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CLINICAL RECORD

Aural metastasis from a nasal malignant melanoma: case report with literature review

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Abstract

Objective: To raise awareness of nasal malignant melanoma, a rare tumour, and to highlight the difficulty associated with its optimum management.

Method: Case report and literature review.

Case report: A 71-year-old, Caucasian man was diagnosed with malignant melanoma in the right nasal cavity, after presenting with right-sided epistaxis. He underwent endoscopic medial maxillectomy; histological analysis confirmed that the resection margins were clear. However, within six months he re-presented with a metastatic deposit of malignant melanoma in his right external auditory canal, for which he underwent right temporal bone resection. There was no evidence of distant metastasis on radiological studies. Unfortunately, within a month the tumour recurred in the right nasopharynx. A multidisciplinary team decision was made to offer the patient palliative chemoradiotherapy.

Conclusion: Mucosal malignant melanoma of the nose is very rare, and aural metastasis from this primary site has not previously been reported. Optimum management must involve a multidisciplinary team.

Key words: Ear, External; Malignant Melanoma; Neoplasm Metastasis; Temporal Bone; Nasal Cavity

Introduction

Mucosal melanomas of the head and neck are rare, representing 8–15 per cent of all malignant melanomas of the head and neck region, and accounting for less than 1 per cent of all melanomas.[1] Mucosal melanomas are far more aggressive than cutaneous melanomas, and have a greater propensity to metastasise to regional as well as distant sites. These melanomas have a higher incidence of loco-regional and distant recurrence, resulting in a high cause-specific death rate. The overall prognosis is extremely poor, with most published cases having a dismal five-year survival rate of 10–15 per cent.[1]

Materials and methods

We present a case report and a literature review.

Case report

A 71-year-old, Caucasian male was admitted to our otolaryngology and head and neck surgery department after presenting to the accident and emergency department with right-sided epistaxis. He was initially managed conservatively, using nasal packs, and discharged.

However, the patient presented again with epistaxis, requiring nasal examination under anaesthesia and sphenopalatine artery ligation. Intra-operatively, some granulation tissue was noted on the polypoidal posterior end of the right inferior turbinate, extending onto the adjacent medial wall of the maxillary sinus (Figure 1). A biopsy from this area was positive for HMB45 and S100 antigens and negative for pancytokeratin, epithelial membrane antigen, synaptophysin and cluster of differentiation 45 glycoprotein, consistent with a diagnosis of malignant melanoma.

A staging computed tomography (CT) scan of the head, neck and chest showed no evidence of secondary visceral tumours.

The patient underwent endoscopic right medial maxillectomy.

Histopathological analysis of the surgical specimen indicated clear surgical margins of 1.2 mm.

The patient made a good recovery and had no more epistaxis.

A magnetic resonance imaging scan taken soon after the surgical procedure showed no evidence of local recurrence (Figure 2).

However, four months after the maxillectomy procedure, nasal endoscopy in the out-patient clinic revealed a polypoidal mass arising from the right middle turbinate, biopsy of which confirmed clinical suspicion of malignant melanoma recurrence.

While awaiting further treatment for his recurrent nasal tumour, the patient developed bleeding from his right ear. Examination revealed a polypoidal lesion in the anterior angle of the external auditory canal (Figure 3), adjacent to the tympanic membrane, with normal eustachian tube opening on endoscopic examination. This lesion was excised and sent for histopathological analysis. It was found to be consistent with metastatic malignant melanoma.

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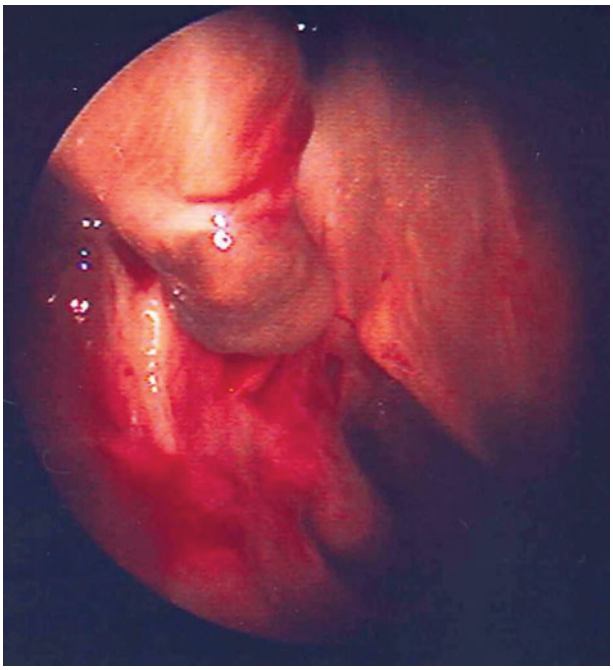

FIG. 1
Endoscopic view showing malignant melanoma of the right inferior turbinate and medial wall of the right maxillary sinus.

