

PLASTIC SURGERY DEPARTMENT

GUIDELINES FOR THE SURGICAL MANAGEMENT OF MALIGNANT MELANOMA

Diagnosis

Patients with pigmented lesions which may represent melanomas should have ready access to a diagnostic service. Suspicious lesions should be excised under local anaesthesia with a 1mm margin, and submitted for histological examination. An acceptable alternative strategy, where the clinical diagnosis is clear, is to excise with a 1cm margin, thus avoiding the need for re-excision in many cases. Where complete excision biopsy is not possible, and still allow direct closure, then incision biopsy is acceptable, so long as every effort is made to include the thickest portion of the lesion.

The crucial information required from the laboratory is the diagnosis, and, if a melanoma, its maximum thickness (Breslow).

Following the diagnosis of malignant melanoma, full clinical examination should be undertaken, especially looking for other suspicious skin lesions, in-transit metastases, regional lymphadenopathy and hepatomegaly.

Staging

The 2002 MSG and BA Dermatologists have produced guidelines for the management of MM. The new 2001 AJCC staging system is to be used. It is based upon clinical examination and tumour thickness.

Stage	IA	Primary tumours <1.0 mm thick, no ulceration, no nodes
	IB	Primary tumour <1.0 mm thick, with ulceration, no nodes Primary tumour 1.01-2.0 mm thick, no ulceration, no nodes
Stage	IIA	Primary tumour 1.01-2.0 mm thick, with ulceration, no nodes Primary tumour 2.01-4.0 mm thick, no ulceration, no nodes
Stage	IIB	Primary melanoma 2.01-4.0 mm thick, with ulceration, no nodes Primary melanoma >4.0 mm thick, no ulceration, no nodes
Stage	IIC	Primary lesion >4.0 mm thick, with ulceration, no nodes
Stage	IIIA	Any Breslow thickness, no ulceration, micro metastases in nodes, no distant metastases
Stage	IIIB	Any Breslow thickness, with ulceration, micro metastases in nodes, no distant metastases Any Breslow thickness, no ulceration, up to three palpable nodes, no distant metastases Any Breslow thickness ± ulceration, no nodes but in-transit metastases or satellites, no distant metastases
Stage	IIIC	Any Breslow thickness with ulceration, up to three palpable nodes, no distant metastases Any Breslow thickness ± ulceration, four or more palpable nodes or matted nodes or in-transit metastases with nodes, no distant metastases
Stage	IV	Systemic metastases M1: skin, subcutaneous or distant lymph nodes M2: lung M3: all other sites or any site with raised lactate dehydrogenase

INVESTIGATIONS

Stages I, IIA	-	No Investigations
Stages \geq IIB	-	CXR USS or CT scan of chest, abdomen \pm pelvis LFT's LDH FBC Fine needle aspiration cytology of accessible lesions

Area scanned varies according to site of primary or previous disease:-

Primary on upper torso and upper limb – scan chest, liver, axillae

Primary on lower torso and lower limbs – scan chest, liver, pelvis and inguinal regions

For patients with disease in other sites e.g. Head and Neck tumours, choices should be determined by discussion with the radiologist

ADJUVANT THERAPY

Consider offering patients for a trial at Cancer Centre if Stage IIB or above

Surgical Treatment

The Primary

MARGINS

< 1mm	1 cm
1-2mm	2cm
2-4mm	2cm
>4mm	2cm

Lentigo maligna

Lentigo malignas should be excised with a clear surgical margin wherever possible.

It is likely that outcome will be poorer if alternative therapies are used to treat lentigo maligna. In uncommon circumstances however, particularly when the patient is very elderly or infirm, then it may be appropriate to treat with cryotherapy, radiotherapy or even observation.

Lentigo maligna melanoma should be treated by excision, as for any other type of melanoma, where possible. The constraints imposed by site may limit the margins of excision.

Subungual melanomas

Subungual melanoma is rare and few series report more than 45 cases and all are retrospective. Surgical therapy has not therefore been validated and is less amenable to critical analysis than those for the more common cutaneous types of melanoma. All reported series document late diagnosis complicated by inadequacy of biopsies. A consensus view is that biopsy of a subungual tumour requires that the nail be removed and that an ellipsoidal biopsy should be taken including normal adjacent skin or nail bed proximally and distally. Melanomas arise from the nail bed and when very early present as narrow pigmented streaks. In these circumstances the consensus view is that the nail fold should be reflected and the nail bed proximal to the pigmented band should be biopsied by taking a longitudinal ellipse. This procedure should ensure that the correct part of the nail bed is biopsied and there is a good chance that there would not be subsequent permanent deformity of the nail. Recommendations for definitive surgical management have varied from amputation at the base of the metacarpal or metatarsal to more localised resections. There is no evidence to support the discarding of anything other than cutaneous elements and the underlying bony plate of the distal phalanx in terms of improved survival or reduced recurrence.

The importance of the thumb is enormous compared with other digits and function should therefore be preserved wherever possible. Consideration should therefore be given to the extent of the lesion, dominance, manual demands and age when deciding the extent of ablation and the means of repair or reconstruction.

Surgery for metastatic disease

There is no established role for elective node dissection in melanoma. It is acceptable however, rarely, to excise lymph nodes underlying advanced tumours at the time of primary surgery; for example in the inguinal area.

