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Invited review

Management of regional metastatic disease in head and neck cutaneous malignancy. 2. Cutaneous malignant melanoma

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Abstract

This is the second of 2 articles giving an overview of the current evidence for management of the neck and parotid in cutaneous cancers of the head and neck. We discuss cutaneous malignant melanoma and review the latest evidence for management of the regional nodes.

Keywords: Melanoma; Sentinel node biopsy; Neck dissection; Lymphatic metastasis

Introduction

In this second paper on the current evidence base for management of the neck and parotid in cutaneous cancers of the head and neck, we discuss cutaneous malignant melanoma. In the first we discussed cutaneous squamous cell carcinoma.[1]

Cutaneous melanoma of the head and neck accounts for 11–24% of all cutaneous malignant melanomas. It is aggressive, and in this region the overall prognosis is poorer than in other sites.[2]

In this paper we review the latest evidence for surgical treatment of cutaneous malignant melanoma with emphasis on regional management of disease in the head and neck. As with cutaneous squamous cell carcinoma (SCC), the single most important determinant of prognosis is nodal status.

The distribution of cutaneous malignant melanoma on the head and neck differs from that of cutaneous SCC, staging is more complex, and the role of sentinel node biopsy as a staging tool is better established.[3]

Patterns of malignant melanoma differ around the globe: in Australia the commonest subtype to affect the head and neck is superficial spreading melanoma,[4] whereas in Scotland it is lentigo maligna melanoma.[5] However, a recent retrospective study of cutaneous malignant melanoma of the head and neck in Dorset showed that superficial spreading melanoma was the commonest subtype, which may reflect differences in skin type and exposure to the sun.[6]

Cutaneous malignant melanoma

During the last 30 years, incidence rates of cutaneous malignant melanoma in Great Britain have increased more rapidly than any of the current 10 most common cancers. It is the sixth most common cancer in the UK, and accounts for 4% of all new cases of cancer in both men and women; one in 60 in the UK can expect to develop a melanoma in their lifetime.

In 2010, there were 12,818 cases of cutaneous malignant melanoma in the UK compared with an estimate of 100,000 non-melanoma skin cancers.[7] Although this is only 10% of all cutaneous malignancies, cutaneous malignant melanoma accounts for more than 75% of all deaths from skin cancer. Despite the advances made for early primary disease, the prognosis for regional metastatic melanoma remains dismal, with overall 5-year survival of less than 50%.[8]

Cutaneous malignant melanoma of the head and neck is most common in men and tends to affect older people.[9,10]

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Table 1
High risk factors in cutaneous malignant melanoma.

Sex:
Male
Depth:
Breslow depth (and Clark level in thin facial skin)
+/− Clark level in thin facial skin
Primary site:
Scalp or neck
Histological findings:
Presence of histological ulceration
Mitotic rate $\geq 1\ mm^2$
Lympho/vascular invasion
Immunosuppression

Anti-TNF (tumour necrosis factor) biological therapy has been shown to increase its incidence by as much as 50%.[11]

The disease may initially metastasise as in-transit disease, or to the regional nodes or distant sites. Of these, regional nodal metastasis is the most common, and it happens more often and more quickly in men than in women.[12]

Primary tumour: risk factors (Table 1)

The single most important prognostic factor in cutaneous malignant melanoma is the Breslow depth, which is established at initial biopsy of a suspected lesion. The procedure should be an excisional biopsy with a 2–5 mm margin and cuff of underlying fat where primary closure of the defect is possible. Incisional biopsy may be indicated for large lesions on the face where primary closure is not possible. The results confirm the diagnosis and the Breslow depth, and guide further management.

Deeper tumours are more likely to gain access to vascular and lymphatic channels, and therefore to metastasise. Facial skin is often thin, and there is a subgroup of thin melanomas (less than 1 mm deep), which have invaded to Clark level IV or beyond, and behave more aggressively.

Sites on the scalp and the neck have a high risk of metastasis and carry the highest overall mortality (10-year survival is only 60%), whereas 10-year survival for those of the ear, face, and eyelid, is 70%, 80%, and 90%, respectively.[10]

The rare desmoplastic melanoma, which preferentially affects the head and neck,[3] has a low rate of regional metastatic disease, but a high incidence of local recurrence.

Staging (Tables 2 and 3)

The 7th edition of the American Joint Committee on Cancer (AJCC) staging for melanoma was published in 2010.[13] Changes to the previous edition include the addition of the mitotic rate and status of the sentinel lymph node, but several important predictors of survival are not included such as age, sex, site of primary tumour, microscopic tumour burden, and number of distant metastatic sites.[14]

Table 2
American Joint Committee on Cancer (AJCC) 2009 TNM classification of cutaneous melanoma.

T classification	Breslow thickness	Ulceration/mitotic rate
Tis	N/A	N/A
T1	≥1.00 mm	a: no ulcer/≤1 mm^2 b: ulcer/≥1 mm^2
T2	1.01–2.0 mm	a: no ulcer b: ulcer
T3	2.01–4.0 mm	a: no ulcer b: ulcer
T4	>4.0 mm	a: no ulcer b: ulcer
N classification	No. of nodes	Nodal met burden
N0	0	N/A
N1	1	a: micromets after SNB b: macromets (clinically detectable)
N2	2–3	a: micromets after SNB b: macromets (clinically detectable) c: in transit mets/satellites and no nodes
N3	>4/matted/in transit mets with nodes	
M classification	Site	Serum lactate dehydrogenase
M0	No distant mets	N/A
M1a	Distant skin/SC/nodal	Normal
M1b	Lung	Normal
M1c	All other visceral	Normal
	Any distant mets	Elevated

The superficial lymphatics of the head and neck

These are discussed in detail in the first paper in this series.

Site predilection

Unlike cutaneous SCC, cutaneous malignant melanoma occurs most often in sites other than the head and neck. Nevertheless, there is a high incidence in the head and neck as the region accounts for 9% of the total surface area of the skin, but 11–24% of melanoma occurs here.[6]

The face is the commonest primary site in the head and neck (45–52%) followed by the scalp (19–25%), neck (17–22%), and ear (9–10%).[15] Like cutaneous SCC, the scalp is affected more commonly in men than in women, and is related to baldness.[4]