After discussion at the multidisciplinary team meeting, further nasal surgery for removal of recurrent nasal malignant melanoma was deferred, as the patient had developed a possible metastatic deposit in the right temporal bone.

A whole body CT scan was performed, which showed no sign of disease apart from in the right ear.

The patient underwent right lateral temporal bone resection. The resection proceeded from lateral to the styloid process through to the stylomastoid foramen; the parotid gland was dissected off for access. The eustachian tube orifice was blocked with fat. The facial nerve was resected as it was in the line of dissection. Although this resulted in a post-operative right-sided facial palsy, the patient made an otherwise uneventful recovery.

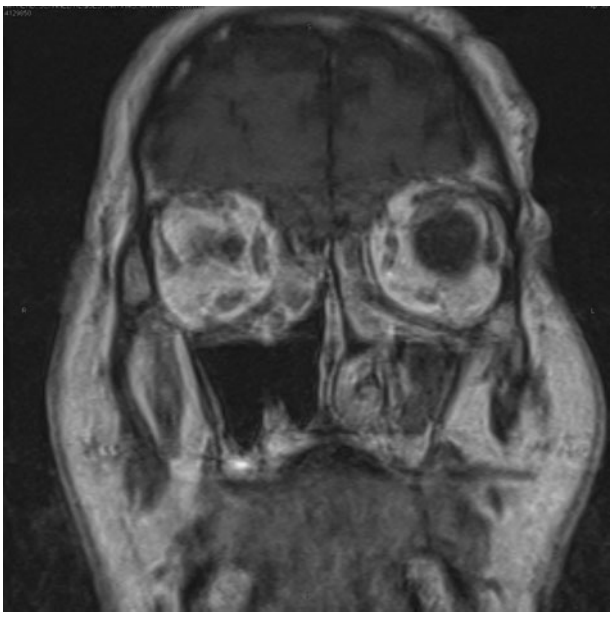

FIG. 2
Coronal magnetic resonance imaging scan taken after right maxillectomy, showing no evidence of local recurrence.

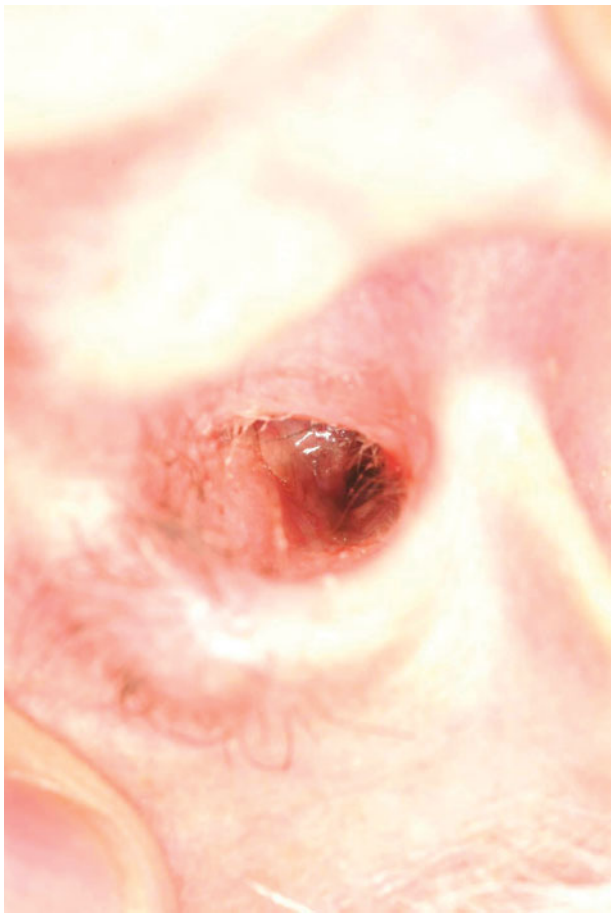

FIG. 3
Clinical photograph showing metastatic malignant melanoma in the right external auditory meatus.

On further follow up one month later, the patient had developed polypoidal changes in the post-nasal space and around the right eustachian tube opening. A biopsy of the post nasal space showed malignant melanoma with an identical morphology to previous biopsy specimens.

A further CT scan showed an enhancing mass lesion involving the right maxillary area and extending to the nasopharynx and the right recess of the sphenoid. A large mass lesion was also seen in the right pre-auricular region, with destruction of the lateral two-thirds of the pyramid with perifocal infiltration (Figure 4).