Surgery for metastatic disease, such as dissection of the parotid gland and removal of small numbers of metastases in sites such as the lungs, gut and brain remains a useful therapeutic option in a small number of patients.

Clinically detectable lymph node metastases should be treated with radical node dissection. Such patients should be referred to the Cancer Centre for possible adjuvant therapy.

Excision of melanoma metastatic to the inguinal lymph nodes

Fine needle aspiration of enlarged nodes to confirm the diagnosis of metastatic disease prior to surgery is useful.

Involved inguinal nodes should be cleared en bloc.

Dissection of the superficial and deep inguinal nodes results in a greater morbidity than dissection of the superficial nodes alone. There is no evidence that removal of the deep nodes has any effect on survival and therefore is not normally recommended, however removal of clearly involved deep nodes would be appropriate and may be of palliative value.

Excision of melanoma metastatic to the axilla

Block dissection should be performed for disease metastatic to the axilla by removing the axillary contents as completely and atraumatically as possible. This may involve division of the pectoralis minor muscle and dissection to the first rib to ensure complete clearance of any involved nodes. Piecemeal removal of the nodes should be avoided to prevent spillage of tumour in the axilla, and any neurovascular structures crossing the involved tissues should be sacrificed.

Excision of melanoma metastatic to lymph nodes in the neck/parotid

Surgery in this area should only be performed by those skilled in parotidectomy, functional neck dissection and radical neck dissection, ideally by surgeons who regularly perform dissections of the head and neck.

The type of neck dissection performed depends on the number of nodes clinically involved and the site of the nodes and primary tumour. The parotid must be considered as part of the neck lymphatic drainage when dealing with metastatic melanoma.

If the primary was on the face and above the mouth, and there are nodes in the anterior triangle of the neck, then the patient should have a functional neck dissection. There is little evidence that radical node dissection in melanoma has any effect on survival, and there is significantly greater morbidity. Superficial or total parotidectomy (depending on the nature of the disease) may also be indicated.

Palliation of cutaneous and subcutaneous metastases in the limb

Single in-transit metastases either concurrent, or subsequent to a previous melanoma on a limb are usually best managed by simple excision with approximately a 1 cm margin of clearance. Their nature can be confirmed pre-operatively, where necessary, by fine needle aspiration cytology in the outpatient clinic.

Multiple very superficial metastases which are localised to the epidermis can be treated either by CO2 laser or isolated limb perfusion. The latter requires the collaboration of medical oncologists and cardio-thoracic surgical teams.

Fleshy subcutaneous metastases are more difficult to control and are preferably managed by isolated limb perfusion.

Locally advanced primary melanoma with satellitosis on a limb may be managed by isolated limb perfusion leaving the primary tumour in situ. The remnant would be excised later.

Indications for referral to Cancer Centre

Patients with Stages IIB disease or above should be referred for consideration for adjuvant therapy, chemotherapy, radiotherapy or other treatment modalities.

Look out for regular trials posted by the NCCT for recruitment of suitable patients.

Support for the patient after diagnosis

All patients should receive good explanations of their medical problem and its management. They should also have access to further counselling by an appropriately trained doctor, psychologist or nurse. The majority of patients have a need for support of this type right from the beginning. It is desirable that nurse counsellors be appointed to all Cancer Centres and probably all large pigmented lesion clinics.

Female patients should be given advice about pregnancy. It is current practice in many centres to advise against conception for 2 years after excision of melanoma for patients with thicker tumours. The rationale for this is that recurrence in poor prognosis tumours is most likely within two years. There is relatively little data on the effect of pregnancy on outcome although in a study of 100 women diagnosed in pregnancy there appeared to be no effect on survival.

There is no evidence that the contraceptive pill has any aetiological role in melanoma and is not contraindicated after excision of primary disease. Long term data on outcome in patients taking hormone replacement therapy (HRT) is lacking although the advice generally given is that HRT may be used safely.

Follow up

The follow up of patients and the investigations performed should be carried out to an agreed protocol.

1. In situ tumours - these lesions are not proven to be capable of metastasis and there is therefore no indication for further follow up in specialist clinics after the first post-surgery visit. Patients will be returned to the care of the GP, but advised to seek medical advice if a new mole changes in appearance.

Patients with in situ tumours who also have the atypical mole syndrome phenotype should be kept under review.

2. All patients with invasive melanoma should be followed up 3-monthly for 3 years.
 - a. In Stage I disease some view this frequency of follow up as excessive. The risk of recurrence of such lesions is only in the order of 2% in a five year period. There is no absolute necessity for such patients to be followed up in hospital but it may be useful to do so in terms of reassuring the patient. Follow up should therefore be at the discretion of the clinician and the patient. If followed up, after 3 years they may be discharged from routine follow up.
 - b. Tumours of Breslow thickness >1.0 mm should be reviewed every 3 months for 3 years and then every 6 months for a total follow up period of 5 years.

Five Year Survival Statistics

Primary melanoma using above resection margins:-

In-situ	95% - 100%
<1 mm	95% - 100%
1-2 mm	80% - 96%
2.1 – 4 mm	60% - 75%
>4 mm	50%