in-transit deposit was used for injection. Wide local excision of the in-transit metastasis was also performed. A single sentinel node was identified in the right axilla, which was found to be negative for metastatic melanoma on both conventional histology and immunohistochemistry.

At review 9 weeks later, the patient was found to have a palpable lymph node in the right axilla. A fine-needle aspirate confirmed that this contained metastatic melanoma. Right axillary lymph node clearance was performed, and subsequent histological examination showed involvement of 11 out of 23 lymph nodes. The patient developed a cerebral metastasis 6 months later and died of widespread metastatic disease a few months afterwards.

Case 2

A 46-year-old Caucasian woman had a malignant melanoma of Breslow thickness 5.0 mm excised from the instep of her left foot. After wider excision, she was followed up regularly. She developed an in-transit metastasis just above the left medial malleolus 5 years later. A CT scan showed no evidence of metastases.

Following our experience with Case 1, SNB was performed, but on this occasion the site of the primary was used for injection, rather than the site of the in-transit deposit. A single sentinel node was identified in the left groin and was positive for metastatic melanoma. Wider excision of the in-transit deposit was carried out at the same time. The patient proceeded to left ilioinguinal lymph node clearance, at which a further 16 lymph nodes were removed, none of which contained melanoma.

The patient developed a cutaneous metastasis on her right shoulder 1 year later, which was treated with excision. She remained disease free 2 years after the lymph node clearance.

Case 3

A 53-year-old Caucasian man had a malignant melanoma of Breslow thickness 4.3 mm widely excised from his right heel. He developed an in-transit metastasis on the lateral aspect of his right foot 5 years later. A staging CT scan confirmed that there was no evidence of metastasis.

SNB was performed, using the site of the primary for injection. Two sentinel nodes were identified in the right groin, one of which was positive for malignant melanoma. The patient proceeded to right ilioinguinal lymph node clearance, at which a further 14 nodes were removed, none of which contained melanoma.

The patient presented with a further in-transit recurrence on his right heel 2 years later, which was treated with excision. He remained disease free 2.5 years after the lymph node clearance.

Case 4

A 29-year-old Caucasian man had a malignant melanoma of Breslow thickness 0.5 mm widely excised from his back. He developed an in-transit metastasis 5 years later, 3 cm from the site of the primary. A review of the histology of the primary lesion was requested, and a revised report gave the Breslow thickness as 1.8 mm. A staging CT scan confirmed the absence of metastases.

SNB was performed using the site of the primary for injection. Three sentinel nodes were identified in the left axilla, one of which was positive for metastatic melanoma. The patient proceeded to left axillary clearance, at which 22 further nodes were removed, none of which contained melanoma.

The patient developed a further in-transit recurrence adjacent to the primary site, which

was managed with wide excision. He remained disease free 8 months later.

Case 5

A 55-year-old Caucasian woman had a malignant melanoma of Breslow thickness 1.0 mm excised from her left forearm. She developed two in-transit metastases on her left forearm and upper arm 10 years later.

SNB was performed, using the site of the primary for injection. One sentinel node was identified in the left axilla and was positive for metastatic melanoma. The patient proceeded to left axillary clearance, yielding a further 37 lymph nodes, none of which contained melanoma.

The patient remained disease free 7 months later.

Discussion

Conventional management of in-transit recurrences of malignant melanoma consists of wide excision of the recurrence and clinical and/or radiological re-staging.[4] Nonetheless, the emergence of in-transit disease indicates active systemic disease and portends a poor prognosis, with a high risk of local, regional and distant metastasis and death.[1-3] Accurate re-staging involves an assessment of lymph node status, and SNB is the most accurate technique available for detecting lymphatic metastases.[5] This affords the opportunity for early lymph node clearance in those patients who have microscopic metastases. Patients with in-transit disease alone are classified as stage IIIB, with a 5-year survival of 53%, whereas patients with in-transit disease combined with lymph node involvement are classified as stage IIIC, with a 5-year survival of only 26%.[1] Thus, SNB in this group also provides valuable prognostic information. Furthermore, patients with confirmed nodal metastases may be eligible for recruitment into clinical trials of adjuvant therapies that may not be open to those with in-transit recurrence alone. This provided the initial stimulus in our unit for using SNB in patients with in-transit disease.

In Case 1, the sentinel node draining the in-transit deposit was identified. Although this did not contain melanoma, the patient soon presented with extensive lymph node involvement in the same lymph node basin. This suggests that the node removed in this case did not accurately represent the lymph node basin from which it was removed. This, in turn, implies that the sentinel node draining the recurrence is not the same as that draining the primary site. By contrast, in Cases 2–5, the sentinel node draining the primary site was identified, and in each case it was positive for melanoma. In all four of these cases, no further lymph nodes were found to be involved on completion lymphadenectomy. We conclude, therefore, that it is the sentinel node draining the primary site that accurately represents the lymph node status of patients with in-transit disease. Furthermore, given the negative staging CT scans for each patient in this series, SNB remains the most accurate staging modality available.

All five patients presented here were found to have involved lymph nodes (albeit not by SNB in Case 1). It could be argued that patients with in-transit disease have such a high risk of distant spread that SNB and subsequent lymph node clearance are unjustified. In Cases 2–5, however, only a single involved node was identified, raising the possibility that early lymph node clearance might halt the spread of disease beyond the lymphatics, potentially conferring a survival benefit. This speculation can be investigated only with a larger sample and longer follow-up.

We conclude that further investigation of the role of SNB in patients with in-transit metastases is warranted, and recommend that such patients be included in appropriate trials.

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