The case was discussed in the multidisciplinary team meeting. It was unanimously decided to avoid any further surgery, and palliative chemoradiotherapy was advised.

Discussion

The reported incidence of melanomas of the head and neck (including the nasal cavities) varies from 0.4 to 4 per cent. The tumour occurs between 50 and 70 years of age and is

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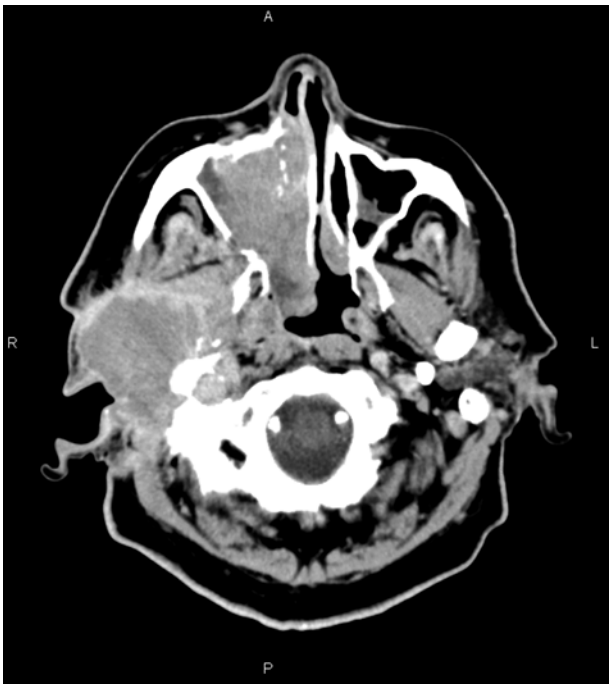

FIG. 4

Axial computed tomography scan showing a recurrent mass (identified as malignant melanoma), appearing after right maxillectomy and temporal bone resection, involving the right maxillary area and extending to the nasopharynx, with involvement of the right pre-auricular region with bony destruction.

slightly more common in men than women, although age and sex do not affect the prognosis.[2]

Mucosal melanoma of the head and neck is a rare condition. Of all the possible sites of origin of head and neck melanoma, mucosal melanomas have the worst prognosis. In a recent report based on data from the US National Database, which included 84 836 cases of cutaneous and non-cutaneous melanomas located throughout the body, only 1.3 per cent proved to be mucosal in origin, and most of these cases (55 per cent) were located in the head and neck region.[3] The nose and paranasal sinuses are the most common sites of origin, followed by the oral cavity. Mucosal malignant melanoma may 'develop' in pre-existing mucosal naevi, which occur in 0.1 per cent of the population, but no risk factors have been identified which confer an increased likelihood of mucosal melanoma development.

The survival of patients with mucosal melanoma of the head and neck is very poor. The ideal therapeutic modality remains controversial, but surgery remains the mainstay of treatment. The efficacy of post-operative radiation remains unclear, as does the optimal management of regional nodes, due in large part to the rarity of the disease and to the lack of sizeable prospective studies. The overall incidence of nodal metastasis from head and neck mucosal melanoma appears to be less than that from cutaneous melanoma.[4] Initially, clinical impressions seemed to indicate that a combination of surgery and radiotherapy improved overall survival in patients with sinonasal malignant mucosal melanoma; however, this was not supported by statistical analysis of a large cohort of patients with complete follow-up data.[5] The role of adjuvant chemotherapy and interferon has yet to be established. Further study of the use of adjuvant therapy (i.e. chemotherapy, immunotherapy and biological therapy) will be necessary to improve the outcome of patients with sinonasal malignant melanoma.[6]

- **Mucosal malignant melanoma of the head and neck is rare, and is more aggressive than cutaneous melanoma**
- **Mucosal malignant melanoma has a higher incidence of loco-regional recurrence and regional and distant metastasis, compared with cutaneous melanoma**
- **Surgical resection remains the mainstay of treatment**
- **Despite aggressive treatment, the overall prognosis is extremely poor**

Epistaxis is an uncommon presentation for mucosal malignant melanoma of the nose.[7] Our patient was diagnosed with this condition on his second admission, when he required surgery to manage his epistaxis. This case illustrates the difficulty in managing mucosal melanomas of the nose. More importantly, it reiterates the importance of a complete ENT examination in patients with such tumours, so that subsequent loco-regional metastases are detected and treated as soon as possible.

Conclusion

Mucosal malignant melanoma of the sinonasal tract is extremely rare. Early detection and surgical excision of the tumour remains the mainstay of treatment. Despite aggressive treatment, the prognosis for patients with this condition remains poor.